



Orange & Rockland
a conEdison, inc. company

Orange and Rockland Utilities, Inc.
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April 29, 2011

Honorable Rosemary Chiavetta
Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, P A 17120

RECEIVED

APR 29 2011

PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

Re: Electric Service Reliability Regulations
Docket No. L-00030161

Dear Secretary Chiavetta:

In accordance with the Electric Reliability Regulations adopted by the Pennsylvania Public Utility Commission in its order dated May 20, 2004 in Docket No. L-00030161 and a March 17, 2004, letter from James J. McNulty extending the filing date, Pike County Light & Power Company hereby files an original and six copies of its Service Reliability Report for 2010 System Performance.

Any questions regarding this report should be addressed to me at the address listed above or I can be reached at (845) 577-3691.

Very truly yours,

Brian Nugent
Section Manager
Performance & Operations Engineering
Pike County Light and Power
(Orange and Rockland Utilities)

Enclosures

cc: Office of Consumer Advocate
Office of Small Business Advocate
Pennsylvania AFL-CIO

**Pike County Light & Power Company
(Orange and Rockland Utilities, Inc.)**

Annual Electric Reliability Report

2010

RECEIVED

APR 29 2011

**PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU**

April 2011

§ 57.195. (b)(1) An overall 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.

Overall Current Assessment

Orange and Rockland Utilities, Inc.'s ("O&R") "Northern Division" includes the service territory of Pike County Light & Power Company ("Pike" or the "Company"), as well as portions of Orange County and Sullivan County in New York State, and portions of Sussex County in New Jersey¹. Pike County is the south-westernmost portion of Orange & Rockland System's Western Division. Pike's service territory in Pennsylvania is primarily fed from two 34.5 kV feeders that originate from New York Substations; Line 5-10 from the Cuddebackville Substation, and Line 7 from the Port Jervis Substation. The eastern portion of the Pike service territory is fed by two 13.2kV feeders from the Matamoras Substation that has ties to distribution circuitry from the Company's Port Jervis Substation, in New York, as well. The Matamoras Substation is fed from both Line 5-10 and Line 7, which back each other up through an automatic transfer scheme at the substation. The western portion of the Pike service territory is fed radially from Line 7.

The Pennsylvania Public Utilities Commission ("PAPUC") service reliability standards for Pike, last revised on August 17, 2006, are as follows:

- 12-Month System Average Interruption Frequency Index ("SAIFI", or "Frequency") of 0.82 interruptions per customer served;
- 12-month Customer Average Interruption Duration Index ("CAIDI" or "Restoration") of 235 minutes of interruption per customer interrupted;
- 12-month System Average Interruption Duration Index ("SAIDI" or "Duration") of 194 minutes per customer served.

In 2010, the Pike service territory experienced a Frequency of 0.60 interruptions per customer served, a Restoration of 255 minutes, and a Duration of 153 customer-minutes of interruption. These results are detailed on Page 6 of this filing, along with the most recent three-year history for these indices. SAIFI was 27% better than the standard, CAIDI was 20 minutes (9%) above the standard, and SAIDI was 41 minutes (21%) better than the standard.

From February 25 to February 28, 2010 a major snow storm affected the Pike service territory. There were 197 customers affected for 3,857 customer hours during this period. The storm which affected the Northeast region of the country made it extremely difficult to initiate and complete repairs due to its intensity. The largest outage between February 25 and 27 was a tree contact which affected 95 customers for 2,389 customer hours of interruption. This outage which occurred at the onset of the storm was a result of heavy snow which caused a tree to make contact with primary conductors. Damage was caused to the conductors as well as an adjacent pole and temporary repairs were made to eliminate any other customers from being interrupted. Since this interruption was part of a significant weather occurrence, Pike applied to the PAPUC for a major event exclusion; the PAPUC denied this application. The outages which occurred from February 25 to 27 increased the 2010 CAIDI index from 183 minutes, which meets the PAPUC standard, to 255 minutes. Due to the small size and

¹ The Orange & Rockland System includes the service territories of O&R (in New York), Pike (in Pennsylvania), and Rockland Electric Company (in New Jersey). The Orange & Rockland System is divided into the Eastern, Western and Central divisions.

configuration of the Pike system, consideration should be given to these type of events where circumstances such as extreme weather play a major role in the restoration effort.

