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Progress Energy

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Ms. Blanco Bayo, Director
Division of the Commission Clerk
And Administrative Services
Florida Public Service Commission
2540 Shumard Oak Blvd.
Tallahassee, FL 32399-0850

Re: Progress Energy Florida, Inc.'s Post-Workshop Comments on Staff's January 23, 2006 Electric Infrastructure Workshop

Dear Ms. Bayo:

Progress Energy Florida, Inc. ("PEF") appreciates the opportunity to provide the Florida Public Service Commission ("PSC") with the following comments on the issues raised at the Staff's January 23, 2006 Electric Infrastructure Workshop. These comments supplement the presentation PEF made to the Staff at the workshop and the detailed responses to the Staff's December 7, 2005 data requests, which we provided to the Staff on January 20, 2006. PEF welcomes the Commission's review of these important issues and its consideration of all stakeholders' views.

As we emphasized at the Staff Workshop, "hardening" and undergrounding the electric transmission and distribution ("T&D") systems involve complex engineering, operational and financial issues, for which there is no "silver bullet" or "one-size-fits-all" solution. We agree with the "toolbox" concept that was introduced at the workshop in that we believe there are likely a number of potential mitigation alternatives or "tools" that could make more or less sense for a particular area depending on its specific characteristics. To ensure maximum benefit for the dollars invested, we believe it is critical to both develop effective mitigation tools and an understanding of where they can provide the most value.

PEF recognizes that many communities would like to underground existing overhead facilities. As we saw in the 2004 hurricane season, underground facilities generally performed much better than overhead facilities, except in coastal and flood-prone areas. We do know, however, that any long-term solution will come with significant costs. For example, the Commission Staff indicated in its March 2005 "Preliminary Analysis of Placing Electric Utility Transmission and Distribution Facilities Underground," that the undergrounding of the five Florida investor-owned utilities' existing T&D systems would cost a minimum of $136.4 billion (in 2003 dollars), not

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including the costs on the customer's side of the meter and the costs of undergrounding collocated facilities, such as cable TV and telephone lines, which could double the initial, conservative cost estimates. Part of this process will require the considerable cost to be evaluated and weighed against the benefit of any potential undergrounding or hardening options prior to implementation.

With those general principals in mind, the Commission and the Legislature should consider several short-term options that can facilitate the hardening of the existing T&D systems and improve reliability and outage restoration during storm events. Short-term options include: (1) enacting legislation that would strengthen a utility's ability to trim trees, expressly allow a utility to condemn for danger trees, and prohibit individuals and local governments from planting vegetation in conflict with T&D facilities; (2) reviewing potential changes to Federal Communications Commission attachments to utility poles without the prior authorization by the utility; (3) funding a study with the University of Florida and University of South Florida to identify potential T&D system "hot spots" that may warrant additional hardening or undergrounding; (4) initiating a pilot program to evaluate the feasibility of new T&D technologies; and (5) promoting legislation that would facilitate the ability of customers to fund underground conversion projects.

In the longer-term, the utilities, working with all stakeholders, should undertake a detailed study to identify specific T&D system hardening "toolboxes" and "roadmaps," which could include targeted underground conversion projects, wood transmission pole replacements, and other promising new technologies, as well as an evaluation of specific tools most applicable to specific local conditions, the costs and benefits to all stakeholders of implementing the roadmap, and the funding mechanisms for the roadmap.

What PEF Found During the 2004 Hurricane Season

PEF performed detailed damage assessments during and after each storm in 2004. We also conducted an extensive evaluation of overall system storm performance (both internally and in conjunction with Davies Consulting, a nationally recognized electric utility engineering and consulting firm, on the Distribution side) following the 2004 season. We found that:

- Damage followed the storm track center;
- Trees and flying debris striking overhead lines caused most of PEF's outages;
- Overall damage was more a function of placement (e.g., rear lot, proximity to vegetation) than type, age or design of facilities. In other words, construction standards are of less importance than location and surrounding characteristics, since they would not prevent the type of damage that we saw (contact vs. wind damage). We believe that placement of facilities (e.g., near trees or in the rear lot line) constitutes a better indicator of risk and is more relevant to identifying hardening alternatives;

- Higher voltage concrete and steel transmission poles performed better than single wood transmission poles; and
- Underground distribution facilities performed better than overhead facilities.

Short-Term Options the Commission and Legislature Should Consider

Based on these findings, PEF recommends that the Commission undertake the following short-term actions.

1. Vegetation Management

Improving the storm performance of overhead T&D systems depends heavily on vegetation management. In the case of Distribution, rear lot line presents additional challenges due to heavy vegetation, other damaging projectiles (e.g., sheds, fences), and limited access. Customer preferences and local ordinances often limit how aggressively PEF can trim trees. In addition, much of our T&D network is constructed on public road rights-of-way ("ROW") adjacent to heavily wooded private property. Limited access to this property hinders our ability to adequately trim trees, which can lead to outages; particularly during storms. Utilities need greater authority to trim and remove trees. Legislation should be introduced this year that would: (1) preempt local government tree-trimming ordinances that allow tree planting in conflict with utility infrastructure; (2) expressly authorize utilities to condemn for danger trees; and (3) allow tree-trimming to NESC standards and preempt inconsistent local ordinances. These relatively simple steps will allow for additional hardening of the system.

