FirstEnergy.

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P.O. Box 16001
Reading, PA 19612-6001

April 29, 2011



Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
P.O. Box 3265
Harrisburg, PA 17120

Re: 2010 Annual Reliability Report – West Penn Power Company - Pursuant to 52 Pa. Code § 57.195(a) and (b)

L-00030161

Dear Secretary Chiavetta,

Enclosed for filing on behalf of West Penn Power Company, ("West Penn Power") are an original and six (6) copies of their Joint 2010 Annual Reliability Report.

Sincerely,

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BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

**2010 Annual Reliability Report – West Penn Power Company - Pursuant to 52 Pa. Code § 57.195(a) and (b)** :



## CERTIFICATE OF SERVICE

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:

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Pennsylvania Public Utility Commission
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Dated: April 29, 2011

Original Signed

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FirstEnergy

# 2010 Annual Reliability Report

## West Penn Power Company

Pursuant to 52 Pa. Code § 57.195(a) and (b)

# 2010 Annual Reliability Report
# West Penn Power Company
# Pursuant to 52 Pa. Code Chapter § 57.195(a)(b)

The following 2010 Report ("Report") is submitted to the Pennsylvania Public Utility Commission ("PaPUC") on behalf of West Penn Power Company ("West Penn Power").

*Section 57.195(b)(1) An overall current assessment of the state of the system reliability in the EDC's service territory including a discussion of the EDC's current programs and procedures for providing reliable electric service.*

## *Current Assessment of the State of System Reliability*

### Reliability Results

The table below, taken from the 4th Quarter 2010 Joint Reliability Report, shows all three reliability indices in 2010 were better than the Commission's 12-Month Standard (shown in **green**).

| 12-Month Rolling | West Penn Power | | |
|---|---|---|---|
| | Benchmark | 12-Month Standard | 12-Month Actual |
| SAIFI | 1.05 | 1.26 | **1.00** |
| CAIDI | 170 | 204 | **190** |
| SAIDI | 179 | 257 | **191** |
| Customers Served [(a)] | 713,122 | | |
| Number of Sustained Interruptions | 14,805 | | |
| Customers Affected | 715,735 | | |
| Customer Minutes | 136,121,784 | | |

(a) Represents the average number of customers served during the reporting period.

West Penn Power has implemented technology to measure reliability and respond to forced outage events. Technologies such as Automated Mapping/Facilities Management, Outage Management System, Call Center Interactive Voice Response, Computerized Work Management System and mobile technologies all support timely response to field conditions. In 2010, West Penn Power began to realize the benefits from the two software additions that were implemented in 2009 to aid in the restoration effort. These two software additions are a Dashboard software system for the OMS system called Obvient and a Mobile Workforce Management system called Avail.

A corporate training center, reliability programs and processes to support reliability initiatives are in place to continually address and improve distribution reliability. These and other initiatives such as damage assessment training also support intense work efforts for responding to severe weather events. Well-established maintenance programs are in place to ensure the existing system will continue to operate in a safe and reliable manner. West Penn Power also has maintenance programs in place to address poor performing circuits as well as specific line segments where reliability issues may exist, as revelaed by three or more device interruptions.

Weather events continue to affect circuit reliability and reliability statistics. Major events, discussed later in this report, are excluded from statistics but can affect budgets and work plans. Other, less severe weather events, are included in statistics and can contribute significantly to reliability statistics, especially on an individual circuit basis.

The preliminary YTD March 2011 reliability indices (shown in **green**) are listed in the table below:

| 12-Month Rolling | West Penn Power | | |
|---|---|---|---|
| | Benchmark | 12-Month Standard | 12-Month Actual |
| SAIFI | 1.05 | 1.26 | **1.15** |
| CAIDI | 170 | 204 | **189** |
| SAIDI | 179 | 257 | **217** |

West Penn Power is exceeding all indices for the Commission's 12-Month Standard, through month-end March 2011. West Penn is confident that their 2011 plans will continue to have a positive impact on reliability.

