

**BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

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

**PECO ENERGY COMPANY’S SUPPLEMENTAL COMMENTS**

Pursuant to the public notice extending the comment period in this docket to April 16, 2007,<sup>1</sup> PECO Energy Company (“PECO”) hereby submits its supplemental comments on the proposed Inspection and Maintenance (“I&M”) standards presently before the Commission.

**Introduction**

All of the thousands of pages of comments, reply comments, testimony and exhibits submitted in this docket, that are now before the Commission, were written to answer one question: “What set of inspection and maintenance rules would best serve the Commission’s goal of ensuring the delivery of reasonable, safe, reliable and cost-effective electric service in Pennsylvania?”

The Commission has been presented with two very different answers to this question. On one hand, the AFL-CIO Utility Caucus (“AFL-CIO”) and the Office of Consumer Advocate (“OCA”) assert that the Commission should adopt one-size-fits-all, inflexible I&M rules that will, in effect, be set in stone until another rulemaking. For the AFL-CIO and OCA, what is important is for the Commission to prescribe, in granular detail, the precise inspection schedules and maintenance protocols electric distribution companies (“EDCs”) must follow. In their view,

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<sup>1</sup> See 36 Pa.B. 7619.

the cost of these rules is not “terribly significant.”<sup>2</sup> Likewise, the question of whether these rules would measurably improve reliability is not something that needs to be addressed, according to the OCA and AFL-CIO. Indeed, they believe that strict penalties should be imposed on the EDCs for failure to comply with the rules, apparently without consideration of the underlying circumstances. Moreover, imposition of such prescriptive rules would occur even in instances where a utility’s exercise of managerial discretion and its reliability record have gone unquestioned - an approach that has been rejected time and again for use in Pennsylvania.<sup>3</sup>

On the other hand, the EDCs have recommended a reasonable, *results*-based approach by which they would be required to file and implement individually tailored I&M plans. Under this approach, EDCs would be given the flexibility to craft I&M programs customized for their end-users, territories, equipment, and uses of new technology. They would be required to explain these programs to the Commission and to live up to their commitments. In short, the ultimate success and viability of the EDCs’ individual programs would be measured by the dependability and efficiency of the service they provide to their customers, instead of by the length and prescriptiveness of the rules and penalties imposed upon them.

As will be discussed below, the applicable statutory and legal authority, as well as the facts and the record in this proceeding, show that the approach recommended by the EDCs is a

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<sup>2</sup> See, e.g., Transcript of Jan. 22, 2007 Technical Conference (“Tr.”) at 19, lines 20-23, counsel for AFL-CIO (“[W]e don’t view that \$75 million as being a terribly significant figure. . .”).

<sup>3</sup> As recently noted by the Commission in its order approving the Equitable Gas Company-Peoples Natural Gas Company stock transfer application:

Under the “management discretion doctrine,” the Commission may not interfere with or micromanage utility management decisions, unless there is a manifest abuse of discretion or some showing of arbitrary utility action. *Pa. PUC v. Philadelphia Electric Company*, 522 Pa. 338, 561 A.2d 1224 (1989); and *Petition of Frank Bankard*, Docket No. P-00052172 (Order entered April 21, 2006). The Commission may not issue a blanket disapproval of a utility’s method of performing its public service function, absent evidence that the particular method chosen is leading to inadequate or unreasonable service. *Peoples Cab Co. v. Pa. PUC*, 260 A.2d 490 (Pa. Super. 1969); *Peoples Cab Co. v. Pa. PUC*, 137 A.2d 873 (Pa. Super. 1969); and *Moyer v. PECO Energy Co.*, Docket No. C-00003176 (Order entered January 26, 2001).

*Joint Application of Equitable Resources, Inc., and The Peoples Natural Gas Company, d/b/a Dominion Peoples*, Docket No. A-122250F5000 at 15 (Order entered April 13, 2007)

reasonable, balanced and correct answer to the question before the Commission. Adopting this approach will result in high service reliability at a reasonable cost to Pennsylvania's electricity consumers. That is the ultimate purpose of this proceeding, and it is the purpose that the EDCs share with the Commission. Such an approach provides the Commission with adequate means of challenging a utility's exercise of managerial discretion where the utility's record of safety, reliability, and adequacy falls short.

### Comments

**I. The Commission has the authority under the Public Utility Code to implement flexible and cost-effective I&M standards. This approach is what the Legislature intended in directing the Commission to implement I&M standards.**

The AFL-CIO's and OCA's arguments in support of rigid, one-size-fits-all I&M standards rest on several premises. The first is that the Public Utility Code requires such standards.<sup>4</sup> But the Public Utility Code does not require the kind of rules they are advocating. To the contrary, the Code permits the Commission to implement flexible standards. Moreover, it clearly envisions that these standards will be cost-effective.

Any analysis of the Commission's duties and authority pursuant to a statute must begin with the plain language of the statute. For purposes of this proceeding, the analysis should begin with section 2802(20) of the Public Utility Code (66 Pa.C.S. § 2802(20)), which states:

Since continuing and ensuring the reliability of electric service depends on adequate generation and on conscientious inspection and maintenance of transmission and distribution systems . . . the commission shall set through regulations, inspection, maintenance, repair and replacement standards and enforce those standards.

By this language, the Pennsylvania Legislature directed the Commission to set and, subsequently, enforce I&M standards. But the Legislature did not mandate the form the

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<sup>4</sup> See, e.g., Tr. at 14, line 11 (counsel for the AFL-CIO stating "they are required by law"); *id.* at 10, lines 21-22 (counsel for the OCA referring to "the Commission's statutory obligation as set forth in Section 2802(20)").

regulations must take. Nor did it dictate a specific schedule for I&M cycles or the specific equipment that must be inspected. In fact, it did not even require that the I&M standards be identical for each EDC.<sup>5</sup> The Legislature simply gave the Commission the directive to implement I&M standards. The *best method* for accomplishing that directive was entrusted to the Commission.

Therefore, the premise that section 2802(20) requires the Commission to implement narrow, rigid and prescriptive I&M standards is incorrect. The Commission has the authority to develop rules that are reasonable, flexible and cost-effective. Indeed, a further analysis of section 2802 of the Code shows that the Legislature intended the Commission to follow this approach in implementing I&M rules.

As the Commission has correctly noted in previous rulemakings, statutes or parts of statutes should be construed together when they relate to the same persons or things.<sup>6</sup> Accordingly, a review of the other provisions of section 2802 is critical to determining the Commission's charge in section 2802(20).

In section 2802(3) of the Code, the Legislature clearly stated that its intent was to provide for "*safe and affordable* transmission and distribution service . . . *at levels of reliability that are currently enjoyed by the citizens and businesses of the Commonwealth.*"<sup>7</sup> Likewise, in section 2802(6), the Legislature stated that "[t]he *cost* of electricity is an important factor in decisions made by businesses concerning locating, expanding and retaining facilities in this

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<sup>5</sup> Indeed, it could not do so, because not every tree across the state needs to be trimmed at the same time, and not every EDC uses the same equipment. Even when certain equipment has similar purposes (*e.g.*, reclosers), different types will have different technological capabilities and maintenance procedures.

<sup>6</sup> *See, e.g., Implementation of the Alternative Energy Portfolio Standards Act of 2004*, Docket No. L-00060180, Proposed Rulemaking Order, at 2 (Order entered July 25, 2006) ("The Commission has determined that the [AEPS] Act is in *pari materia* with the Public Utility Code") (citing 1 Pa.C.S. § 1932); *see also* 1 Pa.C.S. § 1932 (b) ("Statutes in *pari materia* shall be construed together, if possible, as one statute.").

<sup>7</sup> Emphasis added. Note that the Act was passed on December 28, 1996 and effective January 1, 1997. Thus, the term "current" is referring to that time period as a benchmark.

Commonwealth.”<sup>8</sup> Similarly, in section 2802(4), the Legislature expressed concern that “[r]ates for electricity in this Commonwealth are on average higher than the national average. . . .”

When these provisions are read together with section 2802(20), as they must be, they show that the Legislature gave the Commission the authority to develop a workable framework for I&M standards. A fundamental element of that framework, however, is that the standards must be reasonable and cost-effective.<sup>9</sup>

**II. The EDCs are not proposing that there be no I&M standards. They are proposing that the Commission implement results-oriented, condition- and equipment-based standards tailored to their specific service territories. The facts support this approach.**

The second premise relied upon by the AFL-CIO and the OCA in arguing for rigid I&M standards is that the EDCs are proposing that there be no I&M standards, or accountability for reliability, of any kind.<sup>10</sup> This premise is also incorrect.

Indeed, PECO’s witness at the Commission’s January 22, 2007 Technical Conference directly refuted this contention:

PECO has asked the Commission to allow each EDC to submit individual, condition and equipment based inspection and maintenance plans for the Commission’s approval instead of imposing rigid, “one size fits all” rules for the EDCs.

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<sup>8</sup> Emphasis added. Indeed, this statement is borne out by the Industrial Energy Consumers of Pennsylvania’s (“IECPA”) letter in support of the EDCs’ position. See Nov. 6, 2006 letter from counsel for the IECPA to Secretary James McNulty, at 1 (stating that IECPA members are concerned that the cost of implementing prescriptive I&M requirements “may significantly and substantively outweigh the benefits”).

<sup>9</sup> Of course, the view that electric utility service must be provided on a cost-effective basis, and that regulation of electric utility service must be just and reasonable, is so deeply embedded in public utility regulatory law that there cannot be any real debate over these principles. See, e.g., 66 Pa.C.S. § 1501 (“Every public utility shall furnish and maintain adequate, *efficient*, safe, and reasonable service and facilities . . .”) (emphasis added). If the Commission were to adopt regulations without reference to whether those regulations would result in cost-effective utility service, it would be a dramatic departure from the fundamental requirements of utility regulation and ratemaking. See, e.g., 66 Pa.C.S. § 1504 (2) (“The commission may, after reasonable notice and hearing . . . [p]rescribe as to service and facilities . . . *just and reasonable* standards, classifications, regulations and practices to be furnished, imposed, observed and followed by any or all public utilities.”) (emphasis added).

<sup>10</sup> See, e.g., Tr. at 17, lines 3-4 (counsel for the AFL-CIO, claiming that the EDCs are proposing that the Commission should “just let each utility do what it wants to do.”).

We are willing to be held to our plans and [to] let our reported reliability metrics be the measure of their effectiveness. *What we are asking for is the flexibility to achieve the Commission's reliability goals within a plan that suits our systems' requirements.*<sup>11</sup>

The EDCs have gone on record with the same position.<sup>12</sup> Moreover, the Energy Association of Pennsylvania (“EAPA”), on behalf of the EDCs, submitted proposed regulations with its April 16, 2007 comments tracking each of the I&M categories contained in the Commission’s Proposed Rules.<sup>13</sup> EAPA’s proposed regulations require EDCs to submit I&M plans specific to their end-users, territories and equipment to the Commission for review and approval. These individually tailored plans would become the standards to which the EDCs would be held.

The purpose of the EDCs’ proposed approach is the same as the Commission’s – “continuing and ensuring the reliability of electric service.”<sup>14</sup> The only difference between the EDCs’ proposed regulations and those proposed by the Commission is that the *best method* for accomplishing that purpose is entrusted to the EDCs. The facts before the Commission provide several compelling reasons why it should adopt the EDCs’ proposed approach.

**A. Prescriptive Rules are static and quickly become obsolete.**

As a threshold matter, prescriptive rules are static and, therefore, they quickly become obsolete. The AFL-CIO and the OCA have not, and cannot, dispute this fact. Static rules do not change with new technology. They do not consider more efficient and cost-effective ways of

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<sup>11</sup> Testimony of John McDonald, PECO’s Vice-President for Technical Services, Tr. at 76, lines 5-14 (emphasis added).

<sup>12</sup> See *Comments of the Energy Association of Pennsylvania to Proposed Rulemaking Order re: Inspection and Maintenance Standards and Commission’s Technical Conference and Comments*, April 16, 2006 (“EAPA April 16 Comments”), at 3 (“EAPA and its member companies seek language changes to the proposed regulations to allow each EDC to file a specific Inspection and Maintenance plan, thereby providing flexibility to each EDC to develop, *inter alia*, appropriate line clearance and maintenance cycles.”).

<sup>13</sup> See *id.*, Annex A.

<sup>14</sup> 66 Pa.C.S. § 2802(20).

improving reliability. Indeed, as the Commission is well aware, once regulations are implemented, they are virtually set in stone absent a subsequent, lengthy rulemaking process.