2. Undergrounding Incentives

PEF recognizes that many communities would like to underground existing overhead facilities. As we saw in the 2004 hurricane season, underground facilities generally performed much better than overhead facilities, except in coastal and flood-prone areas. The Commission and the Legislature should consider implementing new incentives to foster underground conversions. These could include:

- State and/or local fees collected on utility customer bills that the utility sets aside to cover the cost of targeted undergrounding projects.
- Tax incentives to assist in funding undergrounding projects.
- Promoting special purpose financing vehicles to privately finance undergrounding projects.
- Implementing a state tax to fund undergrounding projects in identified system "hot spots."

- Establishing special taxing districts in which local governments within the district may join to raise funds for undergrounding projects.

3. Utility-University "Hot Spot" Studies

The Workshop showed that our universities and utilities have developed and are continuing to develop extensive weather, damage and reliability data that could be used to better identify possible areas where targeted system hardening may be beneficial. We should leverage this expertise and perform a joint study to determine whether there exists in Florida certain damage prone areas or T&D system "hot spots" that possibly warrant additional hardening in those areas. During February, we plan to discuss the potential for a joint study with the university experts that participated in the Workshop and, if feasible, install wind measuring devices or other such equipment in our service territory to begin collecting data to use in the joint study.

4. New Technology Review

PEF evaluates new technology as part of its normal course of business. The Workshop highlighted several new technologies that PEF has reviewed, but which we plan to evaluate again. Given the cost and uncertainty of the new technology, PEF recommends that the Commission consider initiating and funding a pilot program under which utilities would study the feasibility of new technologies, including, where feasible, the limited installation of certain new technologies on a utility's system.

Long-Term Options the Commission Should Consider

1. Developing a "Toolbox and Hardening Roadmap"

In the longer-term, the utilities working with all stakeholders should undertake a detailed study to identify specific T&D system hardening "tools" and "roadmaps," which could include targeted underground conversion projects, wood transmission pole replacements, and other promising new technologies, as well as an evaluation of specific tools most applicable to specific local conditions, the costs and benefits to all stakeholders of implementing the roadmap, and the funding mechanisms for the roadmap.

As we noted at the Workshop, PEF saw a difference between the performance of its transmission wood poles and its concrete and steel structures. While PEF no longer builds new transmission structures with wood, wood poles nonetheless comprise about 80 % of our transmission. Although we estimate the cost of replacing the wood poles with concrete or steel conservatively at $800 million to $1 billion, it makes sense to further evaluate the migration to concrete and

steel transmission structures. This review should be accomplished in a reasoned, methodical manner, with input from all stakeholders.

We recommend that the study also review the potential for targeted underground conversions of the distribution system. PEF places more than 2/3 of new distribution construction today underground, and many of our customers in some of our most densely populated areas are served by underground facilities. The principal issue, therefore, is the conversion of existing overhead to underground lines. We agree that underground facilities provide real advantages (particularly during wind events) and can make sense for certain areas. But we also need to continue to be mindful of the significant costs and complex issues associated with underground conversions.

First, we know from experience that underground systems are extremely expensive. As an example, our detailed estimates for one small town in our service territory with about 2,500 customers (Belleair) showed total *electric-only* conversion costs of about $11 million (or an average of $4,400 per customer). This does not include any costs of obtaining easements, conversion of telephone/cable facilities, which could easily cost as much as the electric facilities conversion, costs on the customer side of the meter, or restoration. It is also important to note that this estimate was reduced by the fact that the town is almost exclusively residential and about 25% of customers are already underground (many others already have underground service drops from overhead primary). This demonstrates again that we will have to work methodically with our communities in seeking out innovative ways to accommodate their under grounding request.

Second, while outages are less frequent, they result in longer restoration times due to the difficulty of locating and accessing faults. In general, it takes about 1 ½ times as long to restore underground outages as overhead systems.

Third, underground equipment does not last as long as overhead equipment. PEF's experience shows that underground equipment performance can degrade significantly in 25-30 years versus overhead, which typically lasts longer than 40 years. Replacement costs also well exceed that of overhead facilities.

Fourth, it may not make sense to place underground facilities in certain geographic areas such as flood zones and certain coastal areas. Underground cable corrodes more quickly when exposed to salt and other water intrusion. Any hardening roadmap needs to take these factors in consideration.

PEF stands ready to undertake these reviews and to work with communities to evaluate the value of underground retrofits in their specific circumstances. The costs of such retrofits are significant and we cannot make them go away. This notwithstanding, there are societal benefits of restoring economic activity more quickly. In any evaluation, however, we must fully evaluate

the potential funding sources for underground conversions, particularly in suitable geographic areas.

We agree that the Commission's evaluation is the right thing to do in light of recent hurricane experience. However, we stress that our current system, with all of its tradeoffs between cost and performance, has served Florida's customers well for more than 100 years. As we consider changes to this balance, we should be very careful to weigh the benefits and the costs and be confident that we are truly making changes for the better.

PEF looks forward to being an active participant as this process continues, to working with all stakeholders in the process and for the opportunity to provide these additional comments.

Sincerely,