Lower Makefield Township
Electric Reliability Committee (ERC)
January 8, 2015
Meeting Minutes

Present: Kristin Tyler
William Bogdan
James Ferraro
Richard Gorelick
Bernard Griga
John Kingham
James Kirlin

Apologies: James Lytle

The January 8,' 2015 meeting of the Lower Makefield Township Electric Reliability Committee (ERC) was called to order at 7:03 PM in Township Offices by Chairman Kingham.

A moments silence was held in honor of Supervisor Pete Stainthorpe who died in December 2014.

Approval of past minutes: The minutes of the meeting of December 1, 2014 were approved.

Agenda: The meeting agenda is appended to these minutes.

Old Business:

- **PECO Meeting**:

  The forthcoming meeting with Ted Dorand of PECO on January 12, 2015 at 11:00 a.m. in the Township offices was discussed at length. It was agreed that a subcommittee of Bogdan, Kingham and Kirlin would attend the meeting to support Supervisor Tyler and that the thrust of the discussion would be to emphasize the need for a positive working relationship with PECO. (See attachment 5.)

Sub-Committees:

- **Legal review sub-committee**: Following on from the previous item there was discussion led by Mr. Gorelick on the possible legal steps that may be taken with the PUC in the event that PECO is not forthcoming. It was emphasized that, for the most part, the possible avenues are very limited or are impractical but, at the very least, questions should be asked of the PUC. To this end Mr. Gorelick undertook to draft a ghost letter for consideration by the committee. It was also agreed that further discussion would be shelved pending the outcome of the January 12 meeting.
- **Smart grid review sub-committee:** The smart grid review documents submitted by Mr. Griga and Mr. Kirlin were discussed (See attachment 2). Mr. Griga reported that, even though there is plenty of promise for improved reliability from the technology, the implementation is necessarily slow and, in the short-term, it will not have any meaningful impact on the PECO service to Lower Makefield.
- **Review of other utilities:** In the absence of Mr. Lytle there was no discussion on the issue.

- **Tree Service:** The committee recognized the work done by Mr. Ferraro in researching the ordinances pertaining to trees (summarized in attachment 3). From a discussion concerning tree trimming on private property, Supervisor Tyler suggested that, if necessary, the Township engineers could be requested to carry out a survey. It was also suggested that, in conjunction with the EAC, a certified arborist could be invited to a public meeting to answer questions regarding tree planting and tree trimming around power lines in support of PECO's guidelines.

New Business:

- **Seeking improved Township electric reliability:** Mr. Bogdan introduced a draft document for future discussion (see attachment 4). The document lays out a 4-step approach to achieving the goals of the ERC. Using this approach the concerns, priorities, strategies and initiatives would all be defined. In view of the hour all discussion was shelved until the ERC February meeting.

ERC Meeting schedule:

It was confirmed that meetings in 2015 will be held on the second Thursday of each month in the Township offices at 7:00pm.

The meeting was adjourned at 8:21 pm.

Attachments:

1. Agenda
2. Smart grid technology review
3. Tree service review.
4. Improved reliability – 4-step approach

ERC Agenda Jan 8, 2015 Meeting:

1. Approval of minutes of December 1, 2014 meeting
2. Old business:
    a. PECO meeting Jan 12, 2015
        i. Objectives
3. Subcommittees
    a. Legal review sub-committee
        i. Channels open to LMT via the PUC, title 52 etc – Goerlick/Ferraro
    b. Smart grid review sub-committee
        i. Smart Grid – the Reality – Griga/Kirlin
    c. Review of other utilities - Lytle
    d. Tree Service Review – Ferraro
4. New business
5. Set date, time, place for next ERC meeting
6. Motion for adjournment

Jan 8, 2015

ERC Smart Grid Subcommittee (Griga, Kirlin) Report

Part 1. Smart Grid

In general the Smart Grid relates to the major electrical distribution systems and has been motivated by the major electrical distribution failure in the North East of America in 2009? The smart grid is hoped to improve reliability of the system by automatic sensing of overloads and automatic switching to avoid cascading failures. The main components are described below and as can be seen the mart grids would do little to alleviate the pocket failures in LMT

Modernizing America's electricity infrastructure is one of the U.S. Department of Energy's top priorities. The **DOE Strategic Plan** states that today's electric grid needs to be more efficient, reliable, and secure. A modern, smarter electric grid may save consumers money, help our economy run more efficiently, allow rapid growth in renewable energy sources, and enhance energy reliability. The Department's research into a variety of tools that will improve advanced system monitoring, visualization, control, operations, and market structure will ultimately modernize the electricity transmission infrastructure to ease congestion, allow for increases in demand, and provide a greater degree of security.

The Transmission Reliability Program is aligned with this strategic plan and focuses on three subprograms:

- The North American Synchrophasor Initiative
- Advanced Application Development
  - Automatic Switchable Network
  - Reliability Monitoring and Compliance Tools
- Reliability and Markets

The Transmission Reliability program has a collaborative role with American Recovery and Reinvestment Act programs in helping to improve grid monitoring and operations and ultimately achieve the OE mission.

THE NORTH AMERICAN SYNCHROPHASOR

INITIATIVE (NASPI)

The North American Synchrophasor Initiative (NASPI) is a working group of voluntary members collaborating to realize the promise of synchrophasor technology. Participants include electric power operating organizations; reliability coordinators; suppliers of monitoring and communications network hardware and software; and researchers from industry, universities, and national laboratories. These diverse partners work together to improve the electric power grid by facilitating the intelligent deployment of synchrophasor technology, ultimately improving the reliability and efficiency of the electricity delivery system. More information can be found at **https://www.naspi.org/**.

Advanced applications are being developed that utilize NASPI's deployment of synchrophasor technology and enable wide-area visualization, monitoring and control of the electricity delivery system.

Automatic Switchable Network This subprogram builds on the widespread use of phasor measurement units (PMUs) by creating advanced visualization technologies to allow power grid operators to more effectively assess the stability of the system. The subprogram is developing decision support tools that will inform power grid operators about desired courses of action based on the results of contingency analyses. The subprogram is also conducting statistical analyses of power grid operational data to assess abnormal grid behavior. When completed, these applications should be able to provide reliable early warning, enable grid operators to monitor grid stability in real time, and allow adequate time for grid operators to take informed remedial reaction.

Reliability Compliance and Monitoring Tools The subprogram is engaged in activities to improve the efficacy of data related to both disturbance event reports and general periodic (i.e., daily or monthly) reports. For example, data filters are being developed in order to effectively analyze the enormous amount of data coming from the increased and widespread use of PMUs. In addition, grid performance metrics and visualizations are being developed to better assess grid reliability and demonstrate performance patterns and trends. By increasing confidence in routine reports and their underlying data, lessons can be learned and actions can be taken to increase reliability and avoid repeating mistakes.

Jan 8, 2015

James Ferraro

Report to ERC on Tree Ordinance Considerations

I think what we need to determine before we move forward on any recommendations is to determine what level of information and cooperation is provided by PECO.

If we are provided with pocket-outage details and targeted upgrade specifics, we can then discuss LMT cooperation with PECO as to the foliage control efforts within their plan.

Below is a link to a search performed on the ISA-Arbor.com website; at a minimum, there are many, many resources to be found on the web. The US forestry service (http://www.na.fs.fed.us/) is another of these resources.

http://www.isa-arbor.com/searchResults.aspx?q=hazardous+trees&cx=010107291988267817406%3a7_5ek69s7bm&cof=FORID%3a9

Consider printing/distributing the forms from the links below:

Tree Hazard Evaluation Form…this provides a great overview of the many facets of hazardous tree evaluation.

http://www.isa-arbor.com/education/resources/educ_treehazardform.pdf

White Paper from ISA site that provides a more detailed overview of hazardous tree assessment.

http://www.isa-arbor.com/education/resources/educ_Portal_Risk_Whitepaper.pdf

Too large to print but 181 page brochure from the ISA site which provides Guidelines for Developing and Evaluating Tree Ordinances

http://www.isa-arbor.com/education/resources/educ_TreeOrdinanceGuidelines.pdf

Some PECO links below…many are dated

https://www.peco.com/CustomerService/ServiceRequest/TreesPowerlines/Pages/Maintenance.aspx

https://www.peco.com/CustomerService/ServiceRequest/TreesPowerlines/Documents/Vegetation%20Management%20Fact%20Sheet.pdf

http://clients.ajenda.com/PECO/site/assets/pdf/presskit/Veg%20Fact%20Sheet%20012609%20FINAL.pdf

http://tkolb.net/tra_sch/Gas_Elec_PECOBook.pdf

I can speak to my knowledge and understanding of the tree evaluation process but would hold off on moving forward with anything until cooperation is achieved with PECO

