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April 16, 2007

James J. McNulty, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, Pennsylvania 17120

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APR 16 2007

PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

**Re: Proposed Rulemaking for
Revision of 52 Pa. Code Chapter 57
Pertaining to Adding Inspection and Maintenance
Standards for Electric Distribution Companies
Docket No. L-00040167**

Dear Mr. McNulty:

Enclosed for filing are an original and fifteen (15) copies of PPL Electric Utilities Corporation's ("PPL Electric") additional comments in the above-captioned proceeding. A copy of PPL Electric's comments is being mailed electronically to Elizabeth Barnes, Esquire.

Pursuant to 52 Pa. Code § 1.11, the enclosed document is to be deemed filed on April 16, 2007, which is the date it was deposited with an overnight express delivery service as shown on the delivery receipt attached to the mailing envelope.

In addition, please date and time-stamp the enclosed extra copy of this letter and return it to me in the envelope provided.

If you have any questions, regarding these comments, please call.

Very truly yours,

Paul E. Russell
Paul E. Russell

Enclosures

cc: Elizabeth Barnes, Esquire

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INDEPENDENT REGULATORY
HEAVY COMMISSION

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Proposed Rulemaking for Revision of :
52 Pa. Code Chapter 57 Pertaining to : Docket No. L-00040167
Adding Inspection and Maintenance :
Standards for Electric Distribution :
Companies :

**Additional Comments of
PPL Electric Utilities Corporation**

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PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

TO THE PENNSYLVANIA PUBLIC UTILITY COMMISSION:

I. Background

On April 21, 2006, the Pennsylvania Public Utility Commission (the "Commission") entered a Proposed Rulemaking Order formally commencing a process to establish regulations governing Inspection and Maintenance Standards for Electric Distribution Companies ("EDCs"). The Proposed Rulemaking Order was published in the Pennsylvania Bulletin on October 7, 2006, with comments due thirty (30) days following publication on November 6, 2006. On December 16, 2006, a notice was published in the Pennsylvania Bulletin that public comments would be accepted until April 16, 2007 on the proposed revisions to 52 Pa. Code Chapter 57. On January 22, 2007, the Commission hosted a Technical Conference to receive additional input. The Commission also requested responses to certain questions through its January 9, 2007 Secretarial Letter and to additional questions raised at the Technical Conference.

PPL Electric Utilities Corporation ("PPL Electric" or the "Company") filed comments on November 6, 2006 related to the instant Notice of Proposed Rulemaking at Docket No. L-00040167. PPL Electric presented information at the January 22, 2007 Technical Conference and, on February 21, 2007, it provided responses to the questions raised at the Technical Conference. PPL Electric incorporates herein by reference its previously filed comments.

PPL Electric also supports the comments filed by the Energy Association of Pennsylvania ("EAPA") on November 6, 2006, as well as those being submitted on April 16, 2007.

II. Additional Comments

PPL Electric's operating expenses will increase under the proposed standards.

In comments filed November 6, 2006, PPL Electric estimated that its annual expenses for Inspection and Maintenance ("I&M") under the proposed standards would double from about \$28 million in 2006 to about \$56 million, plus a one-time expenditure of \$3 million to bring initial inspections of SYP-creosoted poles into compliance. If the additional requirements proposed by the AFL-CIO Utility Caucus are adopted by the Commission, PPL Electric's annual costs will be increased by an additional \$8 million. The additional requirements proposed by the Office of Consumer Advocate will add about \$23 million more in annual costs. The total cost of \$87 million would then be more than three times PPL Electric's 2006 expenditures for I&M. Appendix A lists the basis for these additional costs.

The OCA's proposal requiring intrusive inspections of transformers will adversely affect system reliability.

The OCA's suggested "intrusive inspections" of transformers will increase costs and reduce reliability. In addition to the maintenance costs associated with these inspections, PPL Electric would be required to purchase a significant number of additional spare distribution transformers and mobile substations to maintain service at its distribution substations during the prolonged outages required to inspect the transformers.

Over time, engineers and scientists have developed accurate methods of determining the physical health of a transformer using non-intrusive indirect tests, including dissolved gas analyses of the oil, and Doble testing the internal components. These tests were developed to avoid the need for intrusive inspections. They are proven, accurate indicators that eliminate the need to drain and open up a transformer, unless the results of these tests indicate problems that require this drastic action.

