



**Town of Surfside
Special Town Commission Meeting
AGENDA**

**September 26, 2017
5:30 p.m.**

Town Hall Commission Chambers - 9293 Harding Ave, 2nd Floor
Surfside, FL 33154

Rule 7.05 Decorum. Any person making impertinent or slanderous remarks or who becomes boisterous while addressing the commission shall be barred from further appearance before the commission by the presiding officer, unless permission to continue or again address the commission is granted by the majority vote of the commission members present. No clapping, applauding, heckling or verbal outbursts in support or opposition to a speaker or his or her remarks shall be permitted. Signs or placards may be disallowed in the commission chamber by the presiding officer. Persons exiting the commission chambers shall do so quietly.

Any person who received compensation, remuneration or expenses for conducting lobbying activities is required to register as a lobbyist with the Town Clerk prior to engaging in lobbying activities per Town Code Sec. 2-235. "Lobbyist" specifically includes the principal, as defined in this section, as well as any agent, officer or employee of a principal, regardless of whether such lobbying activities fall within the normal scope of employment of such agent, officer or employee. The term "lobbyist" specifically excludes any person who only appears as a representative of a not-for-profit corporation or entity (such as charitable organization, a trade association or trade union), without special compensation or reimbursement for the appearance, whether direct, indirect, or contingent, to express support or opposition to any item.

Per Miami Dade County Fire Marshal, the Commission Chambers has a maximum capacity of 99 people. Once reached this capacity, people will be asked to watch the meeting from the first floor.

1. Opening

- A. Call to Order**
- B. Roll Call of Members**
- C. Pledge of Allegiance**

2. Presentation from Dr. Kury on Undergrounding Powerlines – Guillermo Olmedillo, Town Manager

3. Discussion

4. Adjournment

Respectfully submitted,



Guillermo Olmedillo
Town Manager

THIS MEETING IS OPEN TO THE PUBLIC. IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT OF 1990, ALL PERSONS THAT ARE DISABLED; WHO NEED SPECIAL ACCOMMODATIONS TO PARTICIPATE IN THIS MEETING BECAUSE OF THAT DISABILITY SHOULD CONTACT THE OFFICE OF THE TOWN CLERK AT 305-861-4863 EXT. 226 NO LATER THAN FOUR DAYS PRIOR TO SUCH PROCEEDING.

IN ACCORDANCE WITH THE PROVISIONS OF SECTION 286.0105, FLORIDA STATUTES, ANYONE WISHING TO APPEAL ANY DECISION MADE BY THE TOWN OF SURFSIDE COMMISSION, WITH RESPECT TO ANY MATTER CONSIDERED AT THIS MEETING OR HEARING, WILL NEED A RECORD OF THE PROCEEDINGS AND FOR SUCH PURPOSE, MAY NEED TO ENSURE THAT A VERBATIM RECORD OF THE PROCEEDINGS IS MADE WHICH RECORD SHALL INCLUDE THE TESTIMONY AND EVIDENCE UPON WHICH THE APPEAL IS TO BE BASED.

AGENDA ITEMS MAY BE VIEWED AT THE OFFICE OF THE TOWN CLERK, TOWN OF SURFSIDE TOWN HALL, 9293 HARDING AVENUE. ANYONE WISHING TO OBTAIN A COPY OF ANY AGENDA ITEM SHOULD CONTACT THE TOWN CLERK AT 305-861-4863. A COMPLETE AGENDA PACKET IS ALSO AVAILABLE ON THE TOWN WEBSITE AT www.townofsurfsidefl.gov.

TWO OR MORE MEMBERS OF OTHER TOWN BOARDS MAY ATTEND THIS MEETING.

THESE MEETINGS MAY BE CONDUCTED BY MEANS OF OR IN CONJUNCTION WITH COMMUNICATIONS MEDIA TECHNOLOGY, SPECIFICALLY, A TELEPHONE CONFERENCE CALL. THE LOCATION 9293 HARDING AVENUE, SURFSIDE, FL 33154, WHICH IS OPEN TO THE PUBLIC, SHALL SERVE AS AN ACCESS POINT FOR SUCH COMMUNICATION.

