

2800 Pottsville Pike P.O. Box 16001 Reading, PA 19612-6001

November 1, 2011

## RECEIVED

NOV -1 2011

Rosemary Chiavetta, Secretary Pennsylvania Public Utility Commission P.O. Box 3265 Harrisburg, PA 17120 PA PUBLIC UTILITY COMMISSION SECRETARY'S BUREAU

Re: 3<sup>rd</sup> Quarter 2011 Reliability Report – West Penn Power Company - Pursuant to 52 Pa. Code §57.195(d) and (e)



Dear Secretary Chiavetta:

Enclosed for filing on behalf of West Penn Power Company is an original and six (6) copies of the 3<sup>rd</sup> Quarter 2011 Reliability Report, pursuant to 52 Pa. Code §57.195(d) and (e).

In addition, pursuant to 52 Pa. Code § 57.198(1), West Penn Power is requesting the Commission's approval to revise its approved and existing 2011-2012 Biennial Inspection & Maintenance Plan. West Penn Power is respectfully submitting as an addendum to this Quarterly Reliability Report the proposed prospective revisions to its Plan and a discussion of the reasons for the revisions.

Please feel free to contact either of us if you have any questions or need additional information regarding this matter.

Sincerely,

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Douglas S. Elliott President, Pennsylvania Operations (610) 921-6060 elliottd@firstenergycorp.com

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Eric J. Dickson Director, Operations Services (330) 384-5970 dicksone@firstenergycorp.com



# 2011 3rd Quarter Reliability Report

## West Penn Power Company

Pursuant to 52 Pa. Code § 57.195(d) and (e)

### 3rd Quarter 2011 Reliability Report – West Penn Power Company

The following 3<sup>rd</sup> Quarter 2011 Reliability Report is filed on behalf of West Penn Power Company ("West Penn Power") for the period ending September 30, 2011.

<u>Section 57.195(e)(1):</u> A description of each major event that occurred during the preceding quarter, including the time and duration of the event, the number of customers affected, the cause of the event and any modified procedures adopted in order to avoid or minimize the impact of similar events in the future.

#### Major Events

West Penn Power did not experience a major event during the reporting period ending September 30, 2011.

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<u>Section 57.195(e)(2):</u> Rolling 12-month reliability index values (SAIFI, CAIDI, SAIDI, and if available MAIFI) for the EDC's service territory for the preceding quarter. The report shall include the data used in calculating the indices, namely the average number of customers served, the number of sustained customer interruptions, the number of customers affected, and the customer minutes of interruption. If MAIFI values are provided, the report shall also include the number of customer momentary interruptions.

### Reliability Index Values

30 2011		West Penn Powe	er
(12-Mo Rolling)	Benchmark	12;Month * Standard	12-Month Actual
SAIFI	1.05	1.26	1.34 <sup>1</sup>
CAIDI	170	204	136
SAIDI	179 257		182
Customers Served <sup>2</sup>	715,397		
Number of Sustained Interruptions	19,094		
Customers Affected		958,947	
Customer Minutes		130,360,701	

West Penn Power results for 3<sup>rd</sup> Quarter 2011 are:

	West Penn Power
CAIDI	33% better than Commission's 12-Month Standard 20% better than Commission's Benchmark
SAIDI	29% better than Commission's 12-Month Standard

<sup>&</sup>lt;sup>1</sup> The higher-than-normal SAIFI is directly attributed to several non-excludable storm events.

<sup>&</sup>lt;sup>2</sup> Represents the average number of customers served during the reporting period.

<u>Section 57.195(e)(3):</u> Rolling 12-month reliability index values (SAIFI, CAIDI, SAIDI, and if available, MAIFI) and other pertinent information such as customers served, number of interruptions, customer minutes interrupted, number of lockouts, and so forth, for the worst performing 5% of the circuits in the system. An explanation of how the EDC defines its worst performing circuits shall be included.

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### Worst Performing Circuits - Reliability Indices

West Penn Power's ranking of the 5% Worst Performing Circuits are provided in Attachment A of this report.

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<u>Section 57.195(e)(4)</u>: Specific remedial efforts taken and planned for the worst performing 5% of the circuits identified in paragraph (3).

Worst Performing Circuits – Remedial Action

West Penn Power's Remedial Actions for its 5% Worst Performing Circuits are provided in Attachment B of this report.

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<u>Section 57.195(e)(5):</u> A rolling 12-month breakdown and analysis of outage causes during the preceding quarter, including the number and percentage of service outages, the number of customers interrupted, and customer interruption minutes categorized by outage cause such as equipment failure, animal contact, tree related, and so forth. Proposed solutions to identified service problems shall be reported.

#### Outages by Cause

#### Outages by Cause - West Penn Power

	Outages by	Cause		
3rd Quarter 2011 12-Month Rolling	•	West Penn	Power	
Cause	Customer Minutes	Number of Sustained Interruptions	Customers Affected	% Based on Number of Outages
Off Right-of-Way Trees	46,188,146	4,822	233,054	25%
Weather	26,512,025 2,587 156,958		14%	
Unknown	13,466,302	1,976	106,401	10%
Overhead Material	<u>13,466,302</u> <u>1,976</u> <u>106,401</u> 8.213.936 <u>1,930</u> <u>93,137</u>			
Public	<u>8.213.936</u> <u>1,930</u> <u>93,137</u> 11,192,961 <u>1,633</u> <u>124,601</u>			
Overhead Equipment	3,351,058	1,545	34,516	8%
Animals	2,120,536	1,471	33,234	8%
Overhead Wire	6,861,734	1,180	70,832	6%
On Right-of-Way Trees	7,451,782	1,005	50,446	5%
Underground Cable	1,651,815		3%	
Other	<u>1,493,235</u> <u>209</u> 21,144			1%
Underground Equipment	482,832	119	3,254	1%
Substation Equipment	1,308,301	68	22,592	0%
Underground Material	34,379	28	284	0%
Service Equipment	31,659	9	242	0%
TOTAL	130,360,701	19,094	958,947	100%

#### Proposed Solutions - West Penn Power

#### Reliability Improvement Program (RIP)

West Penn Power maintains a Reliability Improvement Program to help address poor performing distribution circuits. Many of the Ensure Reliability Service (ERS) programs, such as Annual Inspection and Maintenance (AIM), Pole Inspection, Vegetation Maintenance, etc., are performed on a scheduled basis. RIP provides a way to address circuit reliability problems outside of these scheduled maintenance activities.

The RIP teams conduct a detailed review of the poorest performing circuits and, if necessary, an improvement plan is developed. In addition to the poor performing circuits, the RIP teams will also investigate any circuit which has been interrupted multiple times in the prior twelve month period and corrective action is planned as necessary. To focus on isolated problems, the RIP teams will also investigate any sectionalizing device (line fuse or recloser) that has operated multiple times in a twelve month period and corrective action is planned as necessary.

#### Expanded Forestry Danger Tree Program

West Penn Power's Danger Tree Program consists of removing, or significantly reducing in height, diseased or damaged trees located outside the boundary of the right-of-way (off ROW) that pose a threat to service reliability and/or the integrity of the line under any weather condition. Beginning in 2003, West Penn Power began targeting live, healthy trees as well that pose a threat to service reliability and/or integrity of the line by uprooting, breaking, or otherwise falling into the line.

