

**BEFORE THE FLORIDA PUBLIC SERVICE
COMMISSION**

**FLORIDA POWER & LIGHT COMPANY
REBUTTAL TESTIMONY & EXHIBITS
OF
JOHN J. McEVOY**

DOCKET NOS. 070231-EI & 080244-EI

MAY 15, 2009

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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION
FLORIDA POWER & LIGHT COMPANY
REBUTTAL TESTIMONY OF JOHN J. MCEVOY
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MAY 15, 2009

Q. Please state your name and business address.

A. My name is John J. McEvoy. My business address is 4 Marlwood Lane, Palm Beach Gardens, Florida 33418.

Q. By whom are you employed and what is your position?

A. I recently retired from Florida Power & Light Company (FPL) and have been engaged by FPL to present rebuttal testimony in this proceeding on its behalf.

Q. Please describe your educational background and professional experience.

A. I have a Bachelor Degree in Electronic Technology from the University of Dayton, Dayton, Ohio. I joined FPL in 1973 and retired in December 2008. During the first 22 years of my career I served in a variety of positions in distribution operations, including Engineering Technician, Industrial Engineering Analyst, and Superintendent Meter Test Center. For the next 13 years I served as the Manager of Product Support, where I was responsible for FPL's Distribution Construction Standards (DCS), Distribution Engineering Reference Manual (DERM), customer metering as well as distribution overhead and underground equipment and equipment standards. My

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1 responsibilities for overseeing overhead and underground distribution
2 equipment and standards included performing factory quality audits for
3 overhead and underground equipment, evaluating overhead and underground
4 equipment performance, participating in manufacturers' user groups and new
5 equipment evaluations as well as reviewing and authorizing detailed
6 laboratory analyses of distribution equipment failures. I was also the manager
7 for the engineering team that developed the DERM addendum for FPL's
8 recent change to design and build its facilities to extreme wind loading
9 criteria. I also managed Distribution's Overhead Storm Forensic Team,
10 including FPL's 2004 and 2005 storm forensic efforts. For 20 years, I was
11 actively involved with various committees within several industry associations
12 including the American National Standards Institute, the Edison Electrical
13 Institute, and the Association of Edison Illuminating Companies, where I was
14 the past Chairman of the Meter & Service Committee.

15 **Q. Have you previously testified before this Commission?**

16 A. Yes, I have. I testified for FPL concerning the National Electric Safety
17 Code's extreme wind loading criteria in Docket No. 070301-EI.

18 **Q. What is the purpose of your rebuttal testimony?**

19 A. I am responding to the portions of the testimony submitted on behalf of the
20 Municipal Underground Utilities Consortium (MUUC) by witnesses Peter J.
21 Rant and Lloyd D. Shank that relate to their opinions on the relative
22 performance and long-term costs of operating and maintaining distribution
23 overhead and underground facilities and systems.

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PERFORMANCE – OVERHEAD VS. UNDERGROUND SYSTEMS

Q. Both MUUC witnesses claim that distribution underground facilities are far superior and perform significantly better than overhead distribution facilities (e.g., more reliable and lower restoration costs). Do you agree with these claims?

A. No. I believe that the MUUC witnesses have substantially over-generalized and over-simplified their conclusions about complex performance characteristics. My experience does not support these general claims, and I am not aware of any analysis that indicates or concludes that, overall, underground facilities are far superior to overhead facilities. There are situations where underground facilities may perform better than overhead facilities; however, the reverse can also be true. For instance, I believe day-to-day reliability results have indicated historically that underground facilities generally perform better in the area of frequency of outages, i.e., customers served by underground systems generally experience fewer outages. On the other hand, historically, overhead facilities that have been damaged or have failed generally required less time to repair than underground facilities. Also, during major storm events, overhead systems are typically more susceptible to failure during heavy wind events, whereas underground systems are typically more susceptible to failure following events with flooding and/or storm surge issues.

1 **Q. MUUC witness Shank states that underground distribution systems are**
2 **preferred by utilities for their reliability and cost-savings benefits and,**
3 **“in the real world”, the standard for new distribution facilities. Do you**
4 **agree with these statements?**

5 A. No. As I have previously discussed, whether one considers reliability, costs,
6 and/or cost-savings benefits, both underground and overhead systems have
7 their advantages as well as disadvantages. While it may be true that Mr. Shank
8 can identify utilities that prefer underground distribution systems, based on
9 my experience, there are also many utilities that prefer overhead distribution
10 systems. Also, while it is true that now there are many more municipalities
11 and counties that require the installation of underground for certain new
12 construction, this is done primarily to achieve improved neighborhood
13 aesthetics. Finally, despite Mr. Shank’s claim that “in the real world”
14 underground distribution systems are the standard for new construction, I am
15 not aware of any investor-owned utility that has adopted underground
16 construction as its standard for all new construction.