Indeed, two of the Commission's proposed rules are *already* inconsistent with modern I&M procedures. The first is proposed section 57.198(e)(1), which requires a fixed, four-year vegetation management cycle for distribution facilities. As PECO noted in its November 6, 2006 Comments, in a recent article, leading industry researcher Siegfried Googenmoos continued his advocacy for a condition-based approach to vegetation management and a movement away from standardized requirements.<sup>15</sup> In that article, he concluded that "site specific prescriptions" are more beneficial and cost-effective than standardized minimum vegetation management requirements.<sup>16</sup>

Likewise, the Delaware Public Service Commission, which the AFL-CIO and OCA erroneously cited as supporting their inflexible approach, recently implemented I&M rules establishing a condition-based procedure for vegetation management.<sup>17</sup> Rule 7.3 of the Delaware PSC's Electric Service Reliability and Quality Standards provides, in relevant part, that "[v]egetation management practices should be applied at least once every four years *except where growth or other assessments deem it unnecessary.*"<sup>18</sup>

Proposed section 57.198(e)(3), which requires foot patrols for inspections of distribution and transmission lines, is also outmoded. As PECO's Mr. McDonald testified at the Technical

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<sup>15</sup> See PECO's November 6 Comments at 12, citing Siegfried Googenmoos and Thomas E. Sullivan, *Side Line Tree Risk Assessment and Mitigation*, Utility Arborist Association Quarterly, Fall 2006, pp. 22-26.

<sup>16</sup> Dr. Googenmoos' article focused on a proposal to standardize right-of-way tree clearance widths. Nonetheless, his argument that a condition-based approach to vegetation management is more effective than a prescriptive approach is equally applicable to the vegetation management issues presented in this proceeding.

<sup>17</sup> See *In the Matter of the Consideration of Rules, Standards, and Indices to Ensure Reliable Electrical Service by Electric Distribution Companies*, Order No. 7002, PSC Regulation Docket No. 50 (Del. PSC Aug. 8, 2006) (emphasis added).

<sup>18</sup> (Emphasis added).

Conference, while “[v]isual foot patrols may have been reasonably necessary years ago, and may still be prudent in limited circumstances in areas not accessible by vehicles,” today “PECO uses thermographic imaging and computer equipment [transported in vehicles] to discover problems or hot spots on distribution lines, transformers and electrical connections.”<sup>19</sup> This practice is not only more effective than foot patrols, because the equipment detects information that cannot be seen by the naked eye, it is also more efficient, in that it allows technicians to inspect more lines in a shorter period of time and allows them to transmit trouble reports back to maintenance personnel in real-time.<sup>20</sup>

Static, inflexible rules are inconsistent with constantly seeking and implementing safer, more reliable and more cost-effective electric service. They *are not* the answer to the question before the Commission.

**B. *The Commission already has a quarterly reporting mechanism to monitor and address reliability issues. This mechanism, used in combination with condition- and equipment-based standards, is a much more effective reliability tool than inflexible, prescriptive rules.***

One of the key questions raised by Staff at the Technical Conference was, in essence, how will the Commission be able to ensure reliability without implementing prescriptive I&M standards?<sup>21</sup> The answer is that the Commission *already* has an effective mechanism in place to monitor and ensure EDC reliability. It should be used in combination with flexible, individual EDC I&M plans.

The mechanism is the Commission’s reliability benchmarks and standards, which were adopted in Docket No. M-00991220 and codified at 52 Pa. Code §§ 57.191-57.197. The

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<sup>19</sup> Tr. at 78, lines 16-23.

<sup>20</sup> *Id.* at 79, lines 13-23.

<sup>21</sup> *See* Tr. at 83, lines 11, through 84, line 6.



benchmarks and standards require EDCs to file reliability reports every quarter. However, they do not simply monitor past customer outages.

The reports also monitor, in extensive detail, the EDCs' ongoing vegetation management and preventative maintenance programs, as well as their progress toward meeting the Commission's transmission and distribution I&M goals.<sup>22</sup> In short, they inform the Commission whether the I&M methods the EDCs are implementing are working to achieve certain reliability goals. Yet, by the same token, they give the EDCs the flexibility to determine how best to meet those goals.

The EDCs are not recommending that the Commission rely on these quarterly reports alone, but that it should use the quarterly reports combined with the EDCs' individually tailored I&M plans to monitor whether they are maintaining safe and reliable electric service, and to hold them accountable for the reported results. If there is an emerging reliability issue within a specific EDC's service territory, the Commission can use these tools to promptly target the issue before it becomes a significant problem. This approach will do a better job ensuring and maintaining reliability than fixed prescriptive standards.

***C. Flexible, condition- and equipment-based I&M standards work.***

The third reason the Commission should adopt flexible, condition- and equipment-based I&M plans is because they work. The fact is that PECO's reliability indices are at an all-time high, in stark contrast to the statements of the AFL-CIO at the Technical Conference.<sup>23</sup> Indeed, Mr. McDonald disproved the AFL-CIO's claims by testifying that:

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<sup>22</sup> See, e.g., PECO's 3<sup>rd</sup> Quarter 2006 Quarterly Reliability Report filed with the Commission (a copy is attached as Exhibit 1 hereto).

<sup>23</sup> Tr. at 15, lines 5-6 (counsel for the AFL-CIO claiming that PECO had a "spike" in reliability problems "in the late 1990's").

[PECO's] reliability in the last five years *has been better than the five-years preceding electric restructuring*. In fact, PECO has filed 12 consecutive quarterly reports stating that our reliability indexes have exceeded PUC reliability standards.<sup>24</sup>

The Commission should take note of the importance of this fact. PECO has exceeded the benchmark set in 66 Pa. Code § 2802(3) (safe and affordable transmission and distribution service at levels of reliability enjoyed prior to restructuring) *and* the standards measured by the Commission's current quarterly reliability indices. PECO was able to exceed these standards by having the flexibility to continually modify its I&M practices based on the procedures and cycles it found yielded the best, safest, and most cost-effective results.<sup>25</sup> Indeed, since 1990, PECO has continuously modified its I&M practices based on its experiences and reliability results.<sup>26</sup>

In sum, there is no one "cure-all" standard for every single I&M issue.<sup>27</sup> The facts show that the best method for achieving reliability results is for the Commission to set the goals (*e.g.*, through the SAIDI, SAIFI, and/or CAIDI indices) and then to allow EDCs to meet the goals by managing their maintenance practices through condition- and equipment-based plans.

### **III. The cost of the proposed regulations exceeds their expected benefits. This is true for the Commission's proposed regulations alone and for the additional regulations proposed by the AFL-CIO and the OCA.**

The third premise relied upon by the AFL-CIO and OCA is that the Commission's proposed I&M standards, and the additional prescriptive rules that they seek to include in the

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<sup>24</sup> Tr. at 76, lines 18-22 (emphasis added). At best, counsel for AFL-CIO was using stale data, which by analogy bolsters the argument that the Commission should be implementing plans based on up-to-date conditions and equipment, not data that is several years old.

<sup>25</sup> See, *e.g.*, PECO's response to Staff's Follow-up Data request No. 2 (attached as Exhibit 2 hereto).

<sup>26</sup> Note that while several I&M cycle on foregoing chart were shortened, this was not the case with every cycle. Nonetheless, PECO's reliability indices increased.

<sup>27</sup> See Tr. at 75-76, Testimony of John McDonald (stating that maintaining electric reliability "will be different for every electric distribution company . . . based on geographic and whether conditions . . . the size of the EDC's territory . . . the types of equipment the EDC uses [and] the equipment's fundamental system design, operating voltages and the age of the facilities. Moreover, the answer for each EDC may be different a year from now [based on] improvements in technology and maintenance methods . . .").

rulemaking, will improve reliability at little or no cost. The record in this proceeding shows that this premise is also incorrect.

First, the Commission should make no mistake as to what is, and what is not, shown by the record in this proceeding with regard to the cost of the proposed rules. The EDCs have produced clear evidence showing that the proposed rules would collectively cost Pennsylvania ratepayers an additional \$75 million annually.<sup>28</sup> Moreover, many of the EDCs itemized the cost impact the rules would have on ratepayers in their individual service territories in response to numerous Staff Data Requests.<sup>29</sup> As of the date of this filing, the AFL-CIO and the OCA did not place any evidence into the record to refute these figures. Instead, they simply argued the costs were either insignificant or irrelevant.<sup>30</sup>

The EDCs also produced record evidence showing that the AFL-CIO's and OCA's proposed rules would add approximately \$80.7 million in annual costs to the tally, over and above the cost of the Commission's proposed rules, for a total cost impact of **\$156 million**.<sup>31</sup> Many of the EDC's also itemized these costs for their individual service territories.<sup>32</sup> Again, as

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<sup>28</sup> See EAPA April 16 Comments, Exhibit "B", itemizing the estimated \$75.3 million annual cost of the proposed rules.

<sup>29</sup> For example, PECO produced information showing that the annual incremental cost of the proposed rules to PECO's ratepayers alone would be approximately \$11 million. See, e.g., PECO's Responses to Staff's Questions for Interested Parties to Address at the January 22, 2007 Technical Conference, spreadsheet responding to Questions 3-4, a copy of which is attached as Exhibit 3 hereto.

<sup>30</sup> Tr. at 19, lines 20-23, counsel for AFL-CIO ("[W]e don't view that \$75 million as being a terribly significant figure spread out across Pennsylvania and it appears to us that the EDCs have saved substantially more than that through work force reductions. . ."); Tr. at 8, lines 7-9, counsel for the OCA ("[T]he OCA **cannot refute the number**. But refuting the \$75 million number is not necessarily the operative question in the OCA's view.") (emphases added).

<sup>31</sup> See EAPA April 16 Comments, Exhibit "C".

<sup>32</sup> See, e.g., PECO's Responses to Staff's Questions, Nos. 6 and 8, attached as Exhibits 4 and 5 hereto. Exhibit 4 shows that the cost of the AFL-CIO's additional regulations to PECO's ratepayers would total approximately **\$16.1 million**. Exhibit 5 shows that the cost of the OCA's additional proposed regulations to PECO's ratepayers would total **\$14.7 million**.

of the date of this filing, the AFL-CIO and the OCA have not responded to or refuted these costs.<sup>33</sup>

Furthermore, the EDCs provided specific evidence explaining why the proposed regulations would not improve, and may actually harm, electric reliability. For example, PECO's Mr. McDonald testified with regard to vegetation management practices that:

The Commission's proposed vegetation management rule sets a minimum four year inspection and treatment cycle for distribution facilities. Our experience has shown that this is not the right approach. First, the inflexible four year treatment cycle for distribution facilities will increase PECO's vegetation management costs by \$5 million per year but would have minimal impact on PECO's electric reliability.<sup>34</sup>

With regard to the proposed rules' requirement for annual foot patrols of distribution lines, Mr. McDonald testified:

The PUC's proposal for doing a foot patrol would significantly increase PECO's circuit inspection cost by \$3.5 million a year . . . This is a clear example where the proposed rules' requirement of a visual inspection of our facilities by someone conducting a foot patrol will increase costs and reduce our reliability. The [thermography and computer] technology and processes we use today provide a significant improvement to reliability. That is why we are advocating ground patrol inspections [*i.e.*, mobile patrols, and where necessary, foot patrols].<sup>35</sup>

Other EDCs have provided similar testimony with respect to their service territories.<sup>36</sup>

Neither the AFL-CIO nor the OCA placed any evidence into the record showing that the proposed rules, or their rules, would improve reliability. Instead, they simply argued that their

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<sup>33</sup> Although the total Pennsylvania cost impact for the AFL-CIO's and OCA's additional regulations was recently tabulated, many of the individual EDC cost impact figures were available to the AFL-CIO and the OCA prior to the Technical Conference. For example, PECO's figures were produced before the conference consistent with the deadline set by Staff.

<sup>34</sup> Tr. at 77, lines 14-21.

<sup>35</sup> Tr. a 80, *see also* PECO's response to Staff's Data Request No. 5, attached as Exhibit 6 hereto.