The three-year reliability standards for Pike are as follows:

- Three-year annualized SAIFI of 0.67 interruptions per customer served;
- Three-year annualized CAIDI of 192 minutes of interruption per customer interrupted; and
- Three-year annualized SAIDI of 129 minutes per customer served.

For the three-year period ending December 2010, Pike experienced an annualized Frequency of 0.55 interruptions per customer served, a Restoration of 222 minutes, and Duration of 123 customer minutes of interruption. The performance measurements for Frequency and Duration were better than the three-year standards and were also lower than their respective Benchmarks. If the February 25-27 event was excluded the three-year Frequency would be 0.54 interruptions per customer, Restoration of 196 minutes and Duration of 105 customer minutes of interruption. The denial of this event significantly increases the Restoration and Duration standards for the three-year period.

There were seven major events affecting Pike's service territory during 2010 that were accepted by the PAPUC for exclusion from the statistics. These major events affected 9,722 customers for a total of 28,119 customer-hours of interruption, and are detailed on Page 4 of this filing.

The table on Page 7 summarizes, by cause, Pike customer interruptions experienced in 2010, with pre-arranged outages and major events removed. The leading cause of outages is tree contact, with 24 interruptions affecting 1,058 customers for a total of 210,384 customer-minutes. The service reliability program targeted to manage these outages is the three-year, cycle-based tree clearance program. The most recent cycle was completed in 2009, and is scheduled next for completion in 2012. In addition, a Circuit Ownership Program was in effect in 2010, whereby circuits are patrolled by 'circuit owners' who identify and address circuit issues that will help to improve performance. This effort, along with the other service reliability programs that the Company implements, as are discussed later in this Report, are designed to target circuit equipment and conditions that will result in performance improvements.

The distribution inspection and maintenance goals/objectives and capital expenses, are listed starting on Page 8 of this Report. Presently, Pike has no transmission lines.

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					
Date	Cause	Time	Duration (minutes)	Customers Affected	Cust Min of Interruption
1/25/2010	Storm - Wind & Rain	10:01	304	1,685	276,811
2/28/2010	Tree Contact - Snow	9:37	90	588	52,920
3/13/2010	Storm - Wind & Rain	9:09	2121	1,776	808,233
4/26/2010	Equipment Failure	14:20	87	590	51,330
5/1/2010	Equipment Failure	11:12	178	1,677	235,397
7/26/2010	Lightning damage	13:24	112	1,220	96,320
9/30/2010	Tree contact - Wind	16:19	76	2,186	166,136
Total				9,722	1,687,147

January 25, 2010 Storm

The initiating event occurred during a wind-driven rain; insulating equipment arced over and broke apart, causing a wire to come down, and fault isolating equipment to operate. Temporary repairs were made, and all customers were restored. Subsequently, four customers near the original fault location were taken out of service to make permanent repairs.

February 28, 2010 Tree Contact

This incident was due to a condition where a tree fell on primary wires due to heavy snow resulting in the loss of service to 588 customers. Circuit 104-1-13 was de-energized to isolate the fault in order to make repairs.

March 13, 2010 Storm

There were four incidents, all the result of tree contacts. A soaking rain, accompanied by high winds caused trees and tree limbs to fall across electric distribution lines and equipment. There were 1,776 Pike electric customers affected, for a total of 13,471 customer-hours.

April 26, 2010 Equipment Failure

This incident was due to a condition where a primary wire came off its insulator. As a result, an arcing condition existed, and actions were taken to isolate the fault, resulting in the loss of service to 590 customers. The initiating event occurred on a mainline section of circuit 104-1-13.

May 1, 2010 Equipment Failure

This incident was due to a condition where an insulator failed, resulting in the loss of service to 1,677 customers. The initiating event occurred on a mainline section of circuit L7-6-34, at a location that had been inspected via helicopter patrol on March 25, 2009 and by an infrared inspection that was performed on July 27, 2009. In addition, this location was inspected as part of our pole inspection program in 2009, and no defects were identified during this inspection.