In May 2011, West Penn Power instituted a special Danger Tree Inspection and Removal on 636 miles of mainline feeder on 143 distribution circuits identified as having the worst performance from tree-caused lockouts. This program is scheduled to be completed by the end of July and is in addition to West Penn Power's cycle tree trimming work that is scheduled for 2011.

#### Reliability-based Vegetation Management Program

Rural distribution circuits are scheduled based on a predetermined formula which factors in time since last trimmed, tree related CMI over at least three years, and the number of customers on the circuit. Rural circuits with the worst cumulative ranking should be made highest priority when scheduling. Circuits trimmed within the past three years are not eligible for schedule trimming evaluation. Urban distribution circuits are planned on a cyclical schedule based on time since last trimmed. If multiple urban circuits are scheduled for the same year, reliability stats will further prioritize for scheduling purposes.

<u>Section 57.195(e)(6)</u>: Quarterly and year-to-date information on progress toward meeting transmission and distribution inspection and maintenance goals/objectives (for first, second and third quarter reports only).

T&D Inspection and Maintenance Programs

Inonseti	on and Maintenance	We	st Penn Po	wer
inspection	2011	<sup>3</sup> Planned	(Com	pleted
	2011	Anňvál	3Q	YTD
Forester	Transmission (Miles)	144 <sup>3</sup>	59	107
rorestry	Distribution (Miles)	2,800	1,262	2,248
Transmission	Aerial Patrols	2	0	1
	Groundline	167	7	7
•	General Inspections	5,050	1,495	4,084
Substation	Transformers	390	46	271
Jubstation	Breakers	271	58	271
	Relay Schemes	536	152	273
	Capacitors	1,331	8	1,301
Distribution	Poles	52,395	34,648	34,989
	Reclosers	337	84	138
	Radio-Controlled Switches	West Penn P	ower has no ra switches.	dio-controlled

<sup>&</sup>lt;sup>3</sup> Plan number changed from 125 to 144 due to additional mileage being added

<u>Section 57.195(e)(7)</u>: Quarterly and year-to-date information on budgeted versus actual transmission and distribution operation and maintenance expenditures in total and detailed by the EDC's own functional account code or FERC account code as available. (For first, second and third quarter reports only).

Budgeted vs. Actual T&D Operation & Maintenance Expenditures<sup>4</sup>

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T&D O&M - 30	/YTD Sep	tember 30	, 2011		
Category	<b>3Q Actuals</b>	3Q Budget	YTD Actual	YTD Budget	Annual Budget
Distribution Administration	(1,004,340)	(200,647)	(2,510,704)	(689,561)	(890,209)
Distribution System Operations	328,712	297,460	1,063,176	1,093,659	<u>1,391,119</u>
Asset Management	156,795	150,815	272,541	454,070	587,144
Distribution Support	2,073,321	2,245,494	7,061,796	5,864,853	8,033,641
Field Operations	4,066,246	4,612,204	14,647,922	14,019,407	<u> </u>
Distribution Forestry	1,187,970	3,401,439	6,561,279	11,160,277	13,691,518
Transmission Other	14,358	121,678	323,421	402,671	534,731
Substations	1,482,744	973,694	3,858,645	2,912,765	3,836,786
Technical Services - Delivery	468,748	578,608 '	1,769,595	1,842,546	2,421,154 ;
Transmission Forestry	1,634,781	737,942	2,469,054	1,842,096	2,318,254
Transmission Projects	50,672	92,743	95,279	285,249	368,561
Transmission Siting	130,139	124,387	378,696	412,895	<u></u>
Distribution Safety, Training, Quality Assurance	82,870	162,498	365,772	<u>516,970</u>	646,913
Transmission Reliability and System Support	21,280	34,302	105,103	102,321	136,514
EMS Support	168,361	172,432	567,813	570,496	725,576
Transmission System Operations	297,899	258,117	1,053,917	944,233	1,212,273
Transmission Operations Administration	11,205	19,975	53,364	71,950	91,925
Transmission Engineering and Operations Administration	45,551	110,633	220,520	327,862	427,269
Transmssion Planning and Compliance	51,329	82,880	194,131	271,247	351,672
Transmission Engineering	626,605	719.948	2,243,109	2,339,194	3,097,768
Total	11,895,243	14,696,601	40,794,429	44,745,201	57,490,160

<sup>&</sup>lt;sup>4</sup> Budgets based upon estimates and subject to change

<u>Section 57,195(e)(8)</u>: Quarterly and year-to-date information on budgeted versus actual transmission and distribution capital expenditures in total and detailed by the EDC's own functional account code or FERC account code as available. (For first, second and third quarter reports only).

	T&D Capital	- 3Q/YTD Se	otember 30, 2	2011	
Category	3Q Actuals	3Q Budget	YTD Actual	YTD Budget	Annual Budget,
EHV Substations	221,945	1,598,742	877,266	3,361,121	3,859,969
EHV Lines	(94,291)	1,338,970	(771,788)	3,761,259	3,804,002
Transmission Substation	615,251	2,181,254	1,987,960	5,695,438	7,437,622
Transmission Lines	1,506,349	6,361,987	6,902,375	19,178,670	21,390,630
Distribution Substations	2,106,565	4,978,566	6,575,781	9,967,509	11,988,728
Distribution Lines	21,462,943	12,146,493	46,637,456	34,940,973	44,566,738
General Plant	4,437,360	2,150,818	12,942,850	6,451,098	7,087,482
Subtransmission Lines	800,683	709,784	3,717,641	363,377	1,197,351
Total	31,056,804	31,466,614	78,869,540	83,719,446	101,332,523

Budgeted vs. Actual T&D Capital Expenditures<sup>5</sup>

<sup>&</sup>lt;sup>5</sup> Budgets based on estimates and subject to change

<u>Section 57.195(e)(9)</u>: Dedicated staffing levels for transmission and distribution operation and maintenance at the end of the quarter, in total and by specific category (for example, linemen, technician, and electrician).

### Staffing Levels

	West Penn Power 20	11			
Department	Staff	10	2Q	30	4Q
line	Leader / Chief	88	86	86	-
Line	Lineman	179	176	175	
Substation	Leader	14	14	14	
Substation	Electrician	47	51	51	
	Total	328	327	326	

<u>Section 57.195(e)(10)</u>: Quarterly and year-to-date information on contractor hours and dollars for transmission and distribution operation and maintenance.

### Contractor Expenditures

Contractor expenses are billed on a lump sum basis and as such, hourly information is not available.

	C	ontractor Expe	nditures 2011 (\$	)	
· · ·	1Q	.2Q	3Q	4Q	Total
West Penn Power	891,214	598,346	1,069,762		2,559,322

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<u>Section 57.195(e)(11)</u>: Monthly call-out acceptance rate for transmission and distribution maintenance workers presented in terms of both the percentage of accepted calls-out and the amount of time it takes the EDC to obtain the necessary personnel. A brief description of the EDC's call-out procedure should be included when appropriate.

#### Call-out Acceptance Rate

Call-out percentage is defined as the number of positive responses to total calls.

Call-out Acce	eptance Rate - 2011
· · ·	West Penn Power
January	41%
February	39%
March	42%
April	30%
Мау	32%
June	29%
July	22%
August	29%
September	28%

### Call-out Acceptance Rate

Larger utilities report the amount of time it takes to obtain the necessary personnel during call-outs. West Penn Power has worked with other utilities to ensure consistency in calculating and reporting this data.