*Section 57.195(b)(2) A description of each major event that occurred during the year being reported on, including the time and duration of the event, the number of customers affected, the cause of the event and any modified procedures adopted to avoid or minimize the impact of similar events in the future.*

## *Major Events*

A major event is determined by having 10% of West Penn Power's customers out of service for 5 minutes or greater as defined in 52 Pa. Code 57.192. This annual report for 2010 is based on the exclusion of major events on an individual operating company basis and is consistent with the major events reported in each of the 2010 quarterly reports. The major events for 2010, is as follows:

| Time and Duration of the Event | | Customers Affected | Cause of the Event | Commission Approval |
|---|---|---|---|---|
| Duration | 11 days<br>2 hours<br>6 minutes | 300,000 | Storm event with heavy, wet snow. | Approved March 17, 2010 |
| Start Date/Time | February 5, 2010<br>5:04pm | | | |
| End Date/Time | February 16, 2010<br>7:10pm | | | |
| Duration | 3 days<br>7 hours<br>8 minutes | 106,000 | Storm event with strong winds and lightning. | Approved May 17, 2010 |
| Start Date/Time | April 16, 2010<br>2:48pm | | | |
| End Date/Time | April 19, 2010<br>10:40pm | | | |
| Duration | 3 days<br>8 hours<br>18 minutes | 85,584 | Storm system that contained strong winds and high lightning strikes. | Approved October 6, 2010 |
| Start Date/Time | September 22, 2010<br>3:12pm | | | |
| End Date/Time | September 25, 2010<br>11:30pm | | | |

*Section 57.195(b)(3) A table showing the actual values of each of the reliability indices (SAIFI, CAIDI, SAIDI, and if available, MAIFI) for the EDC's service territory for each of the preceding 3 calendar years. The report shall include the data used in calculating the indices, namely the average number of customers served, the number of sustained customer minutes interruptions, the number of customers affected and the minutes of interruption. If MAIFI values are provided, the number of customer momentary interruptions shall also be reported.*

## *Reliability Indices*

For the purposes of this report, all reliability reporting is based upon the PaPUC's definitions for "momentary outages" and "major events" (outage data excluded as a result of major events).

| Historic 12-Month Rolling Reliability Indices[1] | | | | |
|---|---|---|---|---|
| | Index | 2008 | 2009 | 2010 |
| ***West Penn Power*** | SAIFI | 1.16 | 0.97 | 1.00 |
| | CAIDI | 168 | 166 | 190 |
| | SAIDI | 195 | 161 | 191 |
| | Customer Minutes | 137,404,253 | 113,827,264 | 136,121,784 |
| | Customers Interrupted | 818,562 | 686,453 | 715,735 |
| | Customers Served[2] | 704,518 | 708,940 | 713,122 |

| *36-Month Rolling Year-End 2010* | West Penn Power | |
|---|---|---|
| | 36-Month Standard | 36-Month Actual |
| **SAIFI** | 1.16 | 1.04 |
| **CAIDI** | 187 | 175 |
| **SAIDI** | 217 | 182 |

[1] MAIFI values are not available
[2] Represents the average number of customers served during the reporting period

*Section 57.195(b)(4) A breakdown and analysis of outage causes during the year being reported on, including the number and percentage of service outages, the number of customers interrupted, the 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 | | | | |
|---|---|---|---|---|
| 2010 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 | 50,980,031 | 3,382 | 154,892 | 22.84% |
| OVERHEAD LINE MATERIAL | 10,465,593 | 1,678 | 97,893 | 11.33% |
| UNKNOWN | 6,743,951 | 1,581 | 63,009 | 10.68% |
| ANIMAL | 3,154,622 | 1,428 | 39,248 | 9.65% |
| WEATHER | 25,088,085 | 1,422 | 73,034 | 9.60% |
| PUBLIC/CUSTOMER | 9,319,324 | 1,254 | 81,426 | 8.47% |
| OVERHEAD LINE EQUIPMENT | 2,332,005 | 1,185 | 26,210 | 8.00% |
| RIGHT-OF-WAY TREES | 14,543,676 | 981 | 53,817 | 6.63% |
| OVERHEAD WIRE | 5,885,611 | 957 | 57,134 | 6.46% |
| UG CABLE | 2,693,741 | 496 | 16,353 | 3.35% |
| SUBSTATION EQUIPMENT | 3,393,848 | 147 | 37,373 | 0.99% |
| OTHER | 897,256 | 131 | 9,793 | 0.88% |
| UG LINE EQUIPMENT | 302,785 | 104 | 1,519 | 0.70% |
| UG LINE MATERIAL | 272,232 | 44 | 1,552 | 0.30% |
| SERVICE EQUIPMENT | 49,024 | 15 | 2,482 | 0.10% |
| TOTAL | 136,121,784 | 14,805 | 715,735 | 100.00% |

Proposed Solutions – West Penn Power

West Penn Power believes that the greatest improvement in company-controllable outages will result from several initiatives in place to improve distribution reliability in Pennsylvania.