July 26, 2010 Lightning Damage

This incident was due to a condition where primary overhead wire came down, resulting in the loss of service to 1,220 customers. The initiating event occurred on a mainline section of circuit L7-6-34, due to conductor damage incurred by a previous lightning contact.

September 30, 2010 Tree Contact

This incident was due to a condition where a tree fell on primary wires due to high winds resulting in the loss of service to 2,186 customers on circuit L7-6-34. Vegetation management was completed on this circuit in 2009, as part of the Company's 3-year vegetation management program.

Denied exclusion request

In addition to these seven Major Events, one other incident that occurred on February 25, 2010 was submitted for the PAPUC's review as a Major Event. This was a major snowstorm, requiring the activation of the Company's storm center from February 25 through March 1, 2010. As noted above, this was a major snowstorm which impacted the Northeast and the Company's service territory in particular. It should be noted that all interruptions in the Company's New York and New Jersey service territories were excluded for this major storm event.

The denial of this exclusion request for the outages on February 25 to 27 will significantly skew PCL&P's proper and representative performance for its Restoration (CAIDI) and Duration (SAIDI) goals that the Commission measures reliability performance by, and holds the Company accountable for. In fact, the denial of the outages from February 25 – 27 will result in PCL&P failing to meet the 12-month CAIDI goal for 2010 and, most likely, the three-year goals for the next three years. Through March 2011, the rolling 12-month CAIDI will increase to 282 minutes from 208 minutes, well above the Company's Standard of 235 minutes. The 3-year rolling CAIDI will increase from 190 minutes to 217 minutes, 25 minutes above the Standard. The outages which occurred from February 25 to 27 were caused by the same storm which in its entirety affected more than 10% of the customers served in the PCL&P service territory and should have been excluded.

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 interruptions, and 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
2008 - 2010**

Year	SAIFI	CAIDI	SAIDI	Average Number of Customers Served	Number of Interruptions	Customers Affected	Customer Minutes of Interruption
2008	0.46	236	109	4,451	65	2,045	483,029
2009	0.60	178	106	4,469	56	2,666	475,501
2010	0.60	255	153	4,477	63	2,685	685,799

MAIFI data is not presently available.

§ 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, and customer interruption minutes categorized by outage cause such as equipment failure, animal contact, tree related, and so forth. Proposed solutions to identify service problems shall be reported.

Cause	Causes Of Interruptions			
	Number of Interruptions	Percent of Interruptions	Customers Affected	Customer Min of Interruption
Animal	7	11.11%	135	8,626
Tree	33	52.38%	1,379	534,775
Overload	0	0.00%	0	0
Work Error	0	0.00%	0	0
Equipment Failure	12	19.05%	578	72,815
Non-Company Acc	5	7.94%	188	24,000
Customer Problem	1	1.59%	6	9,084
Lightning	1	1.59%	18	3,600
None Found/Other	4	6.35%	381	32,899
TOTAL	63		2,685	685,799

As noted in the above table, the primary cause of interruptions in 2010 was from 'tree contacts'. The change to a more frequent (i.e., 3-year) tree trimming cycle should help to contain the number of these types of interruptions. The Pike service territory was last trimmed in 2009 and is scheduled for a full cycle trimming again in 2012. Spot trimming also takes place as needed and where problem areas are identified. Ground to sky trimming was performed during 2010 along the Route 209 corridor in Westfall between Matamoras and Milford on circuit L7-6-34. This area has been problematic for the L7-6-34 circuit where pine trees have interfered with the circuit and have caused many outages over the years. This area was cleared of danger trees and the ROW cleared of vegetation that had the potential of affecting the circuit.

§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.

Pursuant to the exemption set forth in §57.195(c), since Pike has less than 100,000 customers, Pike is not required to address this subsection.

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

**T/D
Inspection/Maintenance
Goals/Objectives**

Goals/Objectives vs. Results

Distribution goals and objectives focused on completing all scheduled preventive maintenance. These goals were met. Pike has no transmission facilities.