		West Per	nn Power		
2011	Total Call- Outs	Workers Accepting	Elapsed Time (Minutes)	Average Response Time per Crew Call- Out (Minutes)	Average Response Rate Per Workers Accepting (Minutes)
July	1,555	1,105	7,450	7.82	6.74
August	991	821	4,810	6.82	5.86
September	982	773	4,295	6.33	5.56
3Q Total	3,528	2,699	16,555	6.69	6:05

Total Call-outs = Total number of incidents

Workers Accepting = Total number of employees accepting work offered

<u>Elapsed Time</u> = Time of day called minus time of day accepted (expressed in minutes)

Average Response Time Per Crew Call-Out = Elapsed Time divided by Total Call-Outs

Average Response Time Per Workers Accepting = Elapsed Time divided by Workers Accepting

## ATTACHMENT A

## Worst Performing Circuits - Reliability Indices

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West Penn Power calculates the DCII to provide a single index for ranking circuits. The DCII compares the SAIFI, SAIDI, CAIDI and ASAI for each circuit to the 5-year system averages of each index and combines them into a single index.

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Circuit Rank	Substation	Circuit Desc	Averaçê Custonters	Outaģês	Customer Minutes	Oustomers Affected	ôc <b>i</b>	SADI	SAIFI	CAEI
-	MERRITSTOWN	BRIER HILL	425	23	89,987	763	69	212	1.80	118
2	MERRITISTOWN	REPUBLIC	1,627	22	561,166	1,620	57	345	1.00	346
3	WEST FINLEY	WEST FINLEY	131	15	34,166	250	65	261	1.91	137
* <b>t</b> *	VESTABURG DISTRIBUTION	INEXICO	591	22	80.017	773	78	135	1.31	104
Ś	FOOTEDALE	FOOTEDALE	1,212	24	39.911	558	91	33	0.46	72
9	LAGONDA	PROSPERITY	280	43	338,244	1,195	32	704	2.49	283
2	EAST MILLSBORO	EAST MILLSBORD	171	44	272,666	1,180	-40	1595	6.90	231
∞	MARIANNA	TEN MALE	349	38	421,180	1,287	-2	1206	3.69	327
on 	MARIANNA	INARIANNA	753	27	66 063	543	83	88	0.72	122
9	MERRITISTOWN	MERRITISTOWN	098	9	29.310	398	91	34	0.46	74
11	MAXWELL	INAXWELL	206	7	60.021	226	63	291	1.10	266
12	WATERVILLE	WATERVILLE	355	58	880,050	3.714	-109	2480	10.46	237
13	АМГУ	AMITY	313	29	209,148	934	56	406	1.81	224
14	VESTABURG DISTRIBUTION	LOW HILL	704	36	131,437	941	73	187	1.34	140
15	LONG FARM SHAFT	LONG FARM SHAFT	123	77	18.892	143	76	154	1.16	132
16	VANCEVILLE	VANCEVILLE	1.350	111	474,364	2,973	57	351	2.20	160
17	NORTH UNION	OLNER	758	58	274,989	2,491	5	363	3.29	110
18	DRIFTWOOD	DRIFTWOOD	973	144	1,773.756	4,211	4	1823	4.33	421
19	PANCAKE	STRABANE	324	ۍ ۲	707	σ	9 <u>1</u>	2	0.03	79
20	VESTABURG DISTRIBUTION	FREDERICKTOWN	843	16	153,992	656	74	183	1.19	154
21	LARDIN	MCCLELLANDTOWN	561	25	128,800	1,255	99	230	2.24	103
22	FOOTEDALE	NEW SALEM	1,051	17	32,991	:82	91	31	0.46	68
23	RICHEYVILLE	CENTERVILLE	931	23	335,316	1,823	58 28	360	1.96	184
24	PANCAKE	VANCE	385	10	2,586	ž	95	2	60.0	76
25	ARENSBURG	ARENSBURG	135	6	20,534	142	77	152	1.05	145

2011 Quarterly Reliability Report for period-ending September 30, 2011

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West Pen	in Power									
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			Customers	- Anales	Minutes	Arcced	2	12120	CHU-L	
26	JOURDAN	COMMERCIAL#1	312	3	22,776	312	85	73	1.00	73
27	MANFOLD	DAVIS SCHOOL	164	3	7 610	164	87	46	1.00	46
28	NORTH UNION	FAN HOLLOW	575	14	54,650	255	80	65	0.44	214
29	GREENSBORO	POLAND	153	9	41,174	160	65	269	1.05	257
30	BENTLEYVILLE	ELLSWORTH	2.046	68	1,594,728	7,887	22	579	3.85	202
31	RICHEYVILLE	DEENS	374	**	27,973	89	77	75	0.24	314
32	NORMALVILLE	INDIANHEAD	572	14	597,306	641	-8	1044	1.12	932
33	FRAZIER	WICKHAVEN	737	43	198,197	552	62	269	0.75	359
34	RUTAN	WINDRIDGE	1,185	83	715,036	4,250	34	603	3.59	168
35	ETHEL SPRINGS	PANDORA	1,391	43	1,267,194	1,236	9	911	0.89	1025
36	NORTH UNION	BHILLIPS	1,439	76	232,734	1,680	76	162	1.17	139
37	HOUSTON	MOMINGER	933	17	451,529	2,081	48	484	2.23	217
38	BETHELBORO	BUTE	514	16	103.577	1,107	68	202	2.16	94
39	SEWICKLEY	WENDEL	734	57	863,504	1,871	+	1177	2.55	462
40	AUITY	BANETOWN	1,469	76	801,271	4,108	42	545	2.80	195
41	RUFF	RUFF CREEK	588	33	21=,=38	1,485	55	365	2.53	144
42	CALIFORNIA	MALDEN	1,107	90	478,459	3,251	÷9	432	2.94	147

2011 Quarterly Reliability Report for period-ending September 30, 2011

### ATTACHMENT B

Worst Performing Circuits – Remedial Action

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West Pe	nn Power		
Rank	Substation	Circuit	Remedial Action Planned or Taken
1	MERRITTSTOWN	BRIER HILL	99% of the CMI for the one-year period occurred during the August 4th to 7th non-excluded storm event. Circuit outage maps were created including a review of outage causes. No additional actions indicated. Monitor reliability outside of storm event.
2	MERRITTSTOWN	REPUBLIC	Circuit review for danger trees completed. Additionally, circuit outage maps were created including a review of outage causes. No additional actions indicated. Monitor reliability outside of storm event.
3	WEST FINLEY	WEST FINLEY	66% of the CMI for the one-year period occurred during the August 4th to 7th non-excluded storm event. Tree trimming planned for 2012. Because this circuit 'only' had 66% CMI due to the August storm, it was further analyzed. Out of the remaining incidents, two locations had 9% of the CMI each. The first had one incident which occurred during a snow storm on 12/09/09, which was also not excluded. The second location was the SS recloser. This location had two comparable outages, both of unknown cause. One of these was on the Subtransmission system feeding the SS. AllM to be completed in 2011.
4	VESTABURG DISTRIBUTION	MEXICO	88% of the CMI for the one-year period occurred during the August 4th to 7th non-excluded storm event. Circuit outage maps were created including a review of outage causes. No additional actions indicated. Monitor reliability outside of storm event.
5	FOOTEDALE	FOOTEDALE	Circuit review for danger trees completed. Additionally, circuit outage maps were created including a review of outage causes. All to be completed in 2011. No additional actions indicated.
6	LAGONDA	PROSPERITY	80% of the CMI for the one-year period occurred during the August 4th to 7th non-excluded storm event. Circuit review for danger trees completed. Circuit outage maps were created. No further action anticipated.
7	EAST MILLSBORD	EAST MILLSBORO	Circuit outage maps were created including a review of outage causes. Circuit reviewed for main line hardware issues. Corrective work completed.
8	MARIANNA	TEN MILE	92% of the CIMI for the one-year period occurred during the August 4th to 7th non-excluded storm event. Circuit outage maps were created including a review of outage causes. No additional actions indicated. Monitor reliability outside of storm event.
9	MARIANNA	MARIANNA	Circuit outage maps were created including a review of outage causes. Circuit reviewed for main line hardware issues. Corrective work completed. Circuit review for danger trees completed.
10	MERRITTSTOWN	MERRITTSTOWN	Circuit outage maps were created including a review of outage causes. Circuit reviewed for main line hardware issues. Corrective work completed. Circuit review for danger trees complete.
11	MAXWELL	MAXWELL	97% of the CMI for the one-year period occurred during the August 4th to 7th non-excluded storm event. Circuit outage maps were created including a review of outage causes. No additional actions indicated. Monitor reliability outside of storm event.