<sup>36</sup> *See, e.g.*, Testimony of Bob Mattiuz, P.E., Director of Distribution and Engineering, Allegheny Power, Tr. at 43. lines 15-19 ("Allegheny believes the added cost will not have any impact on reliability to our Pennsylvania customers. Conversely, reliability could be adversely affected if resources dedicated to other reliability-centered programs are re-directed to conduct more frequent inspections.").

rules should be adopted because electric reliability and safety are “critically important.”<sup>37</sup> No one disputes that electric reliability and safety are critically important. The relevant question is what is the best and most cost-effective way to ensure that safety and reliability. Developing prescriptive standards for the sake of having standards - particularly when the record shows that the proposed standards will not improve reliability and will impose significant costs on ratepayers - does not answer the question at all. Moreover, the end result will be that it will harm electric safety and reliability.

A final word on cost. In support of its argument that the \$75+ million cost of the proposed rules is insignificant, OCA argues that “any estimate must be viewed in its proper context.”<sup>38</sup> It is not clear that the OCA is analyzing these costs in their “proper context.”

As a threshold matter, \$75 million (or, using the AFL-CIO’s and OCA’s proposed rules, \$156 million) is significant in virtually any context. However, \$75 million is notably significant in the context in which the proposed cost increases would occur.

Pennsylvania’s EDCs and consumers are at an historic turning point in the way that electricity is acquired, provided and purchased in the Commonwealth. Many EDC rate caps have expired. The remaining EDC rate caps are set to expire on or before January 1, 2011. Accordingly, many EDCs are either preparing to educate their customers about potential electricity price increases or are currently attempting to mitigate increased energy prices in their service territories. Moreover, all EDCs will have to implement the Commission’s Default Service rules, Alternative Energy Portfolio Standards rules, and its Demand Side Response initiatives in the near future. These rules will all result in costs that will be passed on to ratepayers.

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<sup>37</sup> Tr. at 6, lines 12-13 (counsel for OCA); Tr. at 20, lines 10-11 (counsel for AFL-CIO).

<sup>38</sup> Tr. at 9, lines 20-21.

In this context, \$75 million dollars, or more, is very significant. It is significant when considered in the context of the potential energy price increases that may occur after rate caps expire. It is significant in the context of paying for consumer education programs and energy assistance funding (indeed, \$75 million could fund such programs many times over).<sup>39</sup> And, it is significant in the context of surcharges that may be enacted by the Legislature to encourage the development of alternative energy.<sup>40</sup>

In short, Pennsylvania's ratepayers are likely to see significant increases in their energy costs in the coming years. Before implementing regulations that will add to these increases, the Commission should make sure that the benefits of any new regulations outweigh their costs. The record in this case shows that the benefits of the currently proposed I&M regulations, and the AFL-CIO's and OCA's proposed regulations, do not outweigh their costs.

**IV. If the Commission decides to implement prescriptive I&M standards, contrary to PECO's recommendation, it should adopt I&M cycles that are no more stringent than those set forth in PECO's November 6, 2006 Comments.**

The Commission should be clear as to PECO's position. For all of the reasons set forth above, the applicable law, facts and the record support the recommendation that the EDCs should be required to file individually tailored I&M plans for review and approval by the Commission instead of being forced to comply with inflexible, prescriptive plans. This is the best way to ensure the delivery of safe, reliable, cost-effective electric service in Pennsylvania.

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<sup>39</sup> See, e.g., *Policies to Mitigate Potential Electricity Price Increases*, Docket No. M-00061957, Tentative Order, (Order entered February 8, 2007), at 11 (proposing, among other things, a five-year, \$5 million dollar statewide education campaign funded through a surcharge mechanism).

<sup>40</sup> See News Release re: Governor Rendell's Energy Independence Strategy, at 3 (proposing an "Energy Independence Fund [that] will be capitalized by a systems benefits charge on electric power consumers."). The news release can be found at <http://www.depweb.state.pa.us/energyindependent/lib/energyindependent/documents/pr-020107.doc>

Should the Commission nonetheless decide to impose prescriptive standards, it should adopt standards that are no more stringent than the I&M cycles set forth in PECO's November 6, 2006 Comments.<sup>41</sup> PECO's proposed cycles are already more stringent than many of cycles referenced by other EDCs. Therefore, the Commission should in no event implement standards more stringent than PECO's and, if it does implement prescriptive standards, it should consider implementing standards less stringent than PECO's.<sup>42</sup>

### **Conclusion**

The question before the Commission is "What set of inspection and maintenance rules would best serve the Commission's goal of ensuring the delivery of reasonable, safe, reliable and cost-effective electric service in Pennsylvania?" The applicable statutory and legal authority, the facts, and the record, show that the correct answer is for the Commission to allow EDCs to file and implement individually tailored I&M plans that are focused on achieving reliability *results*. The EDCs are willing to be held to their plans, and to be held accountable for the reliability of their service.

The wrong answer would be to require EDCs to comply with prescriptive, one-size-fits all rules, such as those currently set forth in the Proposed Rulemaking Order and the additional rules proposed by the AFL-CIO and OCA. These rules do not provide EDCs with the needed flexibility to provide high reliability at reasonable costs. Indeed, the costs of these rules will significantly outweigh their benefits.

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<sup>41</sup> PECO's standards include a five-year tree vegetation management cycle, a 10-year pole inspection cycle, a two-year cycle for inspection of distribution lines (via ground patrol), a five- to eight-year cycle for transformers, and a five-week inspection cycle for substation equipment.

<sup>42</sup> PECO notes that, as currently drafted, the Proposed Regulations require EDCs to submit initial I&M plans to the Commission by October 1, 2007. However, it is already mid-April and it is possible that final rules may not be issued until after the summer. Given that many budgets for 2008 have or will be set by the time final rules are issued, and because the preparation of I&M plans, and the hiring and training of I&M personnel (if required by the final rules) will require significant lead time, PECO hereby requests the Commission to extend the October 1, 2007 date for filing initial plans to October 1, 2008.

For all of these reasons, PECO requests that the Commission exercise its statutory authority to develop reasonable and cost-effective I&M standards by permitting EDCs to file and implement individually tailored I&M plans.

Respectfully submitted,

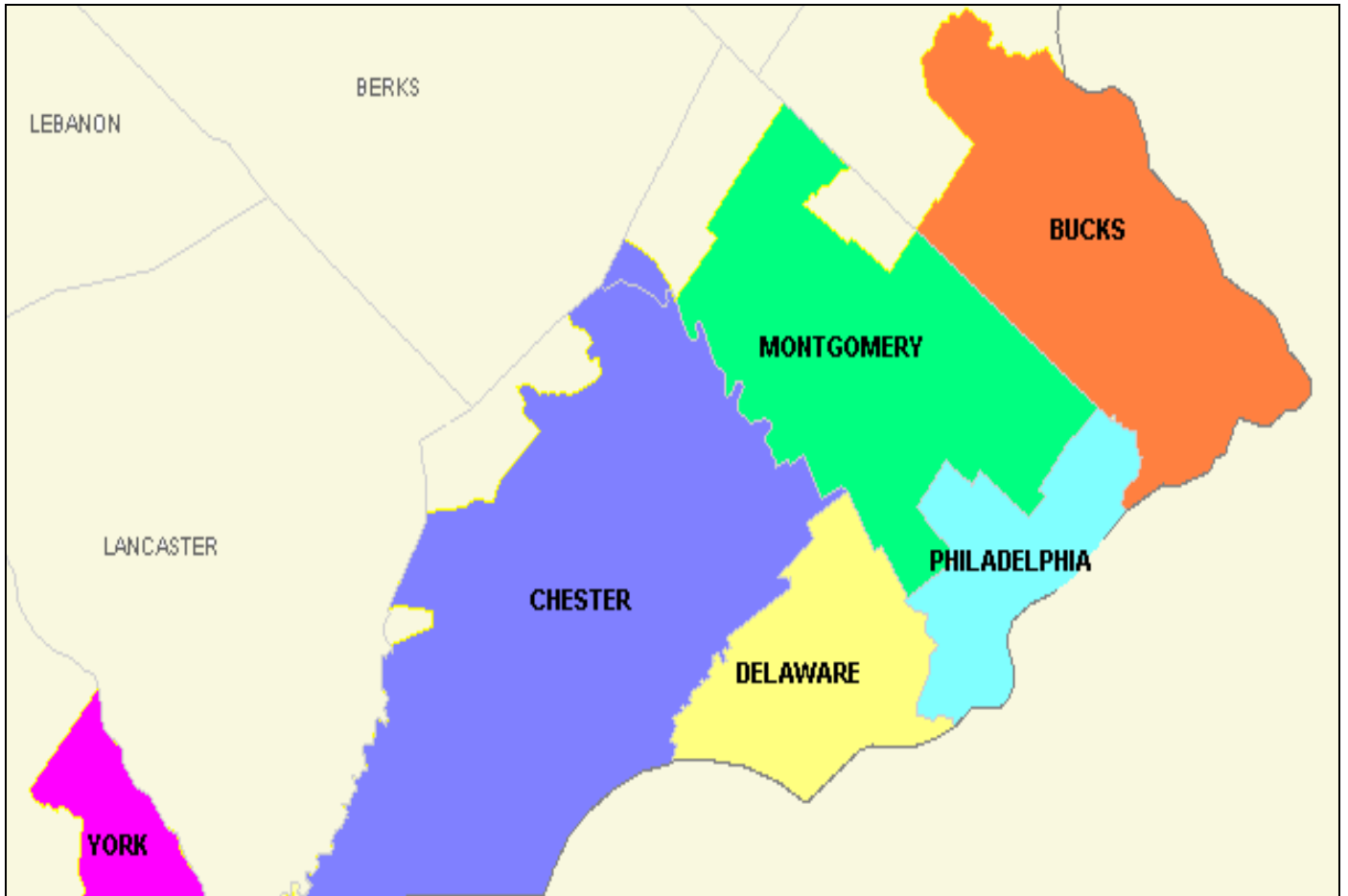
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Dated: April 16, 2007



# PECO Energy Company Quarterly Reliability Report For Period Ending September 30, 2006



**November 1, 2006**

**PECO Energy (“PECO”)  
Quarterly Reliability Report for the Period Ending September 30, 2006  
filed with the Pennsylvania Public Utility Commission.**

Submitted per Rulemaking Re: Amending Electric Service, Docket No. L-00030161 Reliability Regulations at 52 Pa.Code Chapter 57

**Section 57.195(e)(1)** “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.”

A wind and lightning storm occurred on July 18, 2006 with service interruptions first reported at 6:36 p.m. The storm affected over 480,000 customers. Full customer service restoration was complete on July 24, 2006, at 6:45 p.m. The majority of outages occurred in Chester and Montgomery counties although all counties in the PECO service territory were affected. More than 3,600 employees including 1,000 Peco Field employees, 1,000 contract employees, 488 tree trimmers, 1,000 Peco back office employees and 220 workers from foreign utilities were involved in the restoration process. The storm contained winds in excess of 70 miles per hour and more than 6,500 lightning strikes.

**Section 57.195(e)(2)** “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.”

PECO Customers	Sustained Customer Interruptions	Sustained Customer Hours	Momentary Customer Interruptions	Sustained Customer Minutes	SAIFI	CAIDI	SAIDI	MAIFI
1,630,831	2,187,728	4,775,892	1,196,573	286,553,522	1.34	131	176	0.73

Data reflects 12 months ending 9/30/2006

PECO Benchmarks and Rolling 12-Month Standards				
	SAIFI	CAIDI	SAIDI	MAIFI
Benchmark	1.23	112	138	N/A
Rolling 12-Month Standard	1.48	134	198	N/A

SAIFI, CAIDI, and SAIDI are above their respective benchmarks, but below the standards established on May 7, 2004. No benchmark or standard was established for MAIFI.

PECO experienced large storms in January and June of 2006 that were not major events by PUC criteria. These storms combined to affect over 300,000 customers, increasing SAIFI by 0.20 and also increasing CAIDI and SAIDI.

**Section 57.195(e)(3)** “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.”

PECO’s worst performing 5% circuits for 2006 are selected based on rolled up customer interruptions – a count of all customer interruptions on a given circuit and on other circuits for which it is a source, due to outages on the given circuit in a 12 month period. This measure is oriented toward its contribution to system SAIFI. In addition, circuits with a history of repeat appearance on worst performing lists, or with high circuit SAIFI, were selectively included in the 5% list.

Worst circuits and the rolling 12-month reliability index values requested are shown in Appendix A.

**Section 57.195(e)(4)** “Specific remedial efforts taken and planned for the worst performing 5% of the circuits as identified in paragraph (3).”

Remedial efforts taken or planned to date for PECO’s worst performing 5% of circuits are shown in Appendix B.