Reliability Improvement Program (RIP)

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

- A report listing all circuit reliability information for the previous rolling 12-month period is created based on statistical performance. The Distribution Circuit Interruption Index (DCII), a composite index made up of SAIFI, SAIDI, CAIDI, ASAI, is used to rank all the distribution circuits.
- A detailed review of the poorest performing circuits is completed by field personnel and, if necessary, an improvement plan is developed.
- In addition to the poor performing circuits, the RIP teams will investigate any circuit which has been interrupted multiple times in the prior 12-month period. Corrective action, if necessary, is planned.
- 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 12-month period. Corrective action, if necessary, is planned.

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 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 that pose a threat to service reliability and/or the integrity of the line by uprooting, breaking or otherwise falling onto the line.

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.

*Section 57.195(b)(5) A list of the major remedial efforts taken to date and planned for circuits that have been on the worst performing 5% of circuits list for a year or more.*

## *Worst Performing Circuits – Remedial Action*

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

*Section 57.195(b)(6) A comparison of established transmission and distribution inspections and maintenance goals/objectives versus actual results achieved during the year being reported on. Explanations of any variances shall be included.*

| 2010 Inspection and Maintenance Goals/Objectives | | Planned | Completed |
|---|---|---|---|
| Distribution | Scheduled Circuit Inspection and Maintenance Program (circuits) | 57 | 56 |
| | Scheduled Circuit Maintenance Work from Employee Inspections (work requests) | 76 | 22[3] |
| | CAIDI 2 Projects | 263 | 291 |
| | Worst Performing Circuit Projects | 18 | 16[4] |
| | Small Planning Projects | 45 | 36[5] |
| | Large Planning Projects | 6 | 3[6] |
| | Miscellaneous Maintenance (man hours) | 198,060 | 221,351 |
| | Line Recloser Replacements | 149 | 108[7] |
| | Underground Equipment Inspections (locations) | 14,300 | 14,081[8] |
| | Underground Cable Replacement (feet) | 45,000 | 25,300[9] |
| | Priority Pole Replacements | 201 | 185[10] |
| | Annual Overhead Facility Inspection, Pole Inspection and Pole Treatment Done by Contractors (number of poles) | 125,536 | 125,536[11] |
| Forestry | Transmission Aerial Saw (Line Miles) | 47 | 47[12] |
| | Transmission Aerial Spray (Acres) | 355 | 355[13] |
| | Transmission Ground Spray (Acres) | 1,085 | 931[14] |
| | Transmission Tree Work (Line Miles) | 114 | 99[15] |
| | Subtransmission ROW Vegetation Maintenance (Line Miles) | 567 | 456[16] |
| | Distribution ROW Vegetation Maintenance (Line Miles) | 1,223 | 984[17] |
| Transmission | Comprehensive Patrol (Transmission Lines) | 4 | 4 |
| | General Patrol (Transmission Lines) | 121 | 144 |
| | SS Work (Preventative Maintenance only) (Man-hours) | 19,865 | 20,165 |

[3] Higher priority work superseded completion of some lower priority work requests

[4] Plan increased to 18 due to one project that was completed on 1/6/2011 and another project that is in progress to be completed in 2011

[5] ROW issues delayed completion of these projects

[6] Budget constraints limited completion of two projects; third project achieved 2011 replacements but total project spans over multiple years

[7] Remaining budget used for replacement of failed switches, regulators and capacitors

[8] Remaining will be completed in 2011

[9] Some funding used for replacement of failed padmount equipment and some used for emergency cable replacements in other states

[10] Access and safety issues limited completion in 2010 – project completed in first quarter 2011

[11] This includes all 2010 poles including those inspected in 2009 (40,173) for 2010 cycle

[12] Met revised goal – deferred some previously scheduled work to future growing seasons

[13] Met revised goal – some inaccuracy involved in estimating planned work ahead of time

[14] Met revised goal – deferred some previously scheduled work to future growing seasons

[15] Met revised goal – deferred some previously scheduled work to future growing seasons

[16] Some work was deferred into future growing seasons to compensate for excessive storm costs incurred in 2010

[17] Some work was deferred into future growing seasons to compensate for excessive storm costs incurred in 2010

*Section 57.195(b)(7) A comparison of budgeted versus actual transmission and distribution operation and maintenance expenses for the year being reported on in total and detailed by the EDC's own functional account code of FERC account code as available. Explanations of any variances shall be included.*

