

# ORIGINAL

## MEMORANDUM

August 25, 2006

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COMMISSION  
CLERK

TO: DIVISION OF THE COMMISSION CLERK AND ADMINISTRATIVE SERVICES

FROM: OFFICE OF THE GENERAL COUNSEL (GERVASI) *pgs*

RE: DOCKET NO. 060198-EI - Requirement for investor-owned electric utilities to file ongoing storm preparedness plans and implementation cost estimates.

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Attached is a document regarding Vegetation Management Cycle for Distribution Circuits (3 pages), to be filed in the above-referenced docket.

DATE DOCUMENT SENT TO CCA

*8/25/06*

RG

Attachment

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FPSC-COMMISSION CLERK

# 1) Vegetation Management Cycle for Distribution Circuits

Per Order No. PSC-060351, PEF assessed the feasibility of a three-year vegetation management (“VM”) cycle for all distribution circuits and compared the results to an alternative plan.

As a result of recent hurricane experience and the analysis noted above PEF recommends a fully integrated vegetation management (“IVM”) program. The tenets of the IVM program include the following subprograms: public education, routine maintenance “trimming,” herbicide applications, right-of-way floor brush “mowing”, vine removal, and customer request work “tickets”. The IVM program also incorporates a combination of both cycle based maintenance and reliability driven prioritization of work that includes:

- All feeder backbones trimmed on a 3 year cycle,
- All feeder laterals trimmed on a 5 year cycle. Laterals will be prioritized based on a combination of schedule and reliability performance, thus providing a “safety net” to identify and correct a wide variety of adverse trends in reliability metrics.
- Annual pre-hurricane season patrols of all feeder backbones and corrective spot trimming.

The combination of cycle based trimming miles and annual pre-hurricane season patrols of feeder backbones will result in an “effective cycle” of less than 3 years for all overhead circuit miles.

	Total Miles	PEF IVM		FPSC Plan	
		Annual Miles	Effective Cycle	Annual Miles	Effective Cycle
<b>Feeder Backbone</b>	3,800				
3 year cycle		1,267		1,267	
Pre-Hurricane Season Patrol (net)		2,533			
<b>Feeder Lateral</b>	14,200				
3 year cycle		---		4,733	
5 year cycle		2,840		---	
<b>Total</b>	18,000	6,640	2.7 years	6,000	3 years

Based on these considerations, PEF has revised its vegetation management contracts to add items such as:

- Cutting brush within an eight foot radius of all device poles,
- To the extent practical and reasonably feasible, felling “dead danger trees” within 25 feet of the closest conductor that have a high likelihood of falling on the conductors; and
- Cutting of underbrush instead of topping it.

These items have been added to help address some of the emerging issues in both the preventable and non-preventable tree-caused outage categories.

In general, the main objectives are to optimize the IVM program cost against reliability and storm performance objectives. Some of the main program objectives are:

- Customer and employee safety;
- Effective cost management; and
- Tree caused outage minimization, with the objective to reduce the number of tree caused outages, particularly in the “preventable” category;
- Customer satisfaction.

As part of the IVM program, PEF has implemented a comprehensive feeder prioritization model to help ensure that tree caused outages are minimized by focusing on the feeders that rate high in the model. Prioritization ranking factors are based on past feeder performance and probable future performance. Some of the criteria used in feeder prioritization include the number of customers per mile, the number of tree caused outages in prior years, outages per mile, the percentage of outages on backbone feeders, the percentage of total tree outages categorized as preventable (i.e., outages caused by trees within PEF rights-of-way), and total tree customer minutes of interruption (“CMI”). In implementing this prioritized process, PEF follows the ANSI 300 standard for pruning and utilizes the “Pruning Trees Near Electric Utility Lines” by Dr. Alex L. Shigo.

PEF intends to maintain an effective trimming cycle of three years or less. Although PEF works toward a benchmark goal of a three-year weighted average system maintenance cycle, it balances this goal against overall system reliability, customer impact, and cost effectiveness in determining its ultimate trim cycles. In some instances, PEF may defer maintenance on some feeders without significantly impacting reliability while accelerating maintenance on other feeders that are experiencing more significant issues than others. This approach creates a “safety net” for detection of a wide variety of adverse trends in reliability metrics and has resulted in a significant improvement in system reliability, as measured by SAIDI, since 2001, including an improved SAIDI related to tree caused outages.

PEF's comparison of performance and incremental cost over a 10 year period are summarized below.

	Tree SAIFI in 10 years	Avg Annual Storm CI avoided per event	Annual Cost (\$M's)	Annual Cost Increment (\$M's)	Cost per avoided storm CI
FPSC Plan	0.183	40,500	26.5	12.0	\$ 296
PEF IVM	0.192	34,600	19.5	5.0	\$ 145
PEF Base Plan	---	---	14.5	---	---

By focusing on the feeder backbone PEF's IVM achieves a majority of the improvement at lower cost. The incremental \$7 million needed for the FPSC plan is focused on feeder laterals which have significantly lower customer exposure, higher tree density, are less prone to preventable tree impacts from within the right-of-way and more prone to non-preventable impacts from outside the right-of-way. This results in a higher incremental cost of projected reductions in storm related CI. A mandatory three-year trim cycle without regard to system reliability, customer impact, and cost-effectiveness would not benefit PEF's customers when compared to a focused and targeted plan such as PEF's IVM program. Additionally, in recent years, PEF has experienced availability challenges within the tree trimming labor force in Florida. A non-targeted, mandatory three-year trim cycle would adversely impact all electric utilities within the state by forcing them to compete for an already scarce resource. Such demand could be expected to inflate costs for all utilities and raise significant barriers to full implementation. Further, a mandatory, non-targeted three year cycle would not provide the flexibility that PEF can currently leverage to address tree conditions that can vary significantly depending a number of variables, most significantly rainfall and weather conditions. PEF estimates that a mandatory three-year cycle would immediately increase costs by approximately \$7M in the first year of its implementation and could increase PEF's overall budget needs at a conservative rate of three percent (3%) per year.

PEF endorses the IVM approach and has fully implemented it in 2006. The IVM plan enables more effective management of tree resources while providing the maximum overall benefit to our customers. As a result of PEF instituting an IVM program, PEF was recently recognized as a 2006 TreeLine USA company.

PEF recommends annual re-evaluation of this plan using performance and forensics data to ensure continuous improvement.