West Pe	nn Power		
[ Ēank	Substation	Circuit	Remedial Action Planned or Taken
12	WATERVILLE	WATERVILLE	Circuit is fed from foreign utility. Alternate supply options limited. Considered distributed generation as alternate feed option (costly). Isolating points and fault indicators added as part of CAIDI improvement program. Circuit reviewed for main line hardware issues. Corrective work completed. AIM work completed. Continue to work with foreign utility to improve reliability.
13	АМПУ	AMITY	Circuit outage maps were created including a review of outage causes. Circuit review for danger trees complete.
14	VESTABURG DISTRIBUTION	LOW HILL	70% of the CMI for the one-year period occurred during the August 4th to 7th non-excluded storm event. Circuit outage maps were created including a review of outage causes. Circuits review for danger trees complete. No additional actions indicated.
15	LONG FARM SHAFT	LONG FARM SHAFT	Circuit outage maps were created including a review of outage causes. No additional actions indicated. Monitor reliability outside of storm event.
16	VANCEVILLE	VANCEVILLE	Circuit outage maps were created including a review of outage causes. Circuit review for danger trees complete. No additional actions indicated.
17	NORTH UNION	OLIVER	74% of the CMI for the one-year period occurred during the August 4th to 7th non-excluded storm event. Tree trimming planned for 2012. Circuit outage maps were created including a review of outage causes. No additional actions indicated.
18	DRIFTWOOD	DRIFTWOOD	Circuit reviewed for main line hardware issues. Corrective work completed Tree trimming to be done in 2011
19	PANCAKE	STRABANE	Circuit outage maps were created including a review of outage causes. Tree trimming planned for 2011. No additional actions indicated.
20	VESTABURG DISTRIBUTION	FREDERICKTOWN	Circuit outage maps were created including a review of outage causes. Circuit reviewed for main line hardware issues. Corrective work completed. No additional actions indicated.
21	LARDIN	MCCLELLANDTOWN	Circuit review for danger trees complete. Additionally, circuit outage maps were created including a review of outage causes. No additional actions indicated.
22	FOOTEDALE	NEW SALEM	Circuit review for danger trees complete. Additionally, circuit outage maps were created including a review of outage causes. No additional actions indicated.
23	RICHEYVILLE	CENTERVILLE	Circuit outage maps were created including a review of outage causes. Circuit reviewed for main line hardware issues. Corrective work completed. Circuit review for danger trees complete. All work to be completed in 2011.
24	PANCAKE	VANCE	82% of the CMI for the one-year period occurred during the August 4th to 7th non-excluded storm event. Circuit outage maps were created including a review of outage causes. 2011 CAIDI PHASE 1 project completed.

West Pe	nn Power		
Rank	Substation	Circuit	Remedial Action Planned or Taken
25	ARENSBURG	ARENSBURG	Circuit outage maps were created including a review of outage causes. Circuit reviewed for main line hardware issues. Corrective work completed.
26	JOURDAN	COMMERCIAL#1	76% of the CMI for the one-year period occurred during the August 4th non-excluded storm event due to an off right-of way tree. Circuit conversion planned from 4 kV to 12 kV. Station reclosres to be added and coordination planned. Circuit outage maps were created including a review of outage causes. No additional actions indicated beyond projects mentioned. Monitor reliability outside of storm event.
27	MANIFOLD	DAVIS SCHOOL	Circuit reviewed for outages and associated causes. A single incident occurred on the circuit during the year during a storm caused by high wind. The circuit performs well otherwise.
28	NORTH UNION	FAN HOLLOW	Circuit outage maps were created including a review of outage causes. Circuit reviewed for main line hardware issues. Corrective work completed
29	GREENSBORO	POLAND	Circuit reviewed for outages and associated causes. One of only two incidents on the circuit for the yea reaused by high winds impacted reliability. The circuit performs well otherwise.
30	BENTLEYVILLE	ELLSWORTH	Circuit reviewed for main line hardware issues. Corrective work completed
31	RICHEYVILLE	DEEMS	Circuit review for danger trees complete. Additionally, circuit outage maps were created including a review of outage causes. No additional actions indicated.
32	NORMALVILLE	INDIANHEAD	Circuit reviewed for main line hardware issues. Corrective work completed
33	FRAZIER	WICKHAVEN	Circuit outage maps were created including a review of outage causes. Circuit review for danger trees complete. No additional actions indicated.
34	RUTAN	WINDRIDGE	Circuit outage maps were created including a review of outage causes. Circuit reviewed for danger trees. No additional actions indicated. All work planned in 2011.
35	ETHEL SPRINGS	PANDORA	Circuit reviewed for outages and associated causes. Approximately 80% of the annual CMI occurred over 3 days caused by weather/high wind and off right-of-way trees. Outages were minimal outside of this weather event.
36	NORTH UNION	PHILLIPS	Circuit outage maps were created including a review of outage causes. Circuit reviewed for main line hardware issues. Corrective work completed. Circuit reviewed for danger trees - complete.
37	HOUSTON	MONINGER	Circuit reviewed for main line hardware issues. Corrective work completed. Tree trimming completed in 2011
38	BETHELBORO	BUTE	Circuit outage maps were created including a review of outage causes. Circuit reviewed for main line hardware issues. Corrective work completed.
39	SEWICKLEY	WENDEL	Circuit reviewed for outages and associated causes. 81% of the annual CMI occurred on a single day due to off right-of-way tree. The circuit performs well outside of this storm day. Reconductoring project in progress.
40	АМПУ	BANETOWN	Circuit review performed with outages review and associated causes. Outages occurring on a storm day accounted for one-half of the annual CI/II. Circuit review for danger trees complete.
41	RUFF	RUFF CREEK	Circuit outage maps were created including a review of outage causes. No additional actions indicated beyond planned projects. Monitor reliability outside of storm event.
42	California	Makien	Circuit outage maps were created including a review of outage causes. Circuit reviewed for danger trees. No additional actions indicated.