**Section 57.195(e)(5)** “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 included.”

12 Months Ending September 30, 2006					
Cause	Cases of Trouble	% Cases of Trouble	Customer* Interruptions	% Customer Interruptions	Customer Minutes
Animal Contact	1,298	8.9%	57,694	2.6%	4,176,883
Contact / Dig In	287	2.0%	43,999	2.0%	2,971,661
Equipment Failure	4,832	32.9%	669,735	30.6%	72,052,158
Lightning	1,151	7.8%	212,405	9.7%	31,779,244
Transmission / Substation	10	0.1%	31,784	1.5%	3,906,287
Vegetation - Broken / Uprooted	2,485	16.9%	561,045	25.6%	97,097,049
Vegetation - In-growth	2,198	15.0%	186,120	8.5%	32,115,404
Vehicles	375	2.6%	116,982	5.3%	8,897,918
Unknown	661	4.5%	123,731	5.7%	10,763,356
Other	1,368	9.3%	184,233	8.4%	22,793,561

\*The data supplied is the number of interrupted customers for each interruption event summed for all events, also known as customer interruptions. A customer interrupted by three separate trouble cases represents three customer interruptions, but only one customer interrupted.

The largest contributors to customer interruptions were equipment failure and tree-related interruptions. The leading groups within the equipment failure category were aerial equipment and underground equipment. Most customer interruptions caused by trees came from broken branches and tree trunks or uprooted trees (75%), as opposed to ingrowth (25%).

**Section 57.195(e)(6).** *“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).”*

Predictive and Preventive Maintenance Program – status as of 9/30/06					
	3 <sup>rd</sup> Quarter Tasks		YTD Tasks		2006 Total Planned
	Planned	Complete	Planned	Complete	
<b>Manhole Inspections</b> (Number of manholes inspected)	915	1059	2196	2379	2491
<b>Circuit Patrol &amp; Thermography</b> (Number of circuits inspected)	220	122	691	877	739
<b>Recloser Inspections</b> (Number of reclosers inspected)	18	21	244	282	249
<b>Center City Network Inspections</b> (Number of maintenance tasks performed (e.g. visual inspection, functional testing))	0	0	190	252	318
<b>T&amp;S Maintenance</b> (Number of maintenance tasks performed (e.g. visual inspection, predictive/diagnostic maintenance, preventive maintenance) for a variety of substation components)	934	956	2720	3094	4017
<b>T&amp;S Testing</b> (Number of maintenance tasks performed (e.g. calibration, trip test))	325	283	723	832	1097
<b>Totals</b>	2412	2441	6764	7716	8911

Vegetation Management Preventive Maintenance Program – status as of 9/30/06					
	3 <sup>rd</sup> Quarter Miles		YTD Miles		2006 Total Planned
	Planned	Complete	Planned	Complete	
Distribution Lift and Manual Trimming	896	777	2,077	2,039	2,991
Transmission Trimming and Removals	50	53	140	148	199
<b>Totals</b>	946	830	2,217	2,187	3,190

**Section 57.195(e)(7).** “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 3 <sup>rd</sup> Quarter	Actual 3 <sup>rd</sup> Quarter	Budgeted Year-to-Date	Actual Year-to-Date
New Business Connections	\$695,353	\$522,598	\$2,123,547	\$1,973,366
Capacity Expansion	\$133,202	(\$1,848)	\$1,623,736	\$865,258
System Performance*	\$5,065,437	\$3,284,805	\$16,192,762	\$5,057,891
Facility Relocation	\$570,136	\$642,213	\$1,585,210	\$2,227,242
Maintenance	\$28,690,732	\$32,951,219	\$87,369,192	\$96,245,298
Total**	\$35,154,860	\$37,398,987	\$108,894,447	\$106,369,055

See Appendix C for category definitions.

\*System Performance YTD includes (\$4,673,974) environmental remediation reserve adjustment made in March 2006.

\*\*Total actual does not include \$34,516,747 and \$41,347,586 of incremental Storm Funds for the 3<sup>rd</sup> quarter and Year-to-Date, respectively

**Section 57.195(e)(8).** “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.)

	Budgeted 3 <sup>rd</sup> Quarter	Actual 3 <sup>rd</sup> Quarter	Budgeted Year-to-Date	Actual Year-to-Date
New Business Connections	\$15,922,366	\$11,238,410	\$49,026,534	\$39,620,107
Capacity Expansion	\$11,520,099	\$14,701,219	\$54,492,060	\$47,586,934
System Performance	\$10,973,578	\$3,557,976	\$27,132,556	\$12,705,125
Facility Relocation	\$2,755,868	\$2,319,708	\$7,625,642	\$5,362,935
Maintenance	\$13,725,814	\$14,878,658	\$40,132,032	\$50,663,997
Total *	\$54,897,725	\$46,695,971	\$178,408,824	\$155,939,098

See Appendix C for category definitions.

\*Total actual does not include \$7,273,781 and \$8,118,129 of incremental Storm Funds for the 3<sup>rd</sup> quarter and Year-to-Date, respectively

**Section 57.195(e)(9).** “Dedicated staffing levels for transmission and distribution operation and maintenance at the end of the quarter, in total and by specific category (e.g., lineman, technician and electrician).”

PECO’s full-time trade staff as of October 1<sup>st</sup> 2006 was as follows:

Aerial Lineman	378
Underground Lineman	60
Transmission / Substation Mechanics, Operators	85
Energy Technicians	94
Aerial Foreman	55
Underground Foreman	18
Transmission / Substation Foreman	30
Total	720

\*The anticipated turnover of both aerial and underground mechanics has not been realized; therefore, the second underground line school that was reported to the PUC in the 1<sup>st</sup> quarter will not be held until 2007.

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**Appendix A****Rolling 12- month reliability index values for 5% worst performing circuits.**

CIRCUIT	CUSTOMERS ON CIRCUIT	12 Month Rolling Circuit SAIFI	12 Month Rolling Circuit CAIDI	12 Month Rolling Circuit SAIDI	12 Month Rolling Circuit MAIFI	12 Month Rolling Customers Interrupted	12 Month Rolling Customer Hours	12 Month Rolling Momentary Customers Interrupted
ANGORA 011	1,103	4.12	52	214	0.00	4,545	3,935	0
ARDMORE 017	411	0.00	0	0	0.00	0	0	0
BALA 136	1,583	1.01	6	7	0.00	1,603	173	0
BERWYN 002	547	7.38	220	1622	3.99	4,037	14,786	2,180
BLUE-GRASS 137	1,435	1.05	44	46	0.86	1,500	1,112	1,229
BLUE-GRASS 144	1,460	2.05	87	178	0.83	2,993	4,319	1,214
BRADFORD 341	1,580	3.56	145	517	3.68	5,622	13,609	5,821
BRADFORD 342	2,213	3.08	126	387	1.10	6,807	14,258	2,429
BRADFORD 344	2,435	4.11	181	744	1.42	9,998	30,183	3,454
BRADFORD 346	1,118	1.48	169	250	0.02	1,652	4,659	21
BROOMALL 136	1,386	2.71	97	264	0.00	3,757	6,093	0
BRYN-MAWR 131	1,356	1.50	233	350	0.01	2,032	7,903	8
BRYN-MAWR 143	663	6.60	96	630	0.00	4,373	6,964	0
BRYN-MAWR-144	1,240	2.29	130	298	0.97	2,835	6,163	1,198
BUCKINGHAM 344	1,477	2.10	108	227	2.30	3,108	5,587	3,396
BUCKINGHAM-351	1,265	2.70	125	337	0.48	3,420	7,104	606
BUCKINGHAM 354	1,329	0.02	173	4	0.00	33	95	0
BYBERRY 143	1,976	0.95	145	138	0.00	1,874	4,530	0
CALLOWHILL 138	1,266	0.06	1406	85	0.00	77	1,804	0
CALLOWHILL 142	896	1.00	42	42	0.00	899	630	0
CEDARBROOK 132	678	1.43	118	168	0.00	967	1,903	0
CEDARBROOK 138	3,616	1.10	267	292	0.00	3,964	17,623	0
CHICHESTER 139	1,614	2.12	67	141	0.00	3,429	3,805	0
CORNOG 001	531	2.59	295	765	6.00	1,375	6,769	3,185
CRESCENTVILLE 134	1,822	1.45	85	123	0.05	2,641	3,737	84
CRUM LYNNE 138	1,743	3.30	61	203	1.32	5,758	5,886	2,309
DAVISVILLE 003	948	2.61	103	268	5.92	2,476	4,239	5,615
EDDYSTONE 132	2,203	1.13	54	61	0.50	2,500	2,242	1,101
EDGEMONT 133	2,261	3.52	136	480	1.01	7,968	18,072	2,276
FLINT 132	1,194	3.94	106	418	0.68	4,702	8,316	811
FLINT 141	846	4.09	492	2011	0.00	3,458	28,362	0
FLINT 144	867	5.95	177	1053	1.42	5,156	15,213	1,227
FLINT 146	1,147	5.06	170	863	0.60	5,808	16,492	685
FOULK 131	1,670	4.01	80	322	1.10	6,705	8,973	1,831
FOULK 142	340	2.94	45	132	0.00	999	746	0
FURNACE 000	544	6.89	126	870	1.00	3,750	7,885	545
HAGYS 004	307	3.49	287	1003	1.00	1,072	5,130	307
HARMONY 007	1,271	1.20	97	117	1.00	1,527	2,470	1,271
HEATON 131	938	3.40	144	490	0.99	3,187	7,664	933
HEATON 133	1,766	0.39	173	67	0.00	680	1,963	0
HOPEWELL 000	283	1.04	115	119	0.00	293	563	0
HOWELL 002	388	12.57	127	1593	3.97	4,879	10,301	1,542
HUNTING PARK 032	1,313	0.09	16	1	0.06	117	31	83
ISLAND ROAD 136	1,828	1.32	128	170	0.00	2,419	5,164	0
ISLAND ROAD 138	2,320	0.81	52	42	0.01	1,888	1,623	32
JENKINTOWN 138	1,877	0.16	81	13	0.03	295	401	49
JENKINTOWN 141	678	2.41	125	301	0.00	1,637	3,399	0
JENKINTOWN 143	1,682	4.28	87	373	0.49	7,199	10,445	823
LANE 001	823	2.50	181	451	1.00	2,055	6,186	823
LENAPE 341	977	3.98	112	446	5.79	3,885	7,266	5,656