- **Distribution Tree Trimming**
Trimming was completed on all Pike distribution circuits in 2009, spot trimming and danger tree removal were performed during 2010 in areas identified as deficient.

- **Infrared Inspection Program**
The 2010 program included inspecting all 3-phase circuitry, and this was completed as planned.

- **Power Quality**
The 2010 maintenance program required inspection of 11 capacitors and 5 regulators. The Power Quality goals were met.

- **Mid-point Recloser / Sectionalizing Program**
The 2010 maintenance program required inspection of 3 reclosers and 1 Scadamate switch. The Mid-point Recloser / Sectionalizing Program goals were met.

- **Substation Maintenance and Inspection Program**
The 2010 required completion of all inspection and maintenance requirements as listed in Appendix I for the Matamoras Substation. The Substation Maintenance and Inspection Program goals were met.

§ 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 or FERC account code as available. Explanations of any variances 10% or greater shall be included.

**T&D
Operation and Maintenance
Expenses**

O&M Accounts	2010 Budget k\$	2010 Actual k\$
580 Operation Supervision And Engineering	106.0	87.5
581 Load Dispatching	3.3	4.8
582 Station Expenses	12.6	14.6
583 Overhead Line Expenses	3.2	4.1
584 Underground Line Expenses	5.8	0.0
586 Meter Expenses	61.7	59.1
587 Customer Installation Expenses	0.3	1.4
588 Miscellaneous Distribution Expenses	18.2	36.2
589 Rents	0.7	0.3
592 Maintenance Of Structures And Equipment	0.0	0.0
593 Maintenance of Overhead Lines	269.4	195.4
594 Underground Line Expenses	3.0	2.7
595 Maintenance of Line Transformers	0.0	0.0
596 Maintenance of Street Lighting and Signal Systems	2.4	12.3
597 Maintenance of Meters	2.6	0.9
598 Maintenance of Miscellaneous Distribution Plant	0.0	0.0
599 Joint use	104.4	90.6
Total Distribution	\$593.6	\$509.9

The 2010 Operation and Maintenance Expenses were lower than the budget by more than 10%. Overall actual expenditures were 14% lower than the Budget. Item 593, Maintenance of Overhead Lines, was the major contributor and under budget due to the absence of maintenance costs associated with capital blanket improvements. This under-run was offset slightly by the Maintenance of Street Lighting which overran due to municipal lighting upgrades and Miscellaneous Distribution Expenses which ran over due to unbudgeted expenses for overtime repairs.

§ 57.195. (b)(8) A comparison of budgeted versus actual transmission and distribution capital expenditures 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.

**T/D
Capital Expenditures**

Account Code	2010 Budget k\$	2010 Actual k\$
70-various Electric Distribution Blankets - PA	\$231.2	\$76.9
70-various New Business - PA	190.4	113.7
70-0130 2010 Transformers - O/H PA (Incl Contributions)	35.8	0.0
70-9717 Ground to Sky Tree Trimming Blanket (PARC)	0.0	2.4
70-9727 Ground to Sky Tree Trimming Blanket (PARC)	256.0	61.0
70-9728 Circuit Reliability Blanket (PARC)	10.0	0.0
70-9729 Pole Inspection Blanket (PARC)	32.4	3.6
70-9723 Delaware Drive Roadwork	0.0	18.6
90-various Electric Distribution Blankets - PA	20.8	0
90-various New Business - PA	91.8	11.7
90-0130 2010 Transformers - U/G PA	13.7	0
Total Distribution	\$882.1	\$287.9

The 2010 overall Capital Expenditures were lower than the budget by 67%. Overhead and underground new business projects continued a below normal trend in 2010 resulting in reduced capital expenditures in those areas. Distribution Blankets were also significantly under-spent with minimal system improvement projects being identified in 2010. The Ground to Sky Tree Trimming Blanket (70-9727) was estimated and budgeted for \$256.0 k and allocated for the Route 209 corridor spot trimming. The actual costs were \$61.0 k and the work came in significantly under the estimate. That portion of trimming is now complete. The Delaware Drive Roadwork is a carryover from 2009 and that work is now complete.