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### ATTACHMENT C

West Penn Power's Compliance with Terms of the July 20, 2006 Reliability Settlement Petition

Item	Description	Compliance Status
2a.	Allegheny Power will make adjustments to its vegetation maintenance practices to reduce its rights-of-way clearing cycle to no longer than four years from [2005] through 2008 and will use the four-year cycle results to test the effectiveness of this approach. Allegheny Power reserves the right to change the cycle length after 2008 (after discussing with the parties) if another method with the cycle of more than four years appears more effective at managing its rights of way. Allegheny power will also make adjustments to its existing program to allow more focus on off-right-of-way danger trees.	Commitment completed.
2b.	Allegheny Power will maintain its 12-year inspection cycle for distribution and subtransmission wood poles and overhead facilities in a manner consistent with standard industry practices. These inspections will include visual inspections of the pole, the materials and equipment contained thereon from the ground line to the top of the pole, hammer soundings, borings, excavation and treatment of pole. In addition, Allegheny Power will commit to performing amid-cycle visual inspection of the pole and any material and equipment contained thereon, from the ground line to the pole top, incorporating reliability performance and performance of the materials and equipment into the prioritization of performing the mid-cycle inspections.	Commitment implemented.
2c.	Allegheny Power has committed to undertake a line workforce study that is to determine how many line workers should be hired to proactively prepare for anticipated retirements, to determine the optimal locations for line workers, to determine appropriate work shifts to reduce overtime, and to increase the effectiveness of its operations. Allegheny Power agrees to also study its substation workforce with the goal of estimating future staffing needs, preparing for anticipated retirements, determining the optimal locations and work shifts, and increasing the effectiveness of operations. The line and substation workforce study will be provide to the active parties and Allegheny Power will meet with them to discuss the results of the study.	Commitment completed.
3.	Allegheny Power will provide the Parties copies of all reliability-related reports filed with the PUC under 52 Pa. Code § 57.195 and any additional documents that may be required under 52 Pa. Code § 57.194(h)(1). In addition, as part of its quarterly reliability reports, Allegheny Power will include a section reporting on its compliance with the terms of this settlement.	Commitment completed.
4a. 1-3	<ul> <li>Allegheny Power will meet semi-annually with PREA/AEC and local cooperative staff to address reliability and other issues. Meetings will include the following topics: <ol> <li>Discussion of most recent outages at PREA/AEC delivery points</li> <li>Identification and mutual agreement of Delivery Points that serve critical services/customers (identified as those which directly affect public safety)</li> <li>Discussion of performance on the five "worst performing" Delivery Points, including outage details and determination if corrective action is warranted and development of any appropriate corrective action plan to be completed in a reasonable period of time.</li> </ol> </li> </ul>	Commitment implemented.

### **ADDENDUM**

Proposed Changes to Approved and Existing 2011-2012 Biennial Inspection, Maintenance, Repair and Replacement Plan<sup>g</sup>

<sup>&</sup>lt;sup>9</sup> The proposed changes and revisions that West Penn Power request herein pertain to distribution overhead line, distribution transformer, recloser, substation and vegetation management inspections.

**Section 57.198(I) EDC updates.** An EDC may request approval from the Commission for revising its approved plan. An EDC shall submit to the Commission, as an addendum to its quarterly reliability report under § § 57.193(c) and 57.195, prospective and past revisions to its plan and a discussion of the reasons for the revisions. Within 60 days, the Commission or the Director of CEEP will accept or reject the revisions to the plan. The appeal procedure in subsection (k) applies to the appeal of a rejection of revisions to the plan.

#### Request for Revision

Pursuant to 52 Pa. Code § 57.198(I), West Penn Power Company ("West Penn Power") hereby requests to modify its current distribution overhead line, distribution transformer, recloser, substation and vegetation management inspection programs. The reason for revision is to implement consistent distribution overhead line, distribution transformer, recloser, substation and vegetation management inspection programs across West Penn Power, Pennsylvania Power Company, Pennsylvania Electric Company and Metropolitan Edison Company following the merger between FirstEnergy and Allegheny Energy. Please see the table below for a summary of the proposed changes. The proposed distribution overhead line, distribution transformer, recloser, substation and vegetation management inspection programs follow on pages 28-42. Upon approval, these pages will replace the pages in the existing approved plans.

West Penn Power				
Distribution Pole Inspections	· · · · · · · · · · · · · · · · · · ·			
Approved Program	Proposed Program			
Visual inspection on all poles on 12-year cycle	No change			
Distribution Overhead Line Inspections				
Visual inspection on 6-year cycle	Adopt FE program (elimination of AIM program)			
Distribution Transformer Inspections				
Overhead transformers – inspected as part of overhead line inspection	Adopt FE program, no change to cycle			
Above-ground pad-mounted transformers inspected on a 5-year cycle	Adopt FE program, change to 6-year cycle to align with overhead transformers and circuits			
Below-ground transformers – inspected on 5- year cycle	No more than 8 years			
Recloser Inspections				
Inspection done in conjunction with 6-year overhead line inspection. Replacement to occur as soon as practical after inspection	Visually inspect reclosers annually. The annual inspection will consist of counter readings and the field inspection			
Substation Inspections				
Inspections consist of two components: 1) Monthly Safety & Security 2) Six Month Reading and Open Cabinet Visual Inspection Visual Inspection				
Vegetation Management				

Program based on conditional assessment of	
tree trimming needs. The extent of the	
vegetation work to be performed on a given	Standard specification – prune to achieve 5
section of a scheduled circuit is determined by	years of clearance.
the reliability impact of that section of line.	Portions of a circuit that experience high
	customer interruption minutes due to tree-
Urban circuits – vegetation work is performed on	caused outages may be targeted to receive
a 4-year cycle to maintain reliability in heavily	the Standard Specification as well as
populated areas and to reduce adverse impact	enhanced removal techniques.
of excessive trimming of urban areas.	A proactive Inspect/Maintain process will
	be utilized for portions of a circuit that have
Rural circuits – prioritized based on CMI,	not experienced significant reliability issues
number of customers on the circuit and time	<ul> <li>this may include extension of a cycle</li> </ul>
since circuit last trimmed. At no time will a rural	which will not exceed 8 years.
circuit go more than 8 years without having	
vegetation conditions addressed.	



**Section 57.198(n)(1). Vegetation Management.** The statewide minimum inspection and treatment cycle for vegetation management is between 4-8 years for distribution facilities. An EDC shall submit a condition-based plan for vegetation management for its distribution system facilities explaining its treatment cycle.

#### Program Description

West Penn Power performs vegetation management to help ensure the continued safe and reliable operation of the distribution system. The Standard Specification for vegetation management is designed to support line reliability, maintain access, make repairs, or restore service and to support safe and reliable service. The Standard vegetation specification provides vegetation to be pruned to achieve five (5) years of clearance, removal of selected incompatible trees within the clearing zone corridor, removal of certain defective limbs that are overhanging primary conductors, controlling selected incompatible brush mechanically and/or using herbicide, and removal of off-corridor priority trees that are dead, dying, diseased, and leaning or significantly encroaching the corridor.

Portions of a circuit that experience high customer interruption minutes due to vegetation-caused outages may be targeted to receive the Standard Specification as well as enhanced vegetation removal techniques, which includes removal of certain healthy limbs, based on tree species and condition, which overhang primary conductors.

For portions of a circuit that have not experienced significant reliability issues due to vegetationcaused outages, a proactive Inspect/Maintain process will target selective vegetation removal for continued reliable system operation. This may include the extension of a cycle which will not exceed eight (8) years. This process involves inspection of the vegetation to evaluate the extent of potential for vegetation to interfere with energized conductors. Factors to consider in the evaluation are the voltage and height of the conductor, the type of tree, its growth rate and branching habit. Trees that will impact safety or reliability will be maintained to the Standard Specification.