Undergrounding Utilities in Town of Surfside

An Educational Session on the Technology, Costs, Pros, Cons, and Impact
for Surfside

September 26, 2017

Agenda

- Presentation from Dr. Ted Kury (PURC)
 - History of undergrounding utilities
 - Pro's & con's
 - Best practices / lesson's learned
- Historical Surfside Overview
- What Would The Project Include
- Impact for Surfside
- Next Steps
- Public Comment

Dr. Ted Kury

Dr. Ted Kury is director of Energy Studies for the Public Utility Research Center (PURC) at the University of Florida. He is responsible for promoting research and outreach activities in energy regulation and policy. He develops research strategies that inform the academic community and practitioners on emerging issues and best practices and serves as an expert resource for regulatory professionals, policymakers, and service providers in Florida and around the world.

Dr. Kury's work has been featured on CNN, Fox News, NPR, and the Wall Street Journal. He has published papers on the efficacy of energy regulatory policy and the quantification of risk, is a referee for several journals, and a member of the United States Association for Energy Economics.

Undergrounding Utilities in Town of Surfside

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Part 2

Historical Surfside Overview

- Last considered in 2012/2013
- Secured a binding estimate from FPL
 - Needs to be updated in order to proceed
- Conducted validation study by an independent cost estimator
- Town wide transformer map was prepared
- Decided not to proceed at that time
- Installed FPL-approved conduit at all intersections to ensure minimal disruption if the project proceeds in the future as part of water / sewer infrastructure project

What Would The Project Include

- **Remove:** 470 poles; 278 transformers; and all existing lines
- **Add:** 24 switch cabinets; 50 miles of lines and 307 transformers
 - Includes all electrical, cable/internet and phone lines
- Individual home hookups (?)
- Street Lights
- Landscaping

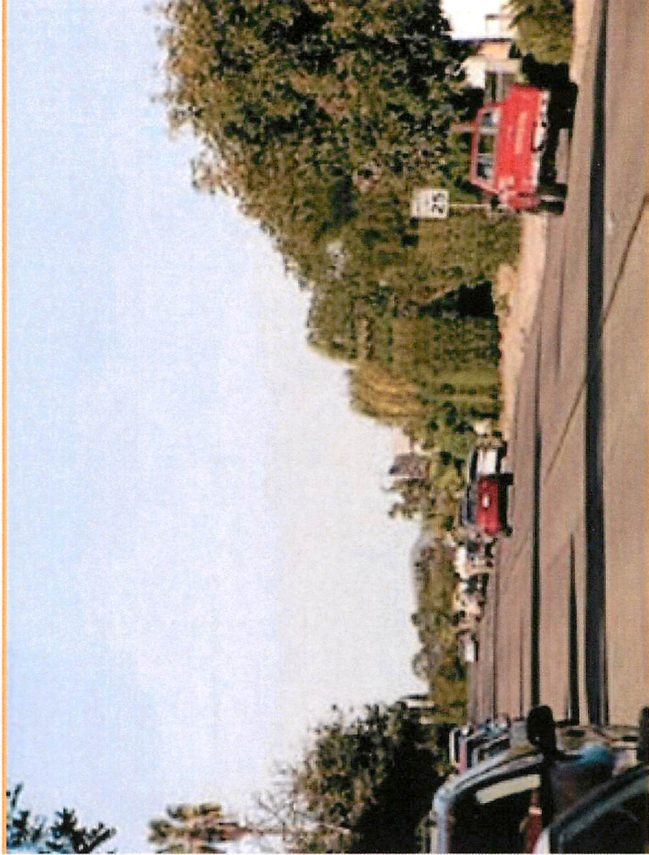
Impact for Surfside

- How long would it take
 - Phased implementation
- How much could it cost
 - Requires planning studies, engineering, costing and cost estimate validation processes
- How do we pay for it
 - Many combinations and permutations
 - Bond council, bank financing, millage equivalencies, FPL Hardening credits and discounts

Next Steps

- Additional Extensive Community Feedback and Public Meetings
- Resurrect, Leverage and Update legacy files
- Allocate funds to update cost estimate studies from FPL and others

Public Comment



“Spaghetti in the sky”