CIRCUIT	CUSTOMERS ON CIRCUIT	12 Month Rolling Circuit SAIFI	12 Month Rolling Circuit CAIDI	12 Month Rolling Circuit SAIDI	12 Month Rolling Circuit MAIFI	12 Month Rolling Customers Interrupted	12 Month Rolling Customer Hours	12 Month Rolling Momentary Customers Interrupted
LINE 109 00	421	3.62	140	508	1.00	1,526	3,564	420
LINE 131 00W/O	336	1.95	58	112	2.95	656	629	991
LINE 145 00UP	171	6.01	216	1297	4.00	1,027	3,695	684
LINE 147 00PB	890	3.22	56	182	0.00	2,868	2,701	0
LINE 2241	1,329	2.57	63	163	0.00	3,416	3,614	0
LINE 2394	1,797	2.13	75	159	0.00	3,827	4,765	1
LINE 2445	473	3.01	58	175	0.00	1,423	1,381	0
LINE 2471	1,108	1.96	100	196	0.09	2,176	3,625	96
LINE 2682	1,688	0.16	163	27	0.00	276	748	0
LINE 300CR	2,141	7.67	107	821	0.00	16,422	29,306	2
LINE 3336	1	0.00	0	0	0.00	0	0	0
LINE 3340	934	2.54	214	544	0.97	2,369	8,461	902
LINE 3600CR	865	2.65	211	559	0.11	2,294	8,054	97
LINE 7900	0	0.00	41	0	0.00	2	1	0
LINTON 343	4,133	0.07	353	26	0.00	308	1,811	0
LINTON 352	3,341	1.30	148	194	0.68	4,360	10,783	2,274
LLANERCH 141	1,650	1.81	69	126	4.84	2,992	3,454	7,991
LLANERCH 147	2,331	1.35	305	413	0.05	3,155	16,061	127
LOMBARD 132	3,286	0.53	84	44	1.74	1,743	2,437	5,710
LOMBARD 133	2,658	0.14	209	29	0.00	372	1,296	0
LOMBARD 138	2,526	2.66	25	67	0.52	6,723	2,816	1,319
MACDADE 132	1,634	1.22	88	108	0.00	1,996	2,932	0
MACDADE 135	2,248	1.15	79	90	1.00	2,587	3,390	2,237
MACDADE 148	1,584	2.34	62	146	0.00	3,708	3,841	0
MARCUS HOOK 135	3	3.00	90	271	0.00	9	14	0
MARSHALLTON 002	517	4.12	430	1770	0.99	2,129	15,251	511
MATSON 131	847	7.21	155	1121	1.09	6,107	15,823	920
MOSER 342	2,538	2.76	95	262	1.67	7,015	11,067	4,231
NESHAMINY 142	1,426	1.64	133	218	0.84	2,339	5,174	1,201
NEWLINVILLE 343	2,034	8.45	100	841	1.93	17,178	28,526	3,926
NEWLINVILLE 346	755	1.63	205	334	4.00	1,233	4,203	3,020
NEWLINVILLE 351	1,102	1.97	151	299	0.94	2,175	5,489	1,034
NEWLINVILLE 353	2,101	6.68	82	546	6.04	14,041	19,103	12,680
NEWLINVILLE 354	2,574	5.27	197	1039	3.53	13,565	44,584	9,075
NORTH PHILADE 133	3,042	1.49	87	130	0.00	4,527	6,573	0
NORTH PHILADE 135	2,021	0.66	159	105	1.00	1,339	3,545	2,023
NORTH WALES 362	1,751	1.77	151	267	3.62	3,104	7,795	6,347
OVERBROOK 131	3,633	0.55	12	7	0.60	1,992	410	2,182
PENCOYD 014	1,359	3.00	90	269	1.00	4,071	6,091	1,358
PLYMOUTH 139	1,332	2.63	91	240	2.46	3,509	5,320	3,274
PULASKI 131	4,619	1.05	53	56	0.94	4,845	4,287	4,335
PULASKI 132	2,195	0.59	44	26	0.48	1,303	953	1,053
RICHMOND 138	1,322	3.44	42	146	0.00	4,545	3,212	0
RICHMOND 145	899	2.01	53	107	0.00	1,810	1,610	0
ROXBOROUGH 136	972	3.86	84	325	1.00	3,755	5,270	973
SAVILLE 132	2,483	1.19	164	196	0.00	2,963	8,102	0
SHEEDER 000	435	9.57	81	772	0.00	4,161	5,599	1
SOLEBURY 001	496	8.81	97	854	0.00	4,368	7,058	2
TABOR 136	2,716	1.60	40	64	0.48	4,334	2,885	1,305
UPPER DARBY 008	797	2.20	207	454	0.00	1,750	6,026	0
UPPER DARBY 134	2,060	2.58	60	156	1.08	5,314	5,353	2,227
UPPER DARBY 140	1,903	1.45	71	103	0.00	2,766	3,261	0

CIRCUIT	CUSTOMERS ON CIRCUIT	12 Month Rolling Circuit SAIFI	12 Month Rolling Circuit CAIDI	12 Month Rolling Circuit SAIDI	12 Month Rolling Circuit MAIFI	12 Month Rolling Customers Interrupted	12 Month Rolling Customer Hours	12 Month Rolling Momentary Customers Interrupted
UPPER MERION 132	1,288	2.00	234	468	0.01	2,576	10,045	7
UPPER MERION 351	2,687	3.69	190	701	1.16	9,926	31,378	3,122
WANEETA 139	1,550	0.22	58	12	0.00	335	323	0
WARMINSTER 141	1,713	2.79	58	162	0.00	4,773	4,620	0
WARRINGTON 342	3,535	0.24	230	56	1.93	856	3,286	6,807
WARRINGTON 343	2,106	1.09	128	140	0.65	2,293	4,911	1,360
WAYNE 134	716	5.33	161	857	2.43	3,817	10,229	1,740
WAYNE 146	1,042	8.52	210	1786	0.99	8,880	31,014	1,032
WEST GROVE 001	819	5.15	69	356	0.00	4,216	4,855	0
WHITEMARSH 142	918	1.32	191	253	0.01	1,215	3,871	12

\*The data supplied is the number of interrupted customers for each interruption event summed for all events, also known as customer interruptions. If a customer is interrupted by three separate trouble cases, they represent three customer interruptions, but only one customer interrupted.



**Appendix B**

Remedial efforts taken and planned for 5% worst performing circuits as of 9/31/06

<b>ANGORA 011</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	Perform regularly scheduled tree clearance
	Completed reliability corrective workorders	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
	Installed wildlife protection	
	Installed additional fuses	
<b>ARDMORE 017</b>	<b>Completed</b>	<b>Planned</b>
		Install faulted circuit indicators
<b>3ALA 136</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	Perform regularly scheduled tree clearance
	Installed 3-phase recloser	
<b>3ERWYN 002</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	Perform regularly scheduled tree clearance
	Upgraded fusing	Remediate supply circuit
<b>3BLUE GRASS 137</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	
	Replaced cable	
<b>3BLUE GRASS 144</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	
	Replaced underground cable	
	Installed additional fuses	
<b>3BRADFORD 341</b>	<b>Completed</b>	<b>Planned</b>
	Inspected/maintained reclosers	Equip breakers for automatic switching
	Completed reliability corrective workorders	
	Inspected circuit visually and with thermographic camera	
<b>3BRADFORD 342</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	Upgrade lightning protection
	Inspected circuit visually and with thermographic camera	
	Repaired recloser	
	Replaced transformers	
<b>3BRADFORD 344</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	
	Inspected circuit visually and with thermographic camera	
	Replaced cable	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
<b>3BRADFORD 346</b>	<b>Completed</b>	<b>Planned</b>
	Installed 3 phase recloser	
	Installed additional fuses	
	Repaired switches	

	Completed reliability corrective workorders	
<b>3ROOMALL 136</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	
	Installed 3-phase reclosers	
	Installed single phase reclosers	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
<b>3RYN MAWR 131</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
	Completed reliability corrective workorders	
	Installed wildlife protection	
	Installed single phase reclosers	
<b>3RYN MAWR 143</b>	<b>Completed</b>	<b>Planned</b>
	Replaced recloser	Complete reliability corrective workorders
	Inspected circuit visually and with thermographic camera	
	Installed additional phases	
	Replaced cable	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
<b>3RYN MAWR 144</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	
	Inspected/repared recloser operation	
	Inspected motor operated switch	
	Installed faulted circuit indicators	
<b>3BUCKINGHAM 344</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	Complete reliability corrective workorders
	Inspected/repared recloser operation	
<b>3BUCKINGHAM 351</b>	<b>Completed</b>	<b>Planned</b>
	Inspected/repared recloser operation	
	Completed reliability corrective workorders	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
	Inspected circuit visually and with thermographic camera	
	Replaced recloser	
<b>3BUCKINGHAM 354</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
	Performed scheduled recloser maintenance	

	Installed single phase recloser	
<b>BYBERRY 143</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	
<b>CALLOWHILL 138</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	Perform regularly scheduled tree clearance
	Inspected circuit visually and with thermographic camera	
<b>CALLOWHILL 142</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	Perform regularly scheduled tree clearance
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
	Completed reliability corrective workorders	
	Upgraded switches	
<b>CEDARBROOK 132</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	
	Completed regularly scheduled tree clearance	
	Replaced underground cable	
	Completed reliability corrective workorders	
<b>CEDARBROOK 138</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	
	Replaced transformer	
	Inspected circuit visually and with thermographic camera	
	Inspected/maintained reclosers	
	Completed regularly scheduled tree clearance	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
<b>CHICHESTER 139</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	
	Upgraded switches	
<b>CORNOG 001</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	
	Completed reliability corrective workorders	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
<b>CRESCENTVILLE 134</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	
	Inspected circuit visually and with thermographic camera	

	Completed regularly scheduled tree trimming	
	Installed additional fuses	
	Installed 3-phase recloser	
	Installed single phase reclosers	
<b>CRUM LYNNE 138</b>	<b>Completed</b>	<b>Planned</b>
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
	Inspected/maintained reclosers	
	Completed reliability corrective workorders	
	Installed single phase reclosers	
<b>DAVISVILLE 003</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
	Performed regularly scheduled tree clearance	
<b>EDDYSTONE 132</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	
	Completed reliability corrective workorders	
<b>EDGMONT 133</b>	<b>Completed</b>	<b>Planned</b>
	Installed wildlife protection	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
	Completed reliability corrective workorders	
	Upgraded fuses	
<b>FLINT 132</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
	Completed reliability corrective workorders	
	Performed regularly scheduled tree clearance	
	Installed 3 phase reclosers	
<b>FLINT 141</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	Complete reliability corrective workorders
	Completed regularly scheduled tree clearance	Install single-phase reclosers
	Inspected circuit visually and with thermographic camera	
	Installed 3 phase reclosers	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
<b>FLINT 144</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
	Inspected circuit visually and with thermographic camera	

	Installed wildlife protection	
	Performed regularly scheduled tree clearance	
	Installed three phase recloser	
	Installed single phase reclosers	
<b>FLINT 146</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
	Inspected circuit visually and with thermographic camera	
	Installed wildlife protection	
	Performed regularly scheduled tree clearance	
	Inspected/maintained reclosers	
	Upgraded lightning protection	
<b>FOULK 131</b>	<b>Completed</b>	<b>Planned</b>
	Inspected selected areas of circuit for vegetation issues and corrected as needed	Install 3-phase reclosers
		Install switch
		Complete reliability corrective workorders
<b>FOULK 142</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	
	Completed reliability corrective workorders	
<b>FURNACE 000</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	Install single-phase reclosers
	Performed regularly scheduled tree clearance	
	Installed new supply circuit	
	Completed reliability corrective workorders	
<b>HAGYS 004</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	Upgrade fusing
	Completed reliability corrective workorders	Complete reliability corrective workorders
	Inspected selected areas of circuit for vegetation issues and corrected as needed	Perform regularly scheduled tree clearance
<b>HARMONY 007</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	
	Inspected circuit visually and with thermographic camera	
	Remediated supply circuit	
<b>HEATON 131</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	Perform regularly scheduled tree clearance
	Upgraded switches	
	Completed reliability corrective workorders	
	Installed additional fuses	

<b>HEATON 133</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	
	Installed single phase reclosers	
	Inspected/maintained reclosers	
	Performed regularly scheduled tree clearance	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
	Completed reliability corrective workorders	
<b>HOPEWELL 000</b>	<b>Completed</b>	<b>Planned</b>
	Remediated supply circuit	
	Completed reliability corrective workorders	
	Inspected circuit visually and with thermographic camera	
<b>HOWELL 002</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
	Performed regularly scheduled tree clearance	
	Remediated supply circuit	
	Inspected circuit visually and with thermographic camera	
<b>HUNTING PARK 032</b>	<b>Completed</b>	<b>Planned</b>
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
	Inspected circuit visually and with thermographic camera	
	Completed reliability corrective workorders	
<b>SLAND ROAD 136</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	
	Installed underground cable	
	Completed reliability corrective workorders	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
	Installed additional fuses	
<b>SLAND ROAD 138</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
	Inspected circuit visually and with thermographic camera	

	Installed additional fusing	
	Installed wildlife protection	
<b>JENKINTOWN 138</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	
	Installed single phase recloser	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
	Completed regularly scheduled tree clearance	
<b>JENKINTOWN 141</b>	<b>Completed</b>	<b>Planned</b>
	Replaced cable	Complete reliability corrective workorders
	Installed additional fuses	
	Inspected circuit visually and with thermographic camera	
	Completed regularly scheduled tree clearance	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
<b>JENKINTOWN 143</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	
	Installed single phase recloser	
	Completed regularly scheduled tree clearance	
<b>JANE 001</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	
	Remediated supply circuit	
<b>JENAPE 341</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	
	Inspected circuit visually and with thermographic camera	
	Inspected/repared reclosers	
	Completed regularly scheduled tree clearance	
	Upgraded wildlife protection	
<b>JINE 109 00</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	
	Installed wildlife protection	
	Completed reliability corrective workorders	
<b>JINE 131 00WO</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	
	Completed reliability corrective workorders	
	Completed recloser inspections	