Methods used to manage and control vegetation include manual control methods using handoperated tools, mechanical control using equipment mounted saws, mowers or other devices, and various herbicide application techniques such as, selective basal herbicide applications, stem foliage applications and cut stubble applications.

Further detailed information regarding West Penn Power's vegetation management program may be found in FirstEnergy's <u>Vegetation Management Program Description</u>



#### Inspection Plan

	Area	Inspections and Treatments Planned Total Circuit Miles 2012
	Arnold	292
•	Boyce	115
·	Butler	301
	Charleroi	416
· · ·	Clarion	188
	Hyndman	45
	Jeannette	252
•	Jefferson	435
West Penn Power	Kittanning	113
4,514 total circuit miles	Latrobe	243
	McConnellsburg	184
	McDonald	169
	Pleasant Valley	196
	St Marys	254
	State College	342
	Uniontown	324
· ,	Washington	395
	Waynesboro	269

**Section 57.198(c). Time frames.** The plan must comply with the inspection and maintenance standards in subsection (n). A justification for the inspection and maintenance time frames selected shall be provided, even if the time frame falls within the intervals prescribed in subsection (n). However, an EDC may propose a plan that, for a given standard, uses intervals outside the Commission standard, provided that the deviation can be justified by the EDC's unique circumstances or a cost/benefit analysis to support an alternative approach that will support the level of reliability required by law.

#### Justification

Distribution vegetation management activities are performed in accordance with the following:

- Generally accepted industry practices
- All routine vegetation clearing work is performed in compliance with ANSI Z133.1 and A-300 Standards and according to the requirements given by OSHA and the National Electrical Safety Code (NESC)

West Penn Power intents to implement the Vegetation Management program methods (excluding the cycle) currently used by Pennsylvania Power Company ("Penn Power"), Pennsylvania Electric Company ("Penelec") and Metropolitan Edison Company ("Met-Ed") on a five-year cycle. West Penn Power's new Vegetation Management program will be completing 100% of the entire service territory within a five-year cycle compared to the present plan which completes the entire service territory within an eight-year cycle. As shown later in this filing West Penn Power will prioritize the first zone of trimming, which is from the substation to the first protection device. Also, West Penn Power will be implementing a heavier trim practice with more ground to sky trimming and removal of danger trees. The funding of the West Penn Power's Forestry Management program has increased significantly, as shown later in this filing, with over a 200% increase in funding from 2010 to 2011. We plan to commit to an increased level of spending over he next several years that will improve the reliability of the West Penn Power electrical system. Historically, West Penn Power's vegetation management program was a condition-based assessment of tree trimming The extent of the vegetation work performed on a given section of a circuit was needs. determined by the reliability impact of that section of line. Urban circuits (areas within cities, towns and boroughs) had vegetation work performed on a four-year cycle to maintain reliablity in heavily populated areas and to reduce adverse impact of excessive trimming in these areas. Rural circuits (non-urban) were trimmed on an eight-year cycle and prioritized based on Customer Minutes of Interruption (CMI), the number of customers on the circuit, and the amount of time since the circuit was last trimmed.

The following table shows the West Penn Power mileage that would be trimmed each year based on the currently-approved program. As shown in the table, under the current program, it would take eight years for West Penn Power to conduct vegetation management on 100% of its circuits.

			Currently Approved Program (4-year urban + 8-year rural)				
		Urb	an	Ru	ral	Tot	al
Cycle	Year	Cumulative	% of Total	Cumulative	% of Total	Cumulative	% of Total
1	2012	1,051	25%	1,950	13%	3,000	15%
2	2013	2,101	50%	3,900	25%	6,001	30%
3	2014	3,152	75%	5,849	38%	9,001	45%
4	2015	4,202		7,799	50%	12.001	61%
5	2016	5,253	125%	9,749	63%	15,001	76%
6	2017	6,303	150%	11,699	75%	18.002	91%
7	2018	7,354	175%	13,648	88%	21.002	106%
8	2019	8,404	200%	15,598		24,002	121%
Total Sys	tem Miles	4,202		15,598		19,800	

Pursuant to the proposed Plan, West Penn Power's revised vegetation management program will allow for prioritization of the first zone of trimming, which is from the substation to the first protective device. The table table below shows the West Penn Power mileage that would be trimmed each year under the proposed five-year program. Under this Plan, as shown in the following table, West Penn Power plans to complete 100% of the Zone 1 trim area within the first three years. Under the revised program, 100% of all miles will be trimmed within five years.

Proposed 5-Year Cycle						
	1	Zone 1		Total		
		(Substation to first protective device)				
Cycle Year Year		Cumulative Cycle Miles	% of Total	Cumulative Cycle Miles	% of Total	
1	2012	678	49%	4,360	22%	
2	2013	1,155	83%	8,520	43%	
3	2014	1,433		12,480	63%	
4	2015	1,710	123%	16,440	<u>83</u> %	
5	2016	1,988	143%	20,400		
Total Sys	tem Miles	1,388		19,800		

Finally, as highlighted below and as part of the proposed change to its vegetation management program, West Penn Power estimates spending approximately \$25.3 million on its vegetation management program in 2012. This is an increase of approximately \$4 million over the 2011 projected spend and an increase of \$18.2 million over the 2010 actual vegetation management spend. The investment in West Penn Power's vegetation management program is expected to be maintained at a consistent level for the next five years.

Year	Vegetation Management Annual Trim Program
2012 Projected	\$25,372,758.00
2011 Estimate	\$21,325,410.00
2010 Actual	\$7,113,207.00
2009 Actual	\$5,429,865.00
2008 Actual	\$6,708,940.67
2007 Actual	\$4,976,665.19

#### **Distribution Overhead Line Inspections**

WestPenn Power

**Section 57.198(n)(4).** Distribution overhead line inspections. Distribution lines shall be inspected by ground patrol a minimum of once every 1 – 2 years. A visual inspection must include checking for:

- i. Broken insulators
- ii. Conditions that may adversely affect operation of the overhead distribution line
- iii. Other conditions that may adversely affect operation of the overhead distribution line

#### Program Description

West Penn Power shall visually inspect overhead lines and equipment on a six-year cycle. The purpose for inspecting overhead lines and equipment is to identify and repair unsafe conditions or conditions that may adversely affect service reliability, and to comply with the state regulatory agencies and the National Electrical Safety Code. This program shall be limited to overhead facilities.

Approximately one-sixth of all circuits will be inspected annually to levelize labor commitments and expenses. This preventative maintenance will consist of a visual inspection and recording of abnormal conditions including but not limited to the following types of overhead circuit equipment:

- Conductors (wire and cable) -- excessive slack, condition, damage, clearances
- Supporting structures (wood poles) deteriorated condition, sustained damage (lightning, vehicle, woodpecker holes)
- Pole hardware (including insulators) condition, damage
- Guying condition, damage
- Pole-mounted distribution equipment (including overhead transformers) condition, damage

Further information regarding West Penn Power's inspection of Distribution Overhead Lines may be found in the <u>Distribution Inspection & Maintenance Practice – Overhead Circuits and Equipment</u>.

**Section 57.198(n)(5).** Inspection Failure. If critical maintenance problems are found that affect the integrity of the circuits, they shall be repaired or replaced no later than 30 days from discovery.

#### Corrective Maintenance

Supporting structures with recorded defects that West Penn Power could reasonably expect to affect the integrity of the circuits shall be repaired/replaced within 30 days. All remaining deficiencies will be prioritized on a case-by-case basis.