Weathering Storms: The Cost-Benefit Analysis of Storm Hardening Strategies for Electricity Systems

Presented to:
Surfside City Council
Surfside, Florida
September 26, 2017

Ted Kury
Director of Energy Studies
Public Utility Research Center
University of Florida



Public Utility Research Center



Research

Expanding the body of knowledge in public utility regulation, market reform, and infrastructure operations (e.g. benchmarking studies of Peru, Uganda, Brazil and Central America)

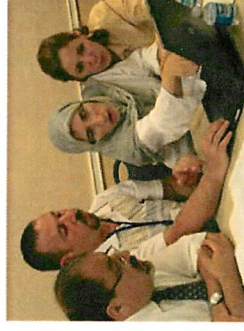
Education

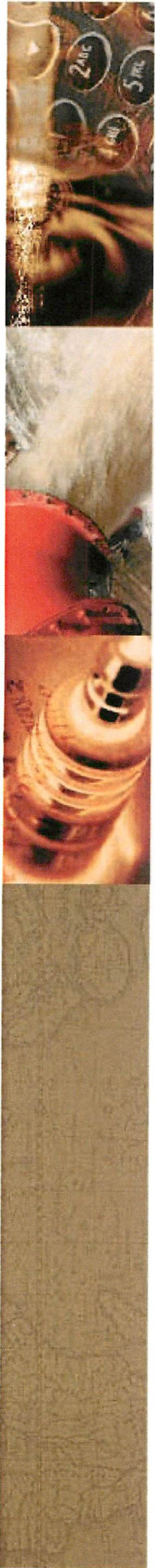
Teaching the principles and practices that support effective utility policy and regulation (e.g. PURC/World Bank International Training Program on Utility Regulation and Strategy offered each January and June)



Service

Engaging in outreach activities that provide ongoing professional development and promote improved regulatory policy and infrastructure management (e.g. in-country training and university collaborations)





The Body of Knowledge on Infrastructure Regulation

<p>NEW</p>	<p>NEW</p>	<p>NEW</p>	<p>RECENT ADDITION</p>
<p>LEADERSHIP IN REGULATION</p>	<p>TRANSLATED GLOSSARIES</p>	<p>RENEWABLE ENERGY AND ENERGY EFFICIENCY</p>	<p>REGULATION OF STATE-OWNED ENTERPRISES</p>

FUNDING PROVIDED BY:

UF | Public Utility Research Center
 UNIVERSITY of FLORIDA
"Leadership in Infrastructure Policy"

PPIAF
 PUBLIC-PRIVATE INFRASTRUCTURE ADVISORY FACILITY

World Bank



Summary

- Utility regulation in Florida
- The 2004-05 storm seasons
- The Florida cooperative
- The economics of storm hardening

Electricity Regulation in Florida

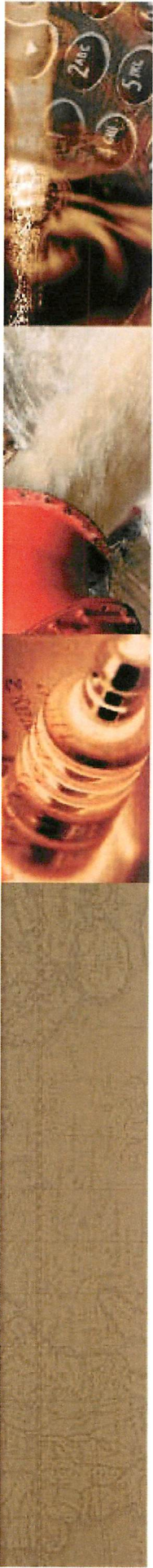
- All utilities are subject to state regulation (Florida PSC, Florida DEP and Cabinet) regarding the construction of new generation and transmission facilities
- Investor-owned utilities (e.g. FP&L and Duke) are rate regulated at the state level by the PSC
- Municipal utilities (e.g. GRU and OUC) are rate regulated at the local level
- Cooperative utilities (e.g. Clay and Seminole) are rate regulated by their customers/owners
- Utilities have the obligation to serve and in return, the right to recover their revenue requirement