Repeated intrusive inspections actually reduce the life of a power transformer, and introduce additional avenues of potential failure. Oil contamination, physical contamination, a misplaced tool, or inadvertent damage to the internal components during a physical inspection may all lead to premature transformer failure, and a lower level of reliability.

PPL Electric has numerous distribution substations with single transformers. To achieve the goal of the OCA's suggested requirement for testing, PPL Electric would need to acquire an indeterminate, but significant number of additional transformers and mobile substations. PPL Electric would need to hire or

contract specialists to perform the work, which will result in even higher maintenance costs.

Finally, for large power transformers at transmission substations, prolonged removal of a unit for intrusive inspection (approximately 2 weeks) becomes problematic due to coordination issues with PJM. Depending on the location of the transformer and the season of the year, it may not be possible to take the unit out as required. Prolonged transformer outages likely would result in altered power flows and subsequent congestion on the PJM transmission system that would lead to higher energy costs for all Pennsylvania customers.

PPL Electric has established a strong long-term record of customer satisfaction and electric reliability without externally imposed I&M standards

PPL Electric has won thirteen J.D. Power and Associates awards – more than any other utility in the country – since J.D. Power and Associates began studying utility customer satisfaction eight years ago. PPL Electric has ranked highest among utilities in the eastern U.S. in J.D. Power and Associates' annual study of residential customer satisfaction for the last six consecutive years, and seven of the eight years the award has been given. In March 2007, PPL Electric ranked highest among utilities in the eastern U.S. in J.D. Power and Associates' annual study of business customer satisfaction for the sixth time in the eight years of the award.

PPL Electric's average reliability for the five-year period from 2001 through 2005 is directly comparable to that for the five-year period (1994-1998),

which defines its benchmark performance requirement, and is shown in the following table.

	<u>5 Yr. Avg. 1994-1998</u> <u>(Benchmark)</u>	<u>5 Yr. Avg. 2001-2005</u>
SAIFI	0.98	1.00
CAIDI	145	131
SAIDI	142	133

Because it is well recognized that there is natural variability in reliability from year-to-year, the Commission considered this fact when establishing its reliability performance regulations. For this reason, the Commission based its regulations for reliability performance on a five-year benchmark period. An example of this annual variability occurred in 2006 when PPL Electric's indices were higher than average due to extreme weather conditions throughout the year.

By selecting individual years for comparison, the AFL-CIO Utility Caucus ignored this natural annual variability when it alleged, at the January 22, 2007 Technical Conference, that PPL Electric's performance had deteriorated significantly. Had the AFL-CIO Utility Caucus compared PPL Electric's SAIDI performance in 1996 (139), 2000 (126) and 2005 (121), a different trend would be apparent. The five-year comparison, shown in the table above, clearly is more meaningful than such single-year comparisons.

The proposed standards, which mandate shorter I&M intervals than PPL Electric employed in the 2001-2005 period, are not necessary to maintain the Company's reliability performance at the levels that existed prior to passage of the

Competition Act, nor are they necessary to maintain residential and business customer satisfaction.

Uniform I&M Standards will raise EDC costs above what is necessary to maintain reliability at levels experienced before the Act

At any given time, EDC's will be in one of three positions with regard to their performance benchmarks:

- Performing better than benchmark -- To the extent that mandated I&M standards exceed the EDC's existing practice, the EDC will incur higher costs despite performance already better than benchmark levels.
- Performing equal to benchmark -- To the extent that mandated I&M standards exceed the EDC's existing practice, the EDC will incur higher costs despite performance already equal to benchmark levels.
- Performing worse than benchmark -- Unless the mandated I&M standards address the specific root causes of the EDC's performance deficiencies, the EDC must incur the costs of programs that address the root causes, as well as the costs of the mandated I&M standards.

The proponents of uniform standards assert that standards are necessary to ensure long-term reliability and that such standards may not be sufficient enough, therefore, EDC's must be held liable for maintaining reliability through other means. This

approach strongly suggests a lack of confidence in the ultimate efficacy of uniform standards.

