

01-24-06

Memorandum

Date: January 24, 2006

To: Honorable Chairman Joe A. Martinez,
and Members, Board of County Commissioners

From: Honorable Bruno A. Barreiro, Chairman
and Members, Underground Wiring Committee

Subject: Report regarding the installation of Underground Utility Facilities throughout Miami-Dade County

A handwritten signature in black ink, appearing to read "Bruno Barreiro". The signature is written in a cursive, somewhat stylized script.

The following report is provided for Board consideration pursuant to Resolution R-1438-04, which established a Committee to study the feasibility of having electrical, cable and telephone distribution facilities installed underground within the next five to fifteen years as a means of reducing utility outages resulting from hurricanes or other severe weather events, with the purpose of providing recommendations which would outline available options regarding the conversion from overhead to underground facilities throughout the County. The focus of this Committee was to identify preventative and proactive measures which would help reduce widespread power outages and associated hazardous conditions. As a result, a committee of key players in the utility industry such as Florida Power and Light, BellSouth, Comcast, Adelphia, Florida Cable Telecommunications Association, a representative from the Miami-Dade County League of Cities and pertinent county staff have met on a monthly basis over the past year and formulated a number of recommendations for your consideration.

Background

Every year Miami-Dade County faces a hurricane season that threatens our community with the peril of high winds, storm surge and related natural conditions. In 1992, Miami-Dade County suffered widespread electrical outages as a result of Hurricane Andrew. This year, the County suffered widespread electrical outages as result of two severe storm events within a month of each other, Hurricane Katrina and Wilma. Hurricane Katrina caused more than 600,000 customers within the County to lose electrical service due to downed utility lines and poles. Hurricane Wilma caused more than 950,000 customers to lose power. Much of the power loss being attributed to damage caused by fallen tree limbs on essential wires or utility poles broken due to heavy winds.

Severe weather events such as this pose not only hazardous conditions in relation to downed utility poles and lines but impact the operation of pumps stations which are crucial in properly maintaining sewage flows. Many homes on well water that require electricity to perform basic household functions including the ability to flush toilets, lose power under storm conditions which can result in a potential health hazard. In the aftermath of Hurricane Wilma, only 18 traffic signals were operational out of a total of 2,635, posing an immense safety risk to traveling emergency personnel and others who required use of the roads immediately following the event. Many of the hotels and restaurants frequented by tourists along the county beachfront areas were without needed power to service their guests. With the loss of power comes the inability of the public to use effected fueling stations as their pump mechanisms require electricity to dispense the fuel from the tanks. This not only inhibits the fueling of cars but hampers residents and businesses, including food stores, from obtaining fuel for their emergency generators. During Hurricane Wilma the County experienced a loss in use of more than 90 percent of privately owned gas stations. With repairs and restoration of the service to utility customers taking up to several weeks to complete in many areas, it is essential that proactive measures be taken prior to our next severe weather event to prevent a repeat of this experience.

Feasibility Study

An obvious primary reason for relocating overhead wiring is to reduce the impact on power outages experienced by hurricanes like Andrew, Katrina and Wilma. Another valid reason for the migration of overhead to underground facilities is aesthetic. As electronic communications become a larger part of home life and businesses and the number of service providers' increase, there is a resulting proliferation of wires. Removing such obstructions has been shown to increase marketability of homes. In a community where our tree canopy provides essential shading, removing overhead wiring to allow for expanded tree canopy growth can assist in the lowering of energy costs. In addition, by installing facilities underground there is a potential to increase buildable space in an area limited by overhead lines. Underground facilities can also improve service reliability and the less likelihood of suffering from power, telephone and cable outages during a storm event as the essential utility equipment is less susceptible to wind damage. The recovery efforts during our past two hurricanes reflected a more efficient return of power to areas with underground facilities.