## *Budgeted vs. Actual T&D Operation & Maintenance Expenditures*

| T&D O&M (YTD December 2010) | | | | |
|---|---|---|---|---|
| Category | YTD Actual | YTD Budget | Variance % | Notes[a] |
| Distribution Administrative | -1,707,307 | -1,140,379 | -50% | 1 |
| Distribution System | 1,585,909 | 1,583,632 | 0% | |
| Asset Management | 78,847 | 711,574 | 89% | 2 |
| Distribution Support | 26,059,596 | 17,066,023 | -53% | 3 |
| Field Operations | 16,367,142 | 15,127,332 | -8% | |
| Distribution Forestry | 8,090,439 | 8,635,879 | 6% | |
| Transmission Other | 635,066 | 18,163 | -3396% | 4 |
| Substations | 4,513,314 | 4,401,368 | -3% | |
| Technical Services | 3,026,467 | 3,407,731 | 11% | 5 |
| Transmission Forestry | 2,874,840 | 1,911,370 | -50% | 6 |
| Transmission Projects | -1,230 | 498,316 | 100% | 7 |
| Transmission Siting | 906,080 | 781,264 | -16% | 8 |
| EHV Projects | 1,599 | 0 | | |
| Distribution Safety Training Quality | 833,280 | 569,012 | -46% | 9 |
| Transmission Reliability & System | 225,330 | 226,343 | 0% | |
| EMS Support | 1,126,238 | 1,141,308 | 1% | |
| Transmission System | 1,891,680 | 1,924,292 | 2% | |
| Transmission Operations | 124,833 | 143,546 | 13% | 10 |
| Grand Total | 66,632,123 | 57,006,774 | | |

| | [a] Variance Explanations |
|---|---|
| 1 | Insurance proceeds from major events |
| 2 | Higher capitalized labor split than what was planned, combined with higher credits for unauthorized attachments fees |
| 3 | Increase due to Feb 2010 major storm |
| 4 | Primarily a planned budget reduction realized by other groups |
| 5 | Planned staffing increases and related expenses delayed due to merger staffing freeze |
| 6 | Orignal budget was missing contractor supervison & contract foresters |
| 7 | Whitely SS Undermine costs billed to coal company |
| 8 | More Transmission siting work than budgeted |
| 9 | Staffing reorg moved actual costs to this cost center that were budgeted in Dist Admin cost center |
| 10 | More administration labor charged to capital EMS system replacement and new Transmission Headquarter Building construction than planned |

*Section 57.195(b)(8) A comparison of budgeted versus actual transmission and distribution operation and maintenance capital expenses for the year being reported on in total and detailed by the EDC's own functional account code or FERC account code as available. Explanations of any variances 10% or greater shall be included.*

## *Budgeted vs. Actual T&D Capital Expenditures*

| T&D Capital (YTD December 2010) | | | | |
|---|---|---|---|---|
| Category | YTD Actual | YTD Budget | Variance % | Notes[a] |
| EHV Substation | 4,175,408 | 3,594,205 | -16% | 1 |
| EHV Lines | 296,249 | 2,622,153 | 89% | 2 |
| Transmission Substations | 1,814,222 | 2,757,357 | 34% | 3 |
| Transmission Lines | 4,320,350 | 2,862,138 | -51% | 4 |
| Distribution Substations | 8,740,931 | 10,825,101 | 19% | 5 |
| Distribution Lines | 52,845,764 | 41,563,876 | -27% | 6 |
| General Plant | 13,422,551 | 8,226,605 | -63% | 7 |
| Subtransmission Lines | 1,296,447 | 210,722 | -515% | 8 |
| Grand Total | 86,911,922 | 72,662,157 | | |

| | [a] Variance Explanations |
|---|---|
| 1 | EHV SS spending increased due to increased spending for disturbance monitoring and overstressed breakers |
| 2 | EHV Lines spend reduced due to increased Distribution Lines spend due to Feb. snow storm |
| 3 | Transmission SS spend reduced due to increased Distribution Lines spend due to Feb. snow storm |
| 4 | Trans. Lines spend increased due to more right-of-way clearing spent than originally estimated primarily for Mitchell-Shepler Hill Reconductoring; Customer CIAC timing; and Whitely-Franklin line rebuild started earlier than planned |
| 5 | Distribution SS spend reduced due to increased Distribution Lines spend due to Feb. snow storm |
| 6 | Over due to the Feb 2010 Major Snow Storm |
| 7 | Lease Vehicle Buyout |
| 8 | New Business Specific Projects increased spend |

*Section 57.195(b)(9) Quantified transmission and distribution inspection and maintenance goals/objectives for the current calendar year detailed by system area (that is, transmission, substation and distribution).*

## *T&D Inspection & Maintenance Programs – 2011 Goals / Objectives*

| T&D Inspection & Maintenance Programs - 2011 | |
|---|---|
| **Program/Project** | **West Penn Power** |
| **Forestry** | |
| Distribution | 125 Miles |
| Transmission | 2,800 Miles |
| **Transmission** | |
| Aerial Patrols | 1 |
| Wood Pole Groundline | 167 |
| **Substation** | |
| General Inspections | 5,050 |
| Transformers | 390 |
| Breakers | 271 |
| Relay Schemes | 536 |
| **Distribution** | |
| Capacitors | 1,331 |
| Poles | 52,395 |
| Reclosers | 337 |
| Radio-Controlled Switches | Not Applicable |