Labor costs rise over time; technology costs decline over time

Managing the cost of electric service depends upon improving productivity (labor hours for a specified reliability level) through substitution of process and technology improvements for labor-intensive alternatives. This is a fundamental responsibility of an EDC's management to its ratepayers.

The table below shows the change in hourly wage rate for PPL Electric's journeyman lineman, including benefits, since 1990:

<u>1990</u>	<u>1995</u>	<u>2005</u>
\$23.67	\$30.89	\$43.35

Imposing labor-intensive standards similar to those proposed in this proceeding will restrict the ability of an EDC's management to effect productivity improvements that benefit customers, and will remove incentives for innovation to the detriment of ratepayers. For example, if the Commission had imposed I&M standards 20 years ago, ground patrols of transmission lines would be the standard and EDCs would never have introduced the aerial patrols included in the current proposal.

The primary purpose of the Competition Act is to extend to retail customers the benefits of a competitive electric generation market because "the cost of electricity is an important factor in decisions made by businesses concerning

locating, expanding and retaining facilities in this commonwealth.” Its purpose is not to require the inefficient expenditure of scarce resources.

Reliability is influenced by the interaction of a portfolio of EDC programs and policies that have effect on interruption frequency, duration, or number of customers affected, or a combination of these.

This interaction is illustrated in Figure 1. I&M practices (shaded) affect only frequency of interruption, and are only one of many factors influencing frequency. Mandating labor-intensive standards, for which the cost will continue to grow over time, restricts management’s ability to employ other programs that may be more effective in maintaining reliability or that may be more cost beneficial.

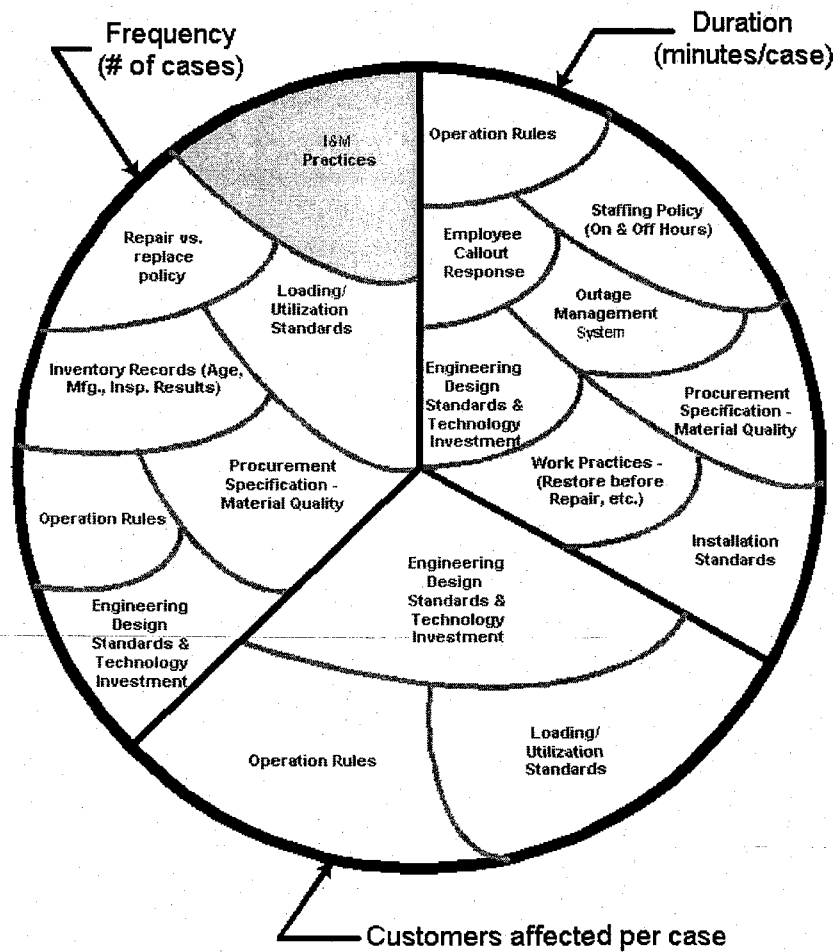


Figure 1: Reliability Programs and Policies

The challenge to management at each EDC is to periodically evaluate the cost/benefit profile of existing and new approaches to each of these programs and policies, and to periodically adjust the portfolio to obtain optimum results from finite resources. The tradeoffs between alternatives, costs and results change over time, are driven by advancements in technology and work methods, and changes to the specific makeup and age distribution of an EDC's assets.