**Section 57.198(c). Time frames.** The plan must comply with the inspection and maintenance standards in subsection (n). A justification for the inspection and maintenance time frames selected shall be provided, even if the time frame falls within the intervals prescribed in subsection (n). However, an EDC may propose a plan that, for a given standard, uses intervals outside the Commission standard, provided that the deviation can be justified by the EDC's unique circumstances or a cost/benefit analysis to support an alternative approach that will support the level of reliability required by law.

#### **Distribution Transformer Inspections**

WestPenn Power

**Section 57.198(n)(6).** Distribution transformer inspections. Overhead distribution transformers shall be visually inspected as part of the distribution line inspection every 1 - 2 years. Above-ground pad-mounted transformers shall be inspected at least as often as every 5 years and below-ground transformers shall be inspected at least. An inspection must include checking for:

- *i.* Rust, dents or other evidence of contact
- ii. Leaking oil
- ili. Installation of fences or shrubbery that could adversely affect access to and operation of the transformer
- *iv.* Unauthorized excavation or changes in grade near the transformer

#### Program Description

West Penn Power inspects overhead distribution transformers as part of the overhead line inspection. Above-ground pad-mounted transformers are inspected on a six-year cycle and below-ground transformers are inspected on an eight-year cycle. The purpose for inspecting distribution transformers is to identify and repair unsafe conditions or conditions that may adversely affect service reliability, and to comply with the state regulatory agencies and the National Electrical Safety Code.

Overhead distribution transformers – visual inspection and recording of abnormal conditions including but not limited to the following:

• Equipment condition - oil leakage, arresters, rust, dents or evidence of contact

Above-ground pad-mounted equipment (transformers and switchgear) – inspection and recording of abnormal conditions including but not limited to the following:

- Equipment condition oil leakage, cabinet damage, holes, washout
- Security locking mechanisms
- Accessibility as required for operation and maintenance purposes, including the installation of fences or shrubbery that could adversely affect access to and operation of the transformer and unauthorized excavation or changes in grade near the transformer
- Warning labels electrical hazard warning label and landscaping instructions notice

Below-ground transformers – visual inspection and recording of abnormal conditions including but not limited to the following:

- Accessibility verify cover is secured
- Equipment condition visually inspect baffle

Further detailed information regarding West Penn Power's inspection of distribution transformers may be found in the <u>Distribution Inspection & Maintenance Practice – Underground Equipment</u>.

### Inspection Plan

	Area	Туре	Transformer Inspections Planned (Total Transformers)		
			2012		
	Arnold	Overhead Transformers 23,833 total transformers			
	, venola	Above-Ground Pad-mounted 2,242 total transformers	374		
	Pouco	Overhead Transformers 9,728 total transformers			
	воусе	Above-Ground Pad-mounted 3,828 total transformers	2012 374 638 		
	Bultor	Overhead Transformers 20,003 total transformers			
	Duiter	Above-Ground Pad-mounted 3,759 total transformers	627		
	Charlorai	Overhead Transformers 28,106 total transformers			
	Charleroi	Above-Ground Pad-mounted 2.844 total transformers	474		
		Overhead Transformers 5,566 total transformers			
40,317 total UG	Clanor	Above-Ground Pad-mounted 101 608 total transformers 101	101		
270,523 total OH		Overhead Transformers 2,565 total transformers			
, transformers	нулоглал	Above-Ground Pad-mounted 206 total transformers	34		
	Jeannette	Overhead Transformers 25,636 transformers			
		Above-Ground Pad-mounted 4,948 total transformers	825		
		Overhead Transformers 13,982 total transformers			
	Jenerson	Above-Ground Pad-mounted 619 total transformers	103		
		Overhead Transformers 10,091 total transformers			
	Kittanning Above-Ground Pad-mounted	124			
		Overhead Transformers			
	Latrope	Above-Ground Pad-mounted 2,200 total transformers	367		

	Area	Туре	Transformer Inspections Planned (Total Transformers) 2012
	McCoppellsburg	Overhead Transformers 7,193 total transformers	, , , , , , , , , , , , , , , , , , , ,
~	McConnellabulg	Above-Ground Pad-mounted 762 total transformers	127
•	McDonald	Overhead Transformers 7,337 total transformers	
	mebonale	Above-Ground Pad-mounted 1,167 total transformers	194
	Pleasant Valley	Overhead Transformers 15,913 lotal transformers	
	r leasant valley	Above-Ground Pad-mounted 1,381 total transformers	230
Mart Dana Dawar	St. Magio	Overhead Transformers 14,277 total transformers	
40,317 total UG	St. Marys	Above-Ground Pad-mounted 956 total transformers	159
270,523 total OH	State Collego	Overhead Transformers 18,686 total transformers	
ansiomers	State College	Above-Ground Pad-mounted 5,381 total transformers	897
•	Liniontown	Overhead Transformers 18,747 total transformers	
	Oniondown	Above-Ground Pad-mounted 1,692 total transformers	282
	Washington	Overhead Transformers 16,691 total transformers	· · · · · · · · · · · · · · · · · · ·
· · ·	washington	Above-Ground Pad-mounted 2,279 total transformers	380
	Maynashoro	Overhead Transformers 15,029 total transformers	
	vvaynesoor0	Above-Ground Pad-mounted 4,703 total transformers	784

**Section 57.198(c). Time frames.** The plan must comply with the inspection and maintenance standards in subsection (n). A justification for the inspection and maintenance time frames selected shall be provided, even if the time frame falls within the intervals prescribed in subsection (n). However, an EDC may propose a plan that, for a given standard, uses intervals outside the Commission standard, provided that the deviation can be justified by the EDC's unique circumstances or a cost/benefit analysis to support an alternative approach that will support the level of reliability required by law.

#### **Justification**

The practice of performing distribution overhead transformer as well as above-ground transformers on a six-year cycle and below-ground transformers on an eight-year cycle is based on accepted electric utility practices and the experience of West Penn Power. National Electrical Safety Code (NESC) Rule 12.121.A states *"lines and equipment shall be inspected at such intervals as experience has shown to be necessary."* 

The aforementioned periodicity between inspections allows distribution overhead and aboveground transformers to be inspected in conjunction with the overhead circuit inspection which is on a 6-year cycle as well. The above periodicities between inspections have proven to be successful in addressing emergent problems in a timely manner, allowing for proper planning and remediation prior to the emergent problem having a negative impact on personal safety, equipment integrity or service reliability.



**Section 57.198(n)(7).** Recloser inspections. Three-phase reclosers shall be inspected on a cycle of 8 years or less. Single-phase reclosers shall be inspected as part of the EDC's individual distribution line inspection plan.

#### Program Description

West Penn Power visually inspects distribution line reclosers annually. The purpose for inspecting distribution line reclosers is to identify and repair unsafe conditions or conditions that may adversely affect service reliability or system performance, and to comply with the state regulatory agencies and the National Electrical Safety Code.

The annual preventative maintenance consists of counter readings and the field inspection. The counter readings are obtained to assess system performance based on the number of operations. The field inspection includes but is not limited to the following:

- Type of recloser and current rating
- Counter reading
- Condition rust, dents, physical damage, leaks, lightning damage
- Equipment surge arresters, tank-ground connections, by-pass switches, control battery, pole
- Grounds damage, condition

Further detailed information regarding West Penn Power's inspection of reclosers may be found in the <u>Distribution Inspection & Maintenance Practice – Line Reclosers</u>.