Section 57.195(b)(10) *Budgeted transmission and distribution operation and maintenance expenses for the current year in total and detailed by the EDC's own functional account code or FERC account code as available.*

## *2011 T&D O&M Budget*

| T&D O&M Budget - Annual 2011 | |
|---|---|
| **PUC Category** | **Total Year Budget** |
| Distribution Administrative | (890,209) |
| Distribution System Operations | 1,391,119 |
| Asset Management | 587,144 |
| Distribution Support | 8,033,641 |
| Field Operations | 17,744,239 |
| Distribution Forestry | 13,691,518 |
| Transmission Other | 534,731 |
| Substations | 3,836,786 |
| Technical Services - Delivery | 2,421,154 |
| Transmission Forestry | 2,318,254 |
| Transmission Projects | 368,561 |
| Transmission Siting | 763,312 |
| Distribution Safety Training Quality Assurance | 646,913 |
| Transmission Reliability & System Support | 136,514 |
| EMS Support | 725,576 |
| Transmission System Operations | 1,212,273 |
| Transmission Operations Admin | 91,925 |
| Transmission Engineering & Operations Admin | 427,269 |
| Transmission Planning & Compliance | 351,672 |
| Transmission Engineering | 3,097,768 |
| Grand Total | 57,490,160 |

NOTE: Budgets subject to change

*Section 57.195(b)(11) Budgeted transmission and distribution capital expenses for the current year in total and detailed by the EDC's own functional account code or FERC account code as available.*

## *2011 T&D Capital Budget*

| T&D Capital - Annual 2011 | |
|---|---|
| **Category** | **Total Year Budget** |
| EHV Substation | 3,859,969 |
| EHV Lines | 3,804,002 |
| Transmission Substations | 7,437,622 |
| Transmission Lines | 21,390,630 |
| Distribution Substations | 11,988,728 |
| Distribution Lines | 44,566,738 |
| General Plant | 7,087,482 |
| Subtransmission Lines | 1,197,351 |
| Total | 101,332,522 |

NOTE: Budgets subject to change

*Section 57.195(b)(12) Significant changes, if any, to the transmission and distribution maintenance programs previously submitted to the Commission.*

## *Changes to T&D Maintenance Programs*

West Penn Power continues to review the inspection and maintenance practices to confirm that they are consistent with industry standards and that they support the achievement of the applicable Commission reliability benchmarks and standards. The 2010 revisions to the inspection and maintenance practices are as follows:

| Summary of Revisions 2010 | | |
|---|---|---|
| **Transmission and Distribution Program Changes** | | |
| **Section #** | **Equipment** | **Summary of Change** |
| 04-04 | Overhead Lines - Distribution Capacitors | ▪ Changed recommended timing of inspections and follow-up work to before summer load |
| 04-08 | Overhead Lines - Standing Wood Poles | ▪ Redefined 'danger' poles and 'priority' poles |

# ATTACHMENT A

## Worst Performing Circuits – Remedial Action

| West Penn Power | | | |
|---|---|---|---|
| **Substation** | **Circuit** | **Remedial Action Planned or Taken** | **Status of Remedial Work** |
| Vanceville | Vanceville | Cycle tree trimming | To be completed in 2012 |
| | | Outage maps were created to identify outage and sectionalizing locations | Complete |
| | | Utilized outage data to identify outage causes and sources of lockouts | Complete |
| Rutan | Windridge | Cycle tree trimming | To be completed in 2013 |
| | | Transfer a portion of the circuit to an adjacent substation to reduce exposure. | Complete |
| Fowler | Bald Eagle | Outage maps were created to identify outage and sectionalizing locations | Complete |
| | | Utilized outage data to identify outage causes and sources of lockouts | Complete |
| | | Cycle tree trimming | To be completed in 2012 |
| Waterville | Waterville | Added isolating points and fault indicators as part of CAIDI improvement program | Complete |
| | | Cycle tree trimming performed in 2009-2010 | Complete |
| East Millsboro | East Millsboro | Install automatic air switches on the subtransmission feeding the substation | Complete |
| | | Outage maps were created to identify outage and sectionalizing locations | Complete |
| | | Utilized outage data to identify outage causes and sources of lockouts | Complete |

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0.0 LBS LTR 1 OF 1



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**PA 171 9-20**

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