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

**T/D
Inspection and Maintenance
Goals/Objectives
Quantified**

Inspection and maintenance programs, designed with the intention of improving frequency of interruption and minimizing the resultant increases in restoration (as frequency is improved), have been in effect in Pike's service territory for over ten years. These programs are focused on field facilities and customer satisfaction, and are effective in minimizing the probability of an interruption while limiting the number of customers affected per interruption. The major programs are:

- **Distribution Tree Trimming**

Trimming was completed on all Pike distribution circuits in 2009, and will be scheduled again in 2012. Spot trimming and danger tree removal are performed as conditions are identified

- **Infrared Inspection Program**

In 2011, the Infrared Inspection Program will include all 3-phase and single phase circuitry.

- **Power Quality**

The 2011 maintenance program will require inspection of 11 capacitors and five regulators.

- **Mid-point Recloser / Sectionalizing Program**

The 2011 maintenance program will require inspection of four reclosers and one Scadamate Switch.

- **Substation Maintenance and Inspection Program**

The 2011 maintenance program will require the completion of all monthly and annual inspection and maintenance requirements as listed in Appendix I for the Matamoros Substation.

§ 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.

**T/D Operation and Maintenance
Expenses By FERC Account**

O&M Accounts	2011 Budget k\$
580 Operation Supervision And Engineering	\$109.6
581 Load Dispatching	2.4
582 Station Expenses	-5.0
583 Overhead Line Expenses	62.0
584 Underground Line Expenses	7.8
585 Street Lighting	1.9
586 Meter Expenses	21.9
587 Customer Installation Expenses	0.0
588 Miscellaneous Distribution Expenses	43.6
589 Rents	0.8
592 Maintenance Station Equipment	0.0
593 Maintenance of Overhead Lines	166.4
594 Underground Line Expenses	3.2
595 Maintenance Line Transf and Dev Distribution	0.0
596 Maintenance of Street Lighting and Signal Systems	6.9
597 Maintenance of Meters	2.6
598 Maintenance Miscellaneous Plant	0.0
599 Joint use	94.8
Total Distribution	\$518.9

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

**T/D Capital Expenditures
By FERC Account**

Account Code	Capital	2011 Budget k\$
70-various	Electric Distribution Blankets - PA	397.70
70-various	New Business - PA	0.00
	2011 Transformers - O/H PA (Incl Contributions)	36.60
70-9735	Circuit Reliability Blanket (PARC)	10.10
70-9736	Pole Inspection Blanket (PARC)	34.80
90-various	Electric Distribution Blankets - PA	102.40
90-various	New Business - PA	0.00
90-0130	2011 Transformers U/G PA	13.70
Total Capital Budget		595.30

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

**T/D
Inspection and Maintenance
Programs
Significant Changes**

Inspection & Maintenance Changes

There were no significant changes to Pike's Inspection and Maintenance programs in 2010, and none are planned for 2011.

Appendix I **Substation Maintenance and Inspection Program**

Item Description:

Examine individual utility substation maintenance programs to validate proper maintenance procedures and verify that maintenance is being performed. Review recent operating data to verify that no adverse trends exist.

Company Program:

The following details the different class inspections and maintenance programs performed by the Substation Operations Department, and their associated time cycles. Intervals vary depending on equipment type, style and maintenance history.

CLASS #1 INSPECTION - Monthly

- Visual inspection of transformers and oil breakers for oil leaks, oil levels, nitrogen pressure, connections, condition of bushings and Oil Circuit Breaker ("OCB") operating mechanism.
- Visual inspection of battery banks, chargers, control board indicating lights, control house lights, yard lights.
- Visual inspection of minor equipment including Potential Transformers ("PTs"), Current Transformers ("CTs"), Capacitive Coupled Potential Devices ("CCPDs"), disconnect switches and bus connections.
- Visual inspection of all structures, fences and yard surfaces.
- Counter readings taken of OCBs, Gas Circuit Breakers ("GCBs"), reclosers and tap changers.

STATION BATTERY TESTS - Annually

Measure specific gravity and cell voltage. Test with Battery Impedance Testing Equipment. Clean batteries.

FANS, PUMPS, HEATERS AND COMPRESSORS - Annually

Check for proper operation prior to winter for heaters and compressors and prior to summer for fans and pumps.