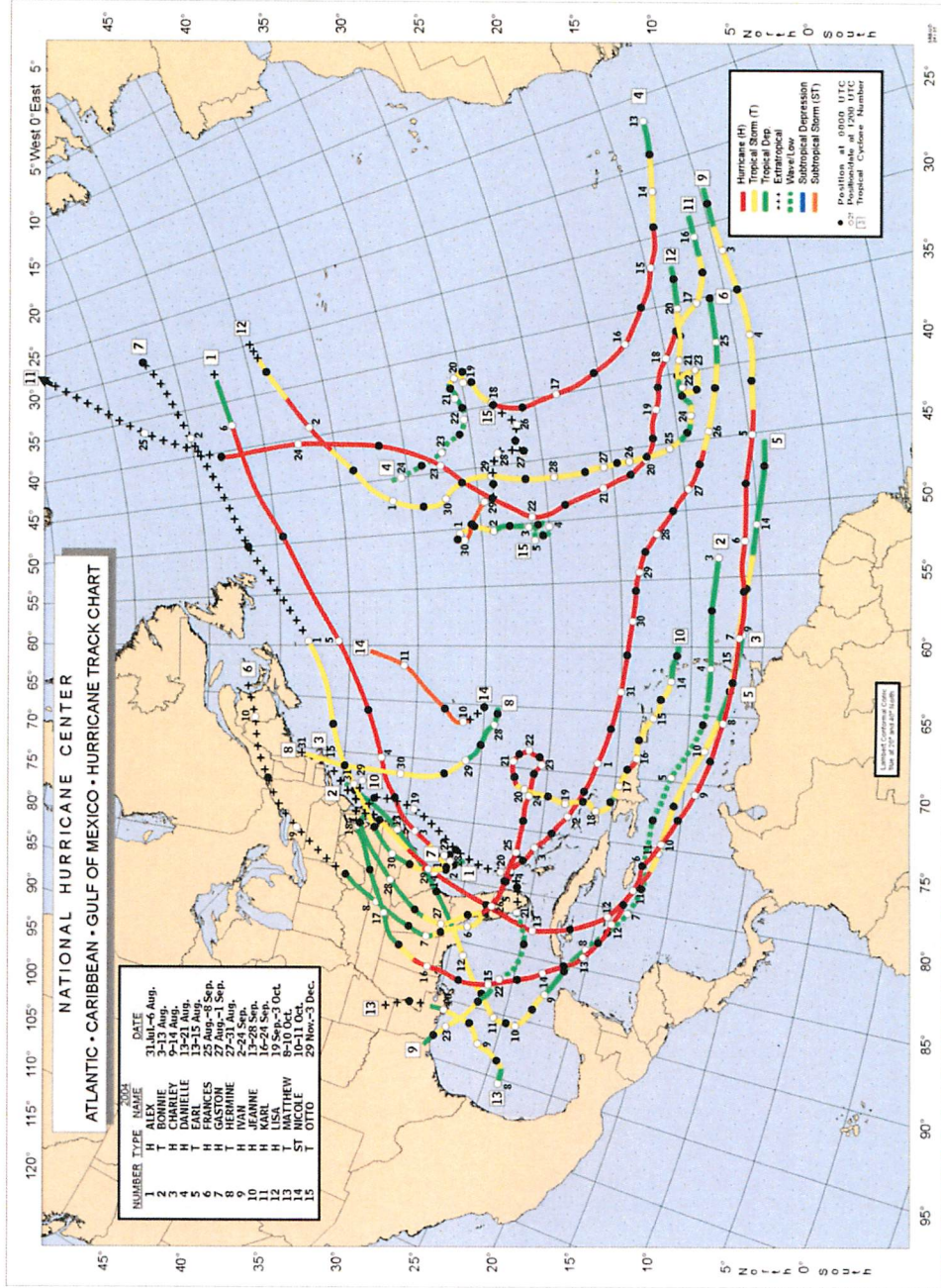


Regulation and Utility Operation

- Utility regulators (regardless of form) adhere to the basic principle of safe and reliable service at just and reasonable rates
- Improving quality of service increases costs
- Regulators determine what can be recovered from ratepayers
- Balance of interests is critical in meeting goals of utility service