	Inspected selected areas of circuit for vegetation issues and corrected as needed	
<b>.INE 145 00UP</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	Repair switch
	Performed regularly scheduled tree clearance	Complete reliability corrective workorders
	Upgraded fusing	
<b>.INE 147 00PB</b>	<b>Completed</b>	<b>Planned</b>
	Inspected/repaired reclosers	Repair switches
	Completed reliability corrective workorders	Complete reliability corrective workorders
	Inspected circuit visually and with thermographic camera	
	Improved recloser grounding	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
<b>.INE 2241</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	Perform regularly scheduled tree clearance
	Inspected circuit visually and with thermographic camera	
	Installed wildlife protection	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
	Installed faulted circuit indicators	
	Upgraded lightning protection	
<b>.INE 2394</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	
	Upgraded fusing	
	Installed additional fuses	
	Installed wildlife protection	
<b>.INE 2445</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	Install automatic transfer switches
<b>.INE 2471</b>	<b>Completed</b>	<b>Planned</b>
	Repaired underground cable	
	Upgraded transformer	
<b>.INE 2682</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	Perform regularly scheduled tree clearance
	Completed reliability corrective workorders	
	Upgraded fuses	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
<b>.INE 300CR</b>	<b>Completed</b>	<b>Planned</b>
	Inspected selected areas of circuit for vegetation issues and corrected as needed	Perform regularly scheduled tree clearance
	Installed 3-phase recloser	
<b>.INE 3336</b>	<b>Completed</b>	<b>Planned</b>



	Replaced switch	
	Inspected circuit visually and with thermographic camera	Install 3-phase reclosers
	Completed reliability corrective workorders	
<b>.INE 3340</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
	Inspected /repaired switch	
	Inspected recloser	
<b>.INE 3600CR</b>	<b>Completed</b>	<b>Planned</b>
	Inspected selected areas of circuit for vegetation issues and corrected as needed	Perform regularly scheduled tree clearance
	Installed additional fuses	
	Completed reliability corrective workorders	
	Install single phase recloser	
<b>.INE 7900</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	
<b>.INTON 343</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
	Inspected/ repaired recloser operation	
	Replaced cable	
	Replaced recloser	
<b>.INTON 352</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	Complete reliability corrective workorders
	Inspected circuit visually and with thermographic camera	
	Replaced recloser	
	Repaired cable	
	Replaced transformer	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
<b>.LANERCH 141</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	
	Installed single phase recloser	
	Upgraded wildlife protection	
	Installed additional fuses	
	Inspected circuit visually and with thermographic camera	
<b>.LANERCH 147</b>	<b>Completed</b>	<b>Planned</b>

	Completed reliability corrective workorders	
<b>_OMBARD 132</b>	<b>Completed</b>	<b>Planned</b>
	Upgraded switch	Perform regularly scheduled tree clearance
	Installed additional fuses	
	Completed reliability corrective workorders	
	Inspected circuit visually and with thermographic camera	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
<b>_OMBARD 133</b>	<b>Completed</b>	<b>Planned</b>
	Inspected selected areas of circuit for vegetation issues and corrected as needed	Perform regularly scheduled tree clearance
	Upgraded transformer	
	Replaced cable	
	Inspected circuit visually and with thermographic camera	
	Installed additional fuses	
	Completed reliability corrective workorders	
	Inspected reclosers	
<b>_OMBARD 138</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	Perform regularly scheduled tree clearance
	Upgraded switches	
	Completed reliability corrective workorders	
	Replaced underground cable	
<b>MACDADE 132</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	
	Performed regularly scheduled tree clearance	
<b>MACDADE 135</b>	<b>Completed</b>	<b>Planned</b>
	Upgraded wildlife protection	
	Inspected circuit visually and with thermographic camera	
	Replaced transformer	
	Completed regularly scheduled tree clearance	
<b>MACDADE 148</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	Install single phase reclosers
	Performed regularly scheduled tree clearance	Complete reliability corrective workorders
	Upgraded wildlife protection	
<b>MARCUS HOOK 135</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	
	Completed reliability corrective workorders	
	Tested customer relays	
<b>MARSHALLTON 002</b>	<b>Completed</b>	<b>Planned</b>

	Remediated supply circuit	Inspect/repair breaker control
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
	Inspected circuit visually and with thermographic camera	
	Completed reliability corrective workorders	
<b>MATSON 131</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	Complete reliability corrective workorders
	Replaced primary wires	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
	Upgraded wildlife protection	
	Installed 3-phase reclosers	
<b>MOSER 342</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	
	Inspected/tested reclosers	
	Inspected/repaired switches	
	Repaired reclosers	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
	Installed 3 phase recloser	
<b>NESHAMINY 142</b>	<b>Completed</b>	<b>Planned</b>
		Install switches
<b>NEWLINVILLE 343</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	Install 3-phase recloser
	Inspected circuit visually and with thermographic camera	Complete reliability corrective workorders
<b>NEWLINVILLE 346</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	Complete reliability corrective workorders
		Install 3-phase recloser
<b>NEWLINVILLE 351</b>	<b>Completed</b>	<b>Planned</b>
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
	Completed reliability corrective workorders	
<b>NEWLINVILLE 353</b>	<b>Completed</b>	<b>Planned</b>
	Replaced three-phase recloser	
	Completed reliability corrective workorders	

	Inspected selected areas of circuit for vegetation issues and corrected as needed	
<b>NEWLINVILLE 354</b>	<b>Completed</b>	<b>Planned</b>
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
	Inspected circuit visually and with thermographic camera	
	Upgraded transformers	
<b>NORTH PHILADELPHIA I33</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	
	Inspected circuit visually and with thermographic camera	
	Inspected/tested reclosers	
	Inspected/repaired switch	
<b>NORTH PHILADELPHIA I35</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	
	Inspected circuit visually and with thermographic camera	
	Inspected/repaired reclosers	
	Installed switch	
<b>NORTH WALES 362</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	Complete reliability corrective workorders
	Repaired switch	
	Upgraded lightning protection	
	Completed reliability corrective workorders	
	Replaced reclosers	
<b>OVERBROOK 131</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	
	Inspected circuit visually and with thermographic camera	
	Automated switching of recloser	
<b>PENCOYD 014</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	Inspect selected areas of circuit for vegetation issues and correct as needed
	Upgraded fusing	Perform regularly scheduled tree clearance
	Completed reliability corrective workorders	Replace underground cable
	Installed faulted circuit indicators	
<b>PLYMOUTH 139</b>	<b>Completed</b>	<b>Planned</b>
	Inspected/tested reclosers	Perform regularly scheduled tree clearance
	Completed reliability corrective workorders	

	Upgraded wildlife protection	
	Upgraded lightning protection	
<b>PULASKI 131</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	Perform regularly scheduled tree clearance
	Inspected circuit visually and with thermographic camera	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
	Inspected/tested reclosers	
<b>PULASKI 132</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	Perform regularly scheduled tree clearance
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
	Upgraded fusing	
<b>RICHMOND 138</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	Inspect selected areas of circuit for vegetation issues and correct as needed
	Completed reliability corrective workorders	Complete reliability corrective workorders
		Upgrade fusing
<b>RICHMOND 145</b>	<b>Completed</b>	<b>Planned</b>
	Upgraded switches	
	Completed reliability corrective workorders	
	Completed regularly scheduled tree trimming	
	Inspected circuit visually and with thermographic camera	
	Installed additional fuses	
<b>ROXBOROUGH 136</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	Perform regularly scheduled tree clearance
	Inspected circuit visually and with thermographic camera	
	Upgraded switches	
<b>SAVILLE 132</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
	Installed three-phase reclosers	
	Completed reliability corrective workorders	
<b>SHEEDER 000</b>	<b>Completed</b>	<b>Planned</b>
	Remediated supply circuit	
	Inspected circuit visually and with thermographic camera	
	Performed regularly scheduled tree clearance	

	Installed additional fuses	
	Completed reliability corrective workorders	
<b>SOLEBURY 001</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	Complete reliability corrective workorders
	Completed reliability corrective workorders	
	Installed switch	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
<b>TABOR 136</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	
	Inspected/tested recloser	
	Installed wildlife protection	
	Upgraded switches	
<b>JPPER DARBY 008</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	Complete reliability corrective workorders
	Inspected circuit visually and with thermographic camera	
	Installed additional fuses	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
<b>JPPER DARBY 134</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	
	Installed single phase recloser	
	Upgraded fuses	
	Inspected/tested recloser	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
<b>JPPER DARBY 140</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	
	Installed three-phase reclosers	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
	Completed reliability corrective workorders	
<b>JPPER MERION 132</b>	<b>Completed</b>	<b>Planned</b>
	Inspected/maintained reclosers	Install 3-phase recloser
	Installed single phase recloser	
	Installed additional fuses	
	Installed wildlife protection	
	Completed reliability corrective workorders	
	Performed regularly scheduled tree clearance	
<b>JPPER MERION 351</b>	<b>Completed</b>	<b>Planned</b>
	Replaced load center	
	Inspected circuit visually and with thermographic camera	

	Replaced switching module	
	Completed reliability corrective workorders	
	Performed regularly scheduled tree clearance	
<b>NANEETA 139</b>	<b>Completed</b>	<b>Planned</b>
	Inspected circuit visually and with thermographic camera	
	Completed reliability corrective workorders	
	Installed additional fuses	
<b>NARMINSTER 141</b>	<b>Completed</b>	<b>Planned</b>
	Inspected/repaired recloser operation	Inspect selected areas of circuit for vegetation issues and correct as needed
		Upgrade lightning protection
		Complete reliability corrective workorders
<b>NARRINGTON 342</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	
	Inspected circuit visually and with thermographic camera	
	Inspected/maintained reclosers	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
	Upgraded lightning protection	
<b>NARRINGTON 343</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
	Inspected circuit visually and with thermographic camera	
	Inspected/tested reclosers	
	Upgraded lightning protection	
<b>NAYNE 134</b>	<b>Completed</b>	<b>Planned</b>
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
	Installed 3-phase reclosers	
	Installed single phase reclosers	
	Completed reliability corrective workorders	
	Upgraded fusing	
	Installed aerial faulted circuit indicators	
	Completed regularly scheduled tree clearance	
<b>NAYNE 146</b>	<b>Completed</b>	<b>Planned</b>
	Completed regularly scheduled tree clearance	
	Completed reliability corrective workorders	
	Installed single phase recloser	
	Inspected selected areas of circuit for vegetation issues and corrected as needed	
<b>NEST GROVE 001</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	

	Inspected selected areas of circuit for vegetation issues and corrected as needed	
<b>WHITEMARSH 142</b>	<b>Completed</b>	<b>Planned</b>
	Completed reliability corrective workorders	Complete reliability corrective workorders
	Inspected circuit visually and with thermographic camera	Perform regularly scheduled tree clearance
	Upgraded switches	

## Appendix C

### **New Business Connections**

This work category includes all the facility work required to add a new customer or to increase the load to an existing customer. The facility work will include the facilities required to directly connect the customer to the system and the upgrade/replacement of any existing facility to serve the requested additional load.

### **Capacity Expansion**

This work category includes only capacity work generated by the system design engineer to prevent system failure and to assure the delivery of voltage as specified in the tariff. The addition of new substations and substation enlargements for future load growth will also be included in this project.

### **System Performance**

This work category includes projects designed to upgrade, modify or improve the performance of the distribution system. Also included in this category are indirect costs in support of all categories and one-time accounting adjustment items.

### **Facility Relocation**

This work category includes all requests for relocation of PECO facilities including municipal as well as customer related relocation requests.

### **Maintenance**

This work category includes work performed to repair and restore equipment to its normal state of operation, along with planned preventive maintenance work such as visual and thermographic inspections and tree trimming around transmission and distribution lines.

### **Storm Fund**

Incremental costs (primarily overtime, contractors, mutual assistance, and meals) incurred while responding to major storms (storms that meet customer outage and duration criteria).