At any given time, a cost/benefit analyses will produce different results at different EDCs due to differences in labor costs, design standards, equipment and material specifications, asset retirement and replacement schedules, asset upgrading programs, facility operating procedures, and inspection and maintenance programs. Cost/benefit analyses also will produce different results at different times due to changes in labor costs, technology and work method improvements.

III. Conclusion

For all of the reasons discussed above and in its previous comments, PPL Electric Utilities Corporation respectfully recommends that the most effective way to proceed is for the Commission to establish individual inspection and maintenance standards for each EDC, which recognize the unique characteristics, performance and environment of each EDC and which can be adapted to changing technology, work methods, costs and system composition.

The least effective way is for the Commission to proceed to establish uniform labor-intensive standards on all EDCs that will remain static over time. Mandating strict, uniform standards will deny the Commission the opportunity to observe improvements that are implemented by individual EDCs and to suggest the implementation of these improvements elsewhere.

Respectfully submitted,



Paul E. Russell
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Allentown, PA 18101
(610) 774-4254

Dated: April 16, 2007
at Allentown, Pennsylvania

PPL Electric Utilities Corporation
COST ESTIMATES FOR COMPLYING WITH AFL-CIO & OCA SUGGESTED
ADDITIONAL I & M REQUIREMENTS

AFL-CIO Suggested I & M Requirements	Estimated Annual Cost
Group-operated line switches to be inspected and tested <u>annually</u>	\$3,000,000
Relays to be inspected and tested <u>every two years</u>	\$1,800,000
Sectionalizers to be inspected and tested <u>every two years</u>	Included in other programs
Vacuum switches to be inspected and tested <u>every two years</u>	\$750,000
Underground vaults with larger connections (750 Mcm or larger) to be visually inspected and thermo-vision tested for hot spots <u>annually</u> .	\$200,000
Vaults of any size that serve schools, hospitals, public buildings, or residences to be visually inspected and cleaned <u>once per year</u> .	Included above
<i>Substation inspections.</i> Substation equipment, structures and hardware shall be inspected <u>monthly</u> . Substation circuit breakers shall undergo operational testing <u>at least once per year</u> , diagnostic testing <u>at least once every four years</u> , and comprehensive inspection and maintenance on a <u>four-year cycle</u> .	\$2,000,000
<i>SUBTOTAL AFL-CIO</i>	\$7,750,000
OCA's Suggested I & M Requirements	Estimated Annual Cost
<u>Transmission and distribution substations:</u> Annual detailed inspections that include inspection by infrared scanning. A component discovered through infrared scan to be more than 100 degrees centigrade above ambient temperature should be addressed <u>within 30 days</u>	\$200,000
<u>Substation transformers supplying transmission lines:</u> Annual intrusive inspection. Deficiencies identified should be repaired or addressed <u>within 30 days</u> .	\$3,500,000
<u>Substation transformers supplying distribution lines:</u> Intrusive inspection every two years that includes bushing testing, dissolved gas analysis and other testing. Deficiencies identified should be repaired or addressed <u>within 60 days</u> .	\$12,000,000
<u>Transmission Lines and all attached equipment:</u> Annual detailed inspection that includes visual inspection and infrared scanning. A component identified through infrared scan to be more than 100 degrees centigrade above ambient temperature should be addressed <u>within 30 days</u> .	\$4,000,000

<u>Distribution Line and all attached equipment (transformers, switching/protective devices, reclosers, regulators/capacitors):</u> Patrol inspection once every two years and a detailed inspection once every five years. A component discovered through infrared scan to be more than 100 degrees centigrade ambient temperature should be addressed <u>within 30 days.</u>	\$3,100,000
<u>Wood Poles:</u> Detailed inspection once every ten years with an intrusive inspection of those poles identified as having potential problems through the detailed inspection. Poles with major deficiencies that considerably affect the strength of the pole should be replaced <u>within 60 days.</u>	Already within PPL practices
<i>SUBTOTAL OCA</i>	\$22,800,000
<u>TOTAL AFL-CIO AND OCA</u>	\$30,550,000