### Inspection Plan

		<b>Recloser Inspections</b>
	0.500	Planned
	Afea	Total Number of Reclosers
		2012
	Arnold	
	312 total reclosers	312
	Воусе	
	268 total reclosers	268
	Butler	
	324 total reclosers	324
	Charleroi	070
	273 total reciosers	273
		70
		/6
	64 total reclosers	64
		04
	326 total reclosers	326
•	lefferson	520
	188 total reciosers	188
	Kittaoning	100
West Penn Power	133 total reclosers	133
3780 total reclosers	Latrobe	
	210 total reclosers	210
	McConnellsburg	
	154 total reclosers	154
	McDonald	
	163 total reclosers	163
	Pleasant Valley	
	154 total reclosers	154
	St. Marys	
	148 total reclosers	148
	State College	
	165 total reclosers	165
	Uniontown	007
	225 total reclosers	225
	vvasnington	004
	Zö I IOIAI reclosers	281
	Verynesporo 316 total replacare	316
L	J TO LOCAL TECHOSELS	J 10

**Section 57.198(c). Time frames.** The plan must comply with the inspection and maintenance standards in subsection (n). A justification for the inspection and maintenance time frames selected shall be provided, even if the time frame falls within the intervals prescribed in subsection (n). However, an EDC may propose a plan that, for a given standard, uses intervals outside the Commission standard, provided that the deviation can be justified by the EDC's unique circumstances or a cost/benefit analysis to support an alternative approach that will support the level of reliability required by law.

#### Justification

The practice of performing annual recloser inspections is based on accepted electric utility practices and the experience of West Penn Power. National Electrical Safety Code (NESC) Rule 12.121.A states *"lines and equipment shall be inspected at such intervals as experience has shown to be necessary."* A periodicity of one year between inspections has proven to be successful in addressing emergent problems in a timely manner, allowing for proper planning and remediation prior to the emergent problem having a negative impact on personal safety, equipment integrity or service reliability.

The aformentioned practice is a Pennsylvania Power Company, Pennsylvania Electric Company and Metropolitan Edison Company program that is being adopted by West Penn Power as a result of the merger between Allegheny Energy and FirstEnergy Corp.



**Section 57.198(n)(8).** Substation inspections. Substation equipment, structures and hardware shall be inspected on a cycle of 5 weeks or less.

#### Program Description

West Penn Power's substation inspection program consists of three components: monthly, quarterly and biannual inspections (Class C, B and A respectively). The purpose of these inspections is to verify the security of the substation, capture readings and to ensure that any developing substation problems are identified and addressed in a timely manner in support of system reliability and electrical safety.

These three components include:

- 1. Safety and Security Inspection (Class C) monthly inspection and recording of abnormal conditions including but not limited to the following:
  - Substation control house (security breaches, roof integrity, fire protection equipment, general housekeeping)
  - Substation yard and perimeter (gate, fence, signage)
- Safety and Security Inspection with Readings (Class B) quarterly inspection and recording of abnormal conditions including but not limited to the following types of substation equipment:
  - Substation control house (security breaches, roof integrity, fire protection equipment, general housekeeping)
  - Substation yard and perimeter (gate, fence, signage)
  - Read and record currents, voltages, temperatures, pressures and operations counters on installed substation equipment
- 3. Safety and Security Inspection with Full Inspection (Class A) a biannual visual inspection along with readings and a more comprehensive inspection and testing of the substation and including but not limited to the following types of substation equipment:
  - Substation control house (security breaches, roof integrity, fire protection equipment, general housekeeping)
  - Substation yard and perimeter (gate, fence, signage)
  - Read and record currents, voltages, temperatures, pressures and operations counters on installed substation equipment
  - Microwave/radio sites and engine generators, batteries and chargers
  - Relaying, power transformers, breakers, voltage regulators, capacitor banks, etc.

Further detailed information regarding West Penn Power's inspection of substations may be found in the <u>Substation Patrol Inspections Manual</u>.

#### Inspection Plan

	Area	Substation Inspections Planned Number of Substations 2012
	Arnold 53 substations	636
	Boyce 21 substations	252
	Butler <u>43</u> substations	516
ч	Charleroi 48 substations	576
,	Cumberland 3 substations	36
	Jeannette 29 substations	87
West Penn Power	Jefferson 60 substations	720
510 total-substations	Kittanning 28 substations	336
	Latrobe 29 substations	348
	Pleasant Valley 50 substations	600
	St. Marys 40 substations	480
,	State College 37 substations	444
	Washington 34 substations	408
	Waynesboro 35 substations	420

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**Section 57.198(c). Time frames.** The plan must comply with the inspection and maintenance standards in subsection (n). A justification for the inspection and maintenance time frames selected shall be provided, even if the time frame falls within the intervals prescribed in subsection (n). However, an EDC may propose a plan that, for a given standard, uses intervals outside the Commission standard, provided that the deviation can be justified by the EDC's unique circumstances or a cost/benefit analysis to support an alternative approach that will support the level of reliability required by law.

#### **Justification**

The practice of performing substation inspections is based on accepted utility practices and the experience of West Penn Power. Providing a trained, physical presence within the substation on a regular, periodic basis has proven very successful in detecting the degradation of facilities not always captured by existing local and remote surveillance and monitoring tools. A periodicity of one month between inspections has proven to be successful in addressing emergent problems in a timely manner, allowing for proper planning and remediation prior to the emergent problem having a negative impact on person safety, equipment integrity or service reliability.

The aforementioned practice is a Pennsylvania Power Company, Pennsylvania Electric Company and Metropolitan Edison Company program that is being adopted by West Penn Power as a result of the merger between Allegheny Energy and FirstEnergy Corp.

#### BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

3<sup>rd</sup> Quarter 2011 Reliability Report – West : Penn Power Company - Pursuant to 52 Pa. : Code § 57.195(d) and (e)

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#### **CERTIFICATE OF SERVICE**

PA PUBLIC UTILITY COMMISSION SECRETARY'S BUREAU

I hereby certify that I have this day served a true and correct copy of the foregoing document upon the individuals listed below, in accordance with the requirements of 52 Pa. Code § 1.54 (relating to service by a participant).

Service by overnight United Parcel Service, as follows:

Rosemary Chiavetta, Secretary Pennsylvania Public Utility Commission Commonwealth Keystone Building 400 North Street, 2<sup>nd</sup> Floor Harrisburg, PA 17120 Office of Small Business Advocate Suite 1102 Commerce Building 300 North Second Street Harrisburg, PA 17101 Scott J. Rubin, Esquire Utility Workers Union of America 333 Oak Lane Bloomsburg, PA 17815 Office of the Consumer Advocate 555 Walnut Street Forum Place, 5<sup>th</sup> Floor Harrisburg, PA 17101-1923

David J. Dulick Pennsylvania Rural Electric Assn. 212 Locust Street, 2<sup>nd</sup> Floor Harrisburg, PA 17101

Service by electronic mail, as follows:

Darren Gill Blaine Loper Bureau of Conservation, Economics & Energy Planning Pennsylvania Public Utility Commission <u>dgill@state.pa.us</u> <u>bloper@state.pa.us</u> Dan Searfoorce Bureau of Fixed Utility Services Pennsylvania Public Utility Commission <u>dsearfoorc@state.pa.us</u>

õ.,

Dated: November 1, 2011

Original Signed:

Lori B. Barman FirstEnergy Service Company 76 S. Main Street Akron, OH 44308 (330) 252-6380 Ibarman@firstenergycörp.com