TRANSFORMER GAS-IN-OIL ANALYSIS - Annually

Take oil sample from each power transformer compartment and analyze for combustible gas content.

DOBLE POWER FACTOR TEST - Every Two - Five Years

Use Doble instrument to measure the integrity of the insulating medium of certain device.

OCB TIMING - Every Three - Ten Years

Check the time it takes for each operation of certain breakers.

RELAY MAINTENANCE - Every Four Years, Electromechanical; Six Years Microprocessor Based, With Self-Check.

Clean, test and calibrate as required all relays involved in protective relay schemes. After testing and calibrating perform a trip test to verify proper operation.

CLASS #3 INSPECTION - Every two - five Years

The Class #3 inspection on transformers is to include, but is not limited to the following items:

1. Test oil;
2. TTR - Test, meggar test;
3. Inspect all connectors, bushings;
4. Inspect for leaks (oil - nitrogen);
5. Check CT connections, alarm systems on banks; and
6. Doble Power Factor Test.

Transformers With Load Tap Changers

7. Test Oil in LTC cabinet; and
8. Test LTC control for proper operation.

The Class #3 inspection on OCB's is to include, but is not limited to the following items:

1. Test Oil;
2. DLRO (Ductor Test) before and after;
3. Inspect and clean control cabinet;
4. Inspect and clean Pneumatic-Hydraulic or spring charged operating system; and
5. Operational Test.

The Class #3 inspection on reclosers is to include, but is not limited to the following items:

1. Test Oil ;
2. DLRO (Ductor Test) before and after;
3. Control cabinet clean, checkout and operational test; and

Reclosers With Vacuum Bottles

4. Hi-Pot test.

The Class #3 inspection on ACB's is to include, but is not limited to the following items:

1. DLRO (Ductor Test) before and after;
2. Inspect all contacts (action to be taken, if needed);
3. Inspect and test all Micro and Aux. contacts (close and trip circuit); and
4. Operational Testing

CLASS #4 INSPECTION - Various intervals (four - twelve years or as necessitated by Class #3 Inspection results) dependent on equipment type, style and maintenance history.

The Class #4 inspection consists of a thorough inspection and testing of the apparatus listed below.

The Class #4 also includes all inspections included in a Class #3.

Transformers With Load Tap Changer

5. Drain oil from LTC cabinet, inspect all contacts;
6. Inspect and tighten all connections;
7. Clean complete LTC cabinet;
8. Filter or replace oil; and
9. Test LTC control for proper operation.

The Class #4 inspection on OCB's is to include, but is not limited to the following items:

1. DLRO (Ductor test) before and after;
2. Drop tanks - inspect and tighten all connections. Clean all parts and tanks;
3. Test and filter or replace oil;
4. Inspect and clean control cabinet;
5. Inspect and clean Pneumatic-Hydraulic or spring charged operating systems; and
6. Operational Test.

The Class #4 inspection on reclosers is to include, but is not limited to the following items:

1. Drop tank (filter or replace oil);
2. Inspect all contacts - repair or replace (depending on the condition);
3. Check and tighten all connections;
4. Control cabinet, clean and checkout;
5. DLRO (Ductor Test) before and after; and
6. Operational Test.

Recloser With Vacuum Bottles

7. Hi-Pot test.

The Class #4 inspection on ACB's is to include, but is not limited to the following items:

1. DLRO (Ductor Test) before and after;
2. Inspect all contacts - clean and put protective grease coating on;
3. Inspect and clean all ARC chutes;
4. Inspect and test all Micro and Aux. contacts (close and trip circuit);
5. Check and tighten all connections; and

6. Operational Test.

References:

All inspection and maintenance records are retained as a hard copy for one year at O&R's main Operating Division headquarters. These records are also retained electronically on a work management system. Repeated callouts and equipment failures that show an abnormal trend are flagged by the work management system.

The Doble power factor testing, transformer gas in oil analysis, and infrared inspection records are stored electronically on the Substation Information System ("SIS"). OCB timing maintenance records are presently kept on a separate electronic storage system that is provided with the test equipment.