**PA PUC Proposed Rulemaking on Inspection and Maintenance Standards**

**PECO's Response to Staff's Follow-up Data Request No. 2**

Maintenance Items					
Subject	PUC Proposal	PECO Current Practices	PECO 1990 Practices*	PECO 1995 Practices*	PECO 2000 Practices
1) Vegetation Management	Distribution Cycle of 4 Years	Distribution Comprehensive Cycle of 5 Years with mid-cycle trimming and 34KV Program. Includes tree trimming, tree removals and herbicide applications.	Program was managed by the individual regions (BucksMont, DelChester & Philadelphia) within PECO. Practices not consistently applied.	Trimming only of 7,000 miles (~60% of the total system), 1998 through 2000, originally a 4-year comprehensive cycle, transitioned to 5-years in 2000. Included tree trimming, tree removals and herbicide applications.	Comprehensive Distribution Cycle of 5 Years, include tree trimming, tree removals and herbicide applications.
	Transmission Cycle of 5 Years	Transmission Cycle of 5 Years	1990-1991 span to span trimming as required. 1992 - 1996 1st 5-year Transmission Cycle.	Transmission Cycle of 5 Years	Transmission Cycle of 5 Years
2) Pole Inspections	Poles inspected every 10 years	Poles inspected every 10 years after 12th year	Variable divisional programs with 9 year target	Variable divisional programs with 9 year target	Poles inspected every 10 years
3) Overhead Line Inspection	Transmission Lines inspected aerially twice per year (spring and fall)	Lines inspected aerially once per year.	Transmission Lines inspected aerially twice per year (spring and fall)	Transmission Lines inspected aerially twice per year (spring and fall)	Transmission Lines inspected aerially twice per year (spring and fall)
	Transmission Lines inspected on foot every 2 years	Annual ground patrol for areas not accessible to helicopter.	Transmission Lines inspected on foot every 3 years	Transmission Lines inspected on foot every 3 years	Transmission Lines inspected on foot every 3 years
	Distribution Lines inspected on foot every year	Ground patrol inspection of distribution lines using thermography every 2 years; includes unfused rear-property areas. Areas not accessible by vehicle inspected by foot patrol.	Variable divisional programs with 1 year target	Variable divisional programs with 1 year target	The drivable portion of aerial circuit is patrolled every year.
	Overhead transformers visually inspected annually as part of circuit inspection	Inspected as part of 2 year distribution line inspection and includes thermography	Variable divisional programs with 1 year circuit patrol target	Variable divisional programs with 1 year circuit patrol target	The drivable portion of aerial circuit is patrolled every year
	Pad-mount (Above Ground) Transformer Inspections every 2 years	Pad-mount transformers inspected every 5 years	Inspection following report of unusual condition	Inspection following report of unusual condition	5-year inspection cycle
	Underground transformers inspected every 2 years	Underground transformers inspected every 5 years.	Inspection following report of unusual condition	Inspection following report of unusual condition	Underground transformer manholes inspected every 6 years.
	Reclosers inspected and tested every year	MOS reclosers inspected and tested every year Oil reclosers inspected and tested every 2 years Non-oil reclosers inspected and tested every 4 years Single-phase reclosers inspected as part of 2-year distribution line inspections.	Variable divisional programs with 1 year target	Variable divisional programs with 1 year target	2-year inspection cycle
4) Substation Inspections	Substation equipment, structures, hardware inspected monthly	Inspections every 5 weeks	Inspections every month	Inspections every month	Inspections every month

\*PECO's pre-deregulation (pre-1998) operational structure was decentralized. Several operating divisions covering PECO's service territory were charged with administering their own maintenance goals and programs.

PECO'S RESPONSE TO STAFF'S QUESTIONS NOS. 3-4, PECO'S I&M INTERVALS

**Maintenance Items**

<b>Subject</b>	<b>PUC Proposal</b>	<b>Current PECO Practice</b>	<b>Estimated Annual Incremental Cost</b>
1) Vegetation Management	Distribution Cycle of 4 Years.	Distribution Cycle of 5 Years with mid-cycle trimming.	\$ 5,000,000
	Transmission Cycle of 5 Years.	PECO already meets the PUC proposal.	\$ -
2) Pole Inspections	Poles inspected every 10 years.	Poles inspected every 10 years after 12th year.	\$ -
3) Overhead Line Inspection	Transmission Lines inspected aerially twice per year (spring and fall).	Lines inspected aerially once per year during the summer to get the best observation of tree conditions.	\$ 140,000
	Transmission Lines inspected on foot every 2 years.	Ground patrol (vehicle or vehicle or foot patrol as necessary) follow-up to annual aerial inspection for areas not accessible to helicopter	\$ 477,750
	Distribution Lines inspected on foot every year.	Ground patrol inspection of distribution lines using thermography is performed every 2 years.	\$ 3,435,000
	Overhead transformers visually inspected annually as part of circuit inspection.	Inspected as part of 2 year distribution line inspection and includes thermography.	
	Padmount transformers inspected every 2 years.	Padmounted transformers inspected every 5 years.	\$ 750,000
	Underground transformers inspected every 2 years.	Underground equipment inspected every 5 years.	\$ 417,000
	Reclosers inspected and tested every year.	MOS reclosers are inspected and tested every year. Oil reclosers are inspected and tested every 2 years. Vacuum reclosers are inspected and tested every 4 years.	\$ 335,000
4) Substation Inspections	Substation equipment, structures, hardware inspected monthly.	Inspections every 5 weeks.	\$ 201,500
<b>Total additional annual cost to implement PUC proposals</b>			<b>\$ 10,756,250</b>

PECO's RESPONSE TO STAFF'S I&M QUESTION NO. 6  
 AFL-CIO PROJECTED COSTS

Category	Incremental Costs	Explanation
(1) Vegetation management. The statewide minimum inspection and treatment cycles for vegetation management are 4 years for distribution facilities and 5 years for transmission facilities. <u>In addition, if a circuit experiences five or more trips during a 12-month period, it shall be scheduled for an immediate vegetation inspection. Finally, utilities are encouraged to increase the frequency of their vegetation inspection cycles if an area experiences a wetter than normal growing season.</u>		
(2) Pole inspections. Distribution poles shall be visually inspected every 10 years. <u>Pole inspections shall include drill tests at and below ground level, a shell test, visual inspection for holes or evidence of insect infestation, a visual inspection for evidence of unauthorized backfilling or excavation near the pole, visual inspection for signs of lightning strikes, and a load calculation. If a pole exhibits 67% or less of the strength of a new pole of comparable size, then it shall be replaced within 60 days. If a pole fails the groundline (or butt) inspection, shows dangerous levels of rot or infestation, or otherwise exhibits dangerous conditions or conditions that affect the integrity of the circuit, it shall be replaced as soon as possible, but no later than 30 days.</u>	\$35,000	Incremental cost is for additional inspections for newer poles. No cost is provided for the corrective maintenance portion.
(3) Overhead line inspections.		
(i) Transmission lines shall be inspected aurally twice per year in the spring and fall. Transmission lines shall be inspected on foot every 2 years. <u>If problems are found that affect the integrity of the circuits, they shall be repaired or replaced no later than 30 days from discovery.</u>	\$140,000	Number already provided, no additional requirement. No cost is provided for the corrective maintenance portion.
(ii) Distribution lines shall be inspected by foot patrol a minimum of once per year. If problems are found that affect the integrity of the circuits, they shall be repaired or replaced no later than 30 days from discovery.	\$3,435,000	Number already provided, no additional requirement
(iii) Overhead distribution transformers shall be visually inspected annually as part of the distribution line inspection. <u>A visual inspection shall include checking for rust, dents or other evidence of contact, leaking oil, broken insulators, and any other conditions that may affect operation of the transformer.</u>		
(iv) Above-ground pad-mounted transformers and below-ground transformers shall be inspected on a 2-year cycle. <u>An inspection shall include, as appropriate, checking for rust, dents or other evidence of contact, leaking oil, installation of fences or shrubbery that could affect access to and operation of the transformer, and unauthorized excavation or changes in grade near the transformer. In addition, the load on each transformer shall be calculated at least once every two years.</u>	\$1,167,000	Number already provided, no additional requirement
(v) Reclosers <u>in the distribution system</u> shall be inspected and tested at least once per year.	\$335,000	Number already provided, no additional requirement
(vi) The integrity of transmission towers shall be inspected and tested at least once every 25 years.	unknown	No program is place, unknown financial impact

PECO's RESPONSE TO STAFF'S I&M QUESTION NO. 6  
 AFL-CIO PROJECTED COSTS

Category	Incremental Costs	Explanation
(4) Substation inspections. Substation equipment, structures and hardware shall be inspected monthly. <u>Substation circuit breakers shall undergo operational testing at least once per year, diagnostic testing at least once every four years, and comprehensive inspection and maintenance on a four-year cycle.</u>	\$9,000,000	Maintenance tasks and frequencies are defined for the following circuit Breaker types. Vacuum 4-34 kV, Air Magnetic, 4-12 kV, Oil, 4-13 kV, Oil, 34 kV and Above, Air Blast 66 kV and Above, Single Pressure Puffer, 2 Pressure SF6, Circuit Switcher, H-type Oil – H2O 13 kV, Air Blast 13 kV. The task definition and frequencies differ for each of the above Breaker Types based on the failure modes specific to each i.e. they all fail in different ways at different frequencies and therefore require different tasks be performed at specific intervals. We utilize a living program such that as new failure modes are identified and experience dictates; the maintenance tasks definitions or frequencies are modified. In general, there are 4 types of tasks with varying frequencies and definitions. 1. This inspection approximates real-time condition monitoring that can detect developing problems and degradation, and provides condition data used to initiate corrective actions. Data collected is trended and analyzed within our computerized Equipment health system. This system generates alerts or condition based corrective maintenance. Frequency 5 weeks 2. Predictive or Diagnostic in-service inspections include thermography and oil quality sampling. Typical frequencies are 6 months to 1 year. 3. Operation, functional testing, Lubrication, Detailed inspections and Diagnostic testing tasks are indicated to ensure proper operation, replace wearable components such as filters and lubricants and identify the need for more internal component failures. Frequencies vary from 3 years to 6 years. 4. Internal intrusive maintenance is performed on a subset of the circuit breaker population on a time directed basis. Frequency varies between 6 and 18 years. It is important to note that not all tasks identified above can be applied to all components. For example you cannot test the oil of an air magnetic breaker, since there is no oil to test.
(5) Other inspection requirements...		
(i) <u>Group-operated line switches shall be inspected and tested annually.</u>	unknown	
(ii) <u>Relays shall be inspected and tested every two years.</u>	\$2,040,000	Transmission relays are currently required by PJM to be completed every 4yrs. Distribution relays are performed every 6 years. Incremental Cost would be to double transmission program and triple distribution program.
(iii) <u>Sectionalisers shall be inspected and tested every two years.</u>	\$ -	Sectionalizers part of the recloser program
(iv) <u>Vacuum switches shall be inspected and tested every two years.</u>	NA	
(v) <u>Underground vaults with larger connections (750 Mcm or larger) shall be visually inspected and thermo-vision tested for hot spots annually. In addition, vaults of any size that serve schools, hospitals, public buildings, or residences shall be visually inspected and cleaned once per year.</u>	\$ -	All underground vaults part of manhole program
	\$16,152,000	

PECO'S RESPONSE TO STAFF'S I&M QUESTION NO. 8.  
OCA PROJECTED COSTS

Category	Incremental Costs	Explanation
The plan should specify all applicable hardware standards, all applicable operation standards, routine maintenance requirements, emergency maintenance plans and procedures for coordinating with other interconnected systems.		
(2) Pole inspections and repair. Distribution poles shall undergo a detailed inspection every 10 years that includes drill tests at and below ground level, a shell test, a load calculation, visual inspection for holes, evidence of insect infestation, evidence of unauthorized backfilling or excavation, lightning strikes and other problems. Poles with major deficiencies shall be replaced within 60 days.	\$35,000	Incremental cost is for additional inspections for newer poles. No cost is provided for the corrective maintenance portion.
(3) Overhead line inspections and repair.		
(i) Transmission lines and all attached equipment shall be inspected aerially twice per year in the spring and fall. Transmission lines and all attached equipment shall be inspected on foot every 2 years and shall include infrared scanning. If problems are found that affect the integrity of the circuits, they shall be repaired or replaced within 30 days from discovery.	\$617,750	Incremental cost is for additional inspection requirements. No cost is provided for the corrective maintenance portion.
(ii) Distribution lines and all attached equipment shall be inspected by foot patrol a minimum of once per year and shall undergo a detailed inspection every 5 years that includes infrared scanning. If problems are found that affect the integrity of the circuits, they shall be repaired or replaced no later than 30 days from discovery.	\$3,435,000	Incremental cost is for additional inspection requirements. It is unclear what constitutes a 'detailed inspection' and therefore this item has no cost adder. No cost is provided for the corrective maintenance portion.
(iii) Overhead distribution transformers shall be visually inspected annually as part of the distribution line inspection and the load on the transformer shall be calculated at least once every two years. If problems are found that affect the integrity of the equipment, they shall be repaired or replaced within 30 days from discovery.	unknown	The circuit patrol cost is included in (ii), and this would include visual inspection of overhead distribution transformers. PECO currently does not have a transformer load management program and therefore this item has no cost adder. No cost is provided for the corrective maintenance portion.
(iv) Above-ground pad-mounted transformers and below-ground transformers shall be inspected on a 2-year cycle and the load on the transformer shall be calculated at least once every two years. If problems are found that affect the integrity of the equipment, they shall be repaired or replaced within 30 days from discovery.	\$1,167,000	Number already provided for increased periodicity. PECO currently does not have a transformer load management program and therefore this item has no cost adder. No cost is provided for the corrective maintenance portion.

PECO'S RESPONSE TO STAFF'S I&M QUESTION NO. 8.  
 OCA PROJECTED COSTS

Category	Incremental Costs	Explanation
(v) Reclosers shall be inspected and tested at least once per year. If problems are found that affect the integrity of the equipment, they shall be repaired or replaced within 30 days from discovery.	\$335,000	Number already provided No cost is provided for the corrective maintenance portion.
(vi) Other Critical Facilities shall be tested and inspected either annually or every two years. Switches shall be inspected and tested annually. Relays, sectionalizers, and vacuum switches shall be inspected and tested every two years. If problems are found that affect the integrity of the equipment, they shall be repaired or replaced within 30 days from discovery.	unknown	Poles, reclosers, and certain primary network equipment is tested - PECO has no other program to test distribution equipment therefore no additional costs are available. No cost is provided for the corrective maintenance portion.
(4) Substation inspections and repair. Substation equipment, structures and hardware shall be inspected monthly. An inspection that includes infrared scanning shall be conducted annually. Substation circuit breakers should undergo operational testing at least once per year, diagnostic testing at least once every four years, and comprehensive inspection and maintenance on a four-year cycle. Deficiencies identified should be repaired or addressed within 30 days if serving transmission lines and within 60 days if serving distribution lines.	\$9,201,500	Increase costs for yearly circuit breaker operational testing, 4yr comprehensive inspection and Monthly inspection.  The Substation Inspection and Maintenance program defines maintenance requirements on an equipment type basis. Each equipment type has maintenance tasks assigned which are intended to identify, prevent or mitigate failure modes specific to the component family. This program encompasses a complex set of tasks based on the component function, interrupting medium, MVA rating, service condition, criticality and other factors. To illustrate this complexity a generic example of circuit breaker maintenance is provided below. Maintenance tasks and frequencies are defined for the following circuit Breaker types. Vacuum 4-34 kV, Air Magnetic, 4-12 kV, Oil, 4-13 kV, Oil, 34 kV and Above, Air Blast 66 kV and Above, Single Pressure Puffer, 2 Pressure SF6, Circuit Switcher, H-type Oil – H2O 13 kV, Air Blast 13 kV. The task definition and frequencies differ for each of the above Breaker Types based on the failure modes specific to each i.e. they all fail in different ways at different frequencies and therefore require different tasks be performed at specific intervals. We utilize a living program such that as new failure modes are identified and experience dictates; the maintenance tasks definitions or frequencies are modified.

PECO'S RESPONSE TO STAFF'S I&M QUESTION NO. 8.  
 OCA PROJECTED COSTS

Category	Incremental Costs	Explanation
Substation continued		<p>In general, there are 4 types of tasks with varying frequencies and definitions.</p> <ol style="list-style-type: none"> <li>1. This inspection approximates real-time condition monitoring that can detect developing problems and degradation, and provides condition data used to initiate corrective actions. Data collected is trended and analyzed within our computerized Equipment health system. This system generates alerts or condition based corrective maintenance. Frequency 5 weeks</li> <li>2. Predictive or Diagnostic in-service inspections include thermography and oil quality sampling. Typical frequencies are 6 months to 1 year.</li> <li>3. Operation, functional testing, Lubrication, Detailed inspections and Diagnostic testing tasks are indicated to ensure proper operation, replace wearable components such as filters and lubricants and identify the need for more intrusive internal component failures. Frequencies vary from 3 years to 6 years.</li> <li>4. Internal intrusive maintenance is performed on a subset of the circuit breaker population on a time directed or condition directed basis. Frequency varies between 6 and 18 years.</li> </ol> <p>It is important to note that not all tasks identified above can be applied to all components.</p> <p>For example you cannot test the oil of an air magnetic breaker, since there is no oil to test.</p>
\$14,791,250		



**BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

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

**PECO ENERGY COMPANY'S RESPONSES TO  
STAFF'S QUESTIONS FOR INTERESTED PARTIES TO  
ADDRESS AT THE JANUARY 22, 2007 TECHNICAL CONFERENCE**

Pursuant to the Commission's January 9, 2007 Secretarial Letter in this docket, PECO Energy Company ("PECO") hereby responds to Staff's questions concerning the comments filed by interested parties on November 6, 2006.

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**QUESTION NO. 1**

Proposed Section 57.198 (Inspection and maintenance standards) provides:

- (a) An EDC shall have a plan for the periodic inspection and maintenance of poles, overhead conductors and cables, wires, transformers, switching devices, protective devices, regulators, capacitors, substations and other facilities critical to maintaining an acceptable level of reliability, in a format the Commission prescribes. The Commission will review each plan and may issue orders to ensure compliance with this section. The Commission may require an EDC to submit an updated plan at any time containing information the Commission may prescribe.

Does your company have a periodic I&M plan for each type of equipment listed above? If not, please explain why not. Provide specific explanations in your response for each type of equipment.

**PECO'S RESPONSE TO QUESTION NO. 1**

Yes, PECO has a periodic I&M plan for each type of equipment listed in Proposed Section 57.198(a).

**QUESTION NO. 2**

If your company does have a periodic I&M plan for the equipment listed above, please list the I&M cycles that are followed for each type of equipment.

**PECO'S RESPONSE TO QUESTION NO. 2**

Please see the attached Excel spreadsheet labeled "PECO's Response to Staff's I&M Question No. 2. – PECO's Periodic I&M Plan."

**QUESTION NO. 3**

- (e) An EDC shall maintain the following minimum inspection and maintenance intervals:
  - (1) Vegetation management. The Statewide minimum inspection and treatment cycles for vegetation management are 4 years for distribution facilities and 5 years for transmission facilities.
  - (2) Pole inspections. Distribution poles shall be visually inspected every 10 years.
  - (3) Overhead line inspections. Transmission lines shall be inspected aurally twice per year in the spring and fall. Transmission lines shall be inspected on foot every 2 years. Distribution lines shall be inspected by foot patrol a minimum of once per year. If problems are found that affect the integrity of the circuits, they shall be repaired or replaced no later than 30 days from discovery. Overhead distribution transformers shall be visually inspected annually as part of the distribution line inspection. Above-ground pad-mounted transformers and below-ground transformers shall be inspected on a 2-year cycle. Reclosers shall be inspected and tested at least once per year.
  - (4) Substation inspections. Substation equipment, structures and hardware shall be inspected monthly.

For each of the four I&M intervals listed above, what are the I&M intervals utilized by your company?

**PECO'S RESPONSE TO QUESTION NO. 3**

Please see the attached Excel spreadsheet labeled "PECO's Response to Staff's I&M Questions Nos. 3-4 – PECO's I&M Intervals." Refer to the column labeled "Current PECO Practice."

**QUESTION NO. 4**

For each of the four I&M intervals, what is an estimate of the annual cost to convert from your company's current interval to those proposed above?

**PECO'S RESPONSE TO QUESTION NO. 4**

Please see the attached Excel spreadsheet labeled "PECO's Response to Staff's I&M Questions Nos. 3-4 – PECO's I&M Intervals." Refer to the column labeled "Estimated Annual Incremental Cost."

**QUESTION NO. 5**

For PECO, how could implementation of the proposed regulations reduce reliability by taking PECO's attention away from more important inspection and maintenance projects? What other more important projects are you referring to?

**PECO'S RESPONSE TO QUESTION NO. 5**

Static prescriptive rules do not keep pace with technology and the focus on schedules – as opposed to conditions – which often do not have a measurable or immediate impact on reliability. This can distort EDC priorities and prevent them from deploying resources to focus on emergent or high priority situations.

The draft regulation requiring that distribution lines and overhead transformers be inspected by foot patrols (Proposed § 57.198(e)(3)) is an example. PECO currently inspects its distribution lines and overhead transformers through a ground patrol using vehicles primarily and foot patrols where necessary. Vehicles enable PECO to inspect these facilities through the use of thermographic imagery, computer equipment and maps. Thermographic equipment allows PECO's personnel to see hot spots that are not visible to the naked eye. Computer equipment

and maps allow PECO to enter trouble information into its information systems so that the information can be recorded and managed on a priority basis. The proposed requirement of foot patrols will mean that PECO would not be able to spot troubles as effectively and efficiently as it does under its current practice. In addition, it would add \$3.5 million to PECO's annual I&M budget.

Another example relates to storm events. PECO's service territory experienced sixteen major storm events this year. When the storms hit, PECO's priority was to get customers who were out of service back in service as quickly as possible. If prescriptive standards were in place, repair priorities could have been distorted as a result of an emphasis on time-based standards instead of conditions.

#### **QUESTION NO. 6**

If the Commission were to adopt the edited Annex A version in the AFL-CIO's comments dated November 4, 2006, what would those changes to the regulations cost Pennsylvania ratepayers? Please justify an aggregate figure with specifics. Would the proposed additions to the proposed regulations better reliability performance in the EDC industry?

#### **PECO'S RESPONSE TO QUESTION NO. 6**

Please see the attached Excel spreadsheet labeled "PECO's Responses to Staff's I&M Question No. 6" for the projected costs of the AFL-CIO's recommendations. Those proposed additions to the draft regulations would not efficiently or effectively improve overall reliability performance in the EDC industry. First, they are focused on prescriptive time schedules. Second, their projected costs outweigh their benefits. If budgets were unlimited and rates were increased without regard to the impact on ratepayers, increasingly prescriptive I&M requirements could result in some minimal improvements in reliability. However, the question before the

Commission is whether the costs of proposed regulations outweigh the reliability benefits that may result from their implementation.

**QUESTION NO. 7**

If the Commission were to adopt minimum repair standards and time frames for corrective actions, what would your EDC recommend they be?

**PECO'S RESPONSE TO QUESTION NO. 7**

Please see the attached Excel spreadsheet labeled "PECO's Response to Staff's I&M Questions Nos. 3-4 – PECO's I&M Intervals." Refer to the column labeled "Current PECO Practice."

**QUESTION NO. 8**

Do you have any criticisms of the OCA's proposed revision to Annex A, and if so, what are they? What would the cost be to ratepayers if any in implementing the proposed regulations in Annex as revised by OCA? What would the benefit be?

**PECO'S RESPONSE TO QUESTION NO. 8**

PECO's criticisms of the OCA's proposed revisions are the same as those PECO identified with regard to the AFL-CIO's proposed revisions.

For the cost impact of the OCA's proposed revisions, please see the attached Excel spreadsheet labeled "PECO's Response to Staff's I&M Question No. 8."

Given the limited amount of time provided for these responses (six business days) PECO cannot answer Staff's final question.

**QUESTION NO. 9**

What are your objections, if any, to a 4-year tree trimming cycle for distribution lines? Would you accept a 5 or 6-year tree-trimming cycle? Would you prefer an average tree-trimming cycle as proposed by Duquesne Light?

**PECO'S RESPONSE TO QUESTION NO. 9**

PECO objects to a 4-year tree trimming cycle because this cycle would increase PECO's vegetation management costs by \$5 million per year but would only have a minimal impact on PECO's electric reliability. As PECO has set forth in its comments and testimony, a condition-based I&M plan for vegetation management (as well as the other I&M categories discussed in the proposed regulations), is the most effective and efficient way to maintain electric system reliability.

In response to Staff's second question, and without waiver of the foregoing, PECO could accept a 5 or 6-year tree-trimming cycle that focused on vegetation conditions and not simply time schedules.

In response to Staff's third question, Duquesne Light proposed "an average, rather than minimum cycle, so that those lines needing more attention can be trimmed on cycles that are shorter than the mandated requirement and those not requiring management . . . will be subject to a longer than average cycle." Duquesne's Nov. 6, 2006 Comments at 5. Duquesne further recommended that the vegetation management cycle be set at 6 years for distribution lines and 7 years for transmission lines. PECO believes that an average trimming cycle, as proposed by Duquesne Light, is consistent with PECO's condition-based approach to vegetation management. Therefore, PECO could support this approach.