However, there are a few challenges associated with such conversions. The Committee has been advised that: a) the costs of such conversions may be approximately 5 to 10 times the cost of comparable overhead facilities and b) equipment placed underground may be more prone to damage during flooding incidents and may require a longer repair time if flooding does not abate. Determining the source of an electrical problem may be more challenging as the majority of the equipment is not visible. There is still a need to place certain equipment such as pad-mounted switches and transformers which undermines some of the aesthetic advantages of underground facilities. In the placement of facilities underground, there can be impediments to after-the-fact placement such as sidewalks driveways, private fences, etc. Most importantly, prior to any underground outside of the public right-of-way, an easement must be obtained from private property owners which can be time consuming, difficult and expensive.

Recommendation

The established Underground Wiring Committee has developed the following recommendations to facilitate the removal and installation of utility facilities underground:

- Bond Issue/Referendum – Put forth before the voters a bond referendum that would finance the conversion of utilities from overhead to underground thereby improving the reliability of service. Funds generated by the passage of a Bond Referendum would generate the needed capital for replacement of the current overhead facility infrastructure. The Committee offers the following approach in establishing priorities in undertaking such an immense project. As the burying of wires will take many years, the change would be carried out through a series of projects over a fixed period of time. The initial conversion projects would focus on areas that have a high incidence of failure, high density of population and a low probability of flooding. In areas that may be prone to flooding, funding would be used to strengthen the aboveground infrastructure, such as replacing wooden poles with concrete or making visible transformers more aesthetically pleasing. The conversion process would be scheduled to occur during the Hurricane off-season in order to avoid weather related delays.

In the aftermath of an extreme weather event that causes widespread damage, utility service providers incur significant costs in assessing damage and completing the restoration. In order to recoup these costs, it is necessary for the provider to pass on a surcharge to customers. This can amount to millions of dollars being continually spent to replace a less reliable overhead

infrastructure. A more cost-effective approach/proactive measure would be for the County to work with the utility providers to make such bond funds available for conversion efforts.

- Extensive Building Remodeling – Amend the Building Code to the extent possible locally or at the state level, to require undergrounding the service to facilities when a property owner makes improvements to an existing residential, commercial and or industrial structure by 50 percent or more. Also, amend the Building Code to mandate that all new residential, commercial and industrial developments be required to install utilities underground.
- New highway/main arterial roadway improvements – Implement the placement of utilities underground along the right-of-way on county and state improvement projects involving main highways, arterial and feeder roads, in coordination with the Metropolitan Planning Organization (unless determined not to be feasible). This has the potential to benefit many local businesses located adjacent to these improvement projects that would be positively impacted by the utilities relocation.
- Special Taxing Districts – Inform the public about the benefits of forming a special taxing district that would require approval of a certain percentage of property owners in a district to petition for conversion. The improvements would be paid for by the property owners through special assessments (see attachments).

Additionally, Chapters 197 and 170 of the Florida Statutes allow municipalities to fund underground conversion costs by levying special assessments imposed on tax bills. Landowners benefiting from the conversion must be identified and the special assessment may be collected directly from the local government imposing the assessment or through annual property tax bills.

Another Florida Statute --125.01(q) – permits counties to establish municipal service benefit units and municipal service taxing units in certain areas. These governmental units may levy service charges, special assessments or taxes within these units to fund underground conversion costs.

- Tree Location Approval – Amend the Zoning Code to the extent possible locally or at the state level, to require the Department of Planning and Zoning to ensure during the permit review process that any required tree placement or replacement at a subject property be done in accordance with Chapter 18A.

The Committee also discussed the need to strengthen and enforce action taken against property owners for planting under power lines in violation of Chapter 18A. Many of the documented downed power, telephone and cable lines could be attributed to fallen trees and limbs. A public information campaign combined with stronger enforcement of the code would assist in ensuring that trees are not planted or maintained in a way that would negatively impact our utility services under storm conditions. This could be accomplished through the County's adoption and continual promotion of FP&L's "Plant the Right Tree in the Right Place" campaign. Finally, it is the Committee's consensus that the recommendations adopted by this Board be reevaluated every 5 years to ensure that the County with the assistance of this Board continues to address proactively means at which power, telephone and cable outages affecting the residents of this County are reduced.

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By working in conjunction with our utility providers in the implementation of the proposed recommendations, we assist in facilitating the provision of a safer and more reliable utility service for the residents and businesses of Miami-Dade County.