Seeking an Improved Township Electric Reliability

--- Proposed Guidance to Find Solutions (4 Steps) ---

Bogdan: Draft January 3, 2015

1. Identify the multi-concerns in improving Township Electric Reliability such as:

--ensured safety of all Township citizens (34,000)

--maintaining broad functionality of Township during outages

--future economic growth and enhanced wellbeing of Township

--changes to Township services to cope with outages

--Positive coordination with EDC (ie, PECO): facilitating, mutually supportive, consistent with Title 52, and other laws (?)

--County road emergency services, regional medical emergency services, school emergency provisions

--Electric tariff rates: current R&M rate; DSIC (Distribution Service Improvement Compensation) PA Law; or future: system performance based rate (?), shared infrastructure improvement rate (?)

--type of electric grid infrastructure: weather hardened (?), severe storm hardened (?), vegetation hardened (?), or whatever EDC provides without tariff rate increase (?)

--Township Tree & Vegetation Control Program, ordinance enhancements, EDC right-of-way

--Township and State electric reliability planning that allows for DOE Smart Grid improvements

--citizen support: need for education programs, citizen awareness, and citizen understanding

--supporting role of legislators: mutual expectations, posture, political correctness, Title 52 recommendations, provide PUC liaison

--Township liaison with PUC seeking support of PUC, consistency of Township actions with PUC policy.

--Other concerns? Word changes to above (?)

2. **Define priorities**: for each of the above concerns, assign a value of 1-high, 2-nearterm, 3-longterm, and 4-township has little or no influence.

3. **Develop implementing strategies** for a group of the above concerns.

4. **Summarize and define a set of ERC Initiatives** that include brief name, brief explanatory description, and implementing strategies.

Bogdan, Kingham, Kirlin

November 25, 2014

ERC-PECO Exploratory Conference Guidance

Purpose: Seek a more facile exchange of **Electric Circuit Data and PECO Upgrade Progress Information**.

ERC Goal: Provide clear and plausible information to the BOS and LMT residents on the ongoing progress of the PECO $10 million Upgrade.

Examples of Electric Circuit Data and Upgrade Progress Information Being Sought:

---Identify and assign a PECO engineer or engineers that the ERC can contact for questions and clarifications. Allow ERC to request an engineer to provide occasional focused and brief informational tours of LMT electric circuits of ERC interest and circuits recommended by PECO.

---Provide: 1) names of all electric circuits serving LMT; 2) PECO's anticipated percent reliability improvement for each circuit.

---At end of each Calendar Quarter, regularly provide quarter-ending12 month rolling averages of CAIDI, SAIDI, SAIFI, and MAIFI for each Township circuit. ERC requests that this data be provided in the format and similar content as defined for Appendix "A" of PECO's quarter ending reporting to the PUC.

---Enable ERC to regularly receive future copies of PECO quarter-ending reports to the PUC. Additionally for use as background data, provide ERC with the two quarter-ending reports prior to period ending June 30, 2014.

---Enable ERC to regularly receive copies of PECO's future Storm and Readiness reports to the PUC.

---Finally, ERC requests recommendations that PECO can suggest that would enhance and facilitate ERC technical understanding of Township circuit upgrades.

PECO Advantages for the Data Exchange-Arrangement.

The ERC will provide positive support to PECO through:

---ERC is a technically-oriented committee and was formed and established to provide competent, explanatory, detailed information to the BOS. Moreover as such, PECO can expect fair, objective, non-innuendo reporting from the ERC.

---ERC has ready-access to the Township website and can and is expected by the BOS to post periodic PECO Upgrade Progress Reports on the LMT website. ERC also has access and can request to make announcements on LMT's public television channels.

---ERC coordinates with the same County Emergency Management Offices, Fire Departments, Municipal Road Services, and the Legislative Offices of McIlhinney and Santarsiero as does PECO. The ERC can support PECO efforts to advise these agencies on electric grid upgrades and electric outages.

---In its business marketing initiatives, PECO could utilize its excellent close coordination with LMT as an exemplary example of how PECO can work and coordinate with other townships in Southeastern Pennsylvania.