1 **LONG-TERM COSTS – OVERHEAD vs. UNDERGROUND**

2 **Q. Both MUUC witnesses assert that underground facilities are less costly to**
3 **operate and maintain, because they avoid certain costs more commonly**
4 **associated with overhead facilities (e.g., vegetation management and**
5 **restoration costs associated with non-major weather events). Do you**
6 **agree with these assertions?**

7 **A.** Based on my experience, I would have to say that the MUUC witnesses are
8 again over-generalizing and over-simplifying their conclusions. While it is
9 true there are certain overhead system costs that can be avoided with an
10 underground system, vegetation management costs being the best example,
11 the opposite is also true. Obviously, because underground facilities are buried
12 and not visible, visual inspections are not possible, making the maintenance
13 and repairs for underground systems far more difficult, time consuming and
14 costly. In fact, just locating an underground fault requires special equipment
15 and training, and can often require temporary solutions to restore power to
16 customers until the fault can be located and repaired. Underground lines might
17 also require a separate crew with heavy equipment to dig up a line and a
18 specialized crew to repair the fault. Additionally, difficult terrain, e.g., coral
19 rock and water intrusion, which is very abundant in the southern part of
20 Florida, can significantly increase the cost of underground maintenance and
21 repairs. Also, repairs to property, e.g., excavation within sidewalk and
22 roadway areas is quite common, making consequential damages sometimes
23 significant when performing underground maintenance and repairs.

1 **Q. MUUC witness Rant asserts that significant technological improvements**
2 **in underground construction and increases in overhead construction**
3 **costs due to FPL's hardening initiatives will result in decreasing life cycle**
4 **costs for underground and increasing life cycle costs for overhead. Do you**
5 **agree with this assertion?**

6 **A.** At this time, I believe the most accurate way to answer the question is to say
7 that no one, including Mr. Rant, has the actual data to reach conclusions about
8 the relative life-cycle costs of overhead and underground facilities being
9 installed today. I agree that there have been technological gains with
10 underground construction methods and products. However, I am hesitant to
11 conclude, as Mr. Rant has, that these technological gains will translate into
12 reduced life-cycle operational costs. As we all know, Florida, and particularly
13 South Florida, can be a harsh environment for underground equipment. Each
14 generation of new underground technology has raised hopes that it will
15 perform well in this environment, however this newer equipment has not been
16 in-service long enough to prove these claims. From my experience, overhead
17 equipment tends to be less complex than the corresponding underground
18 equipment (e.g., overhead disconnect switches have far fewer parts than
19 underground disconnect switches). One of the cardinal rules of reliability is
20 that "less is more" when it comes to operating and maintaining equipment. In
21 my opinion, the statement that the operation, maintenance and capital costs for
22 underground facilities will be less than the corresponding cost for OH
23 facilities does not correspond with operating experience and can only be based

1 on an unproven hope that newer technological equipment will work
2 flawlessly. This is not the way for a utility to plan future performance and
3 expenses.

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5 I also would not be as quick as Mr. Rant is to dismiss the potential reductions
6 in life-cycle operational costs that may be achieved by the newer overhead
7 construction methods and products. This would include the use of stronger
8 spun concrete poles; new disconnect switches that virtually allow an
9 automatic sectionalizing point to be installed almost anywhere on a circuit;
10 heavy duty cut-out fuse switches for use in high load situations; new
11 electronic reclosers for use in protection; auto restoration schemes that should
12 improve reliability, protection and minimize potential equipment damage; and
13 new coatings to protect equipment in salt spray areas. I also would like to
14 point out that I believe FPL's new hardening construction standards, e.g., the
15 use of stronger wood poles and more concrete poles, should result in future
16 lower life cycle costs for overhead construction.

17
18 It is my understanding that FPL has used the best information available to
19 develop its overhead and underground operational costs: historical costs. In
20 the future, if any benefits or savings associated with technological gains
21 and/or FPL's hardening efforts are realized, they will be appropriately
22 incorporated and reflected in FPL's operational cost calculations.

1 Q. **Does this conclude your rebuttal testimony?**

2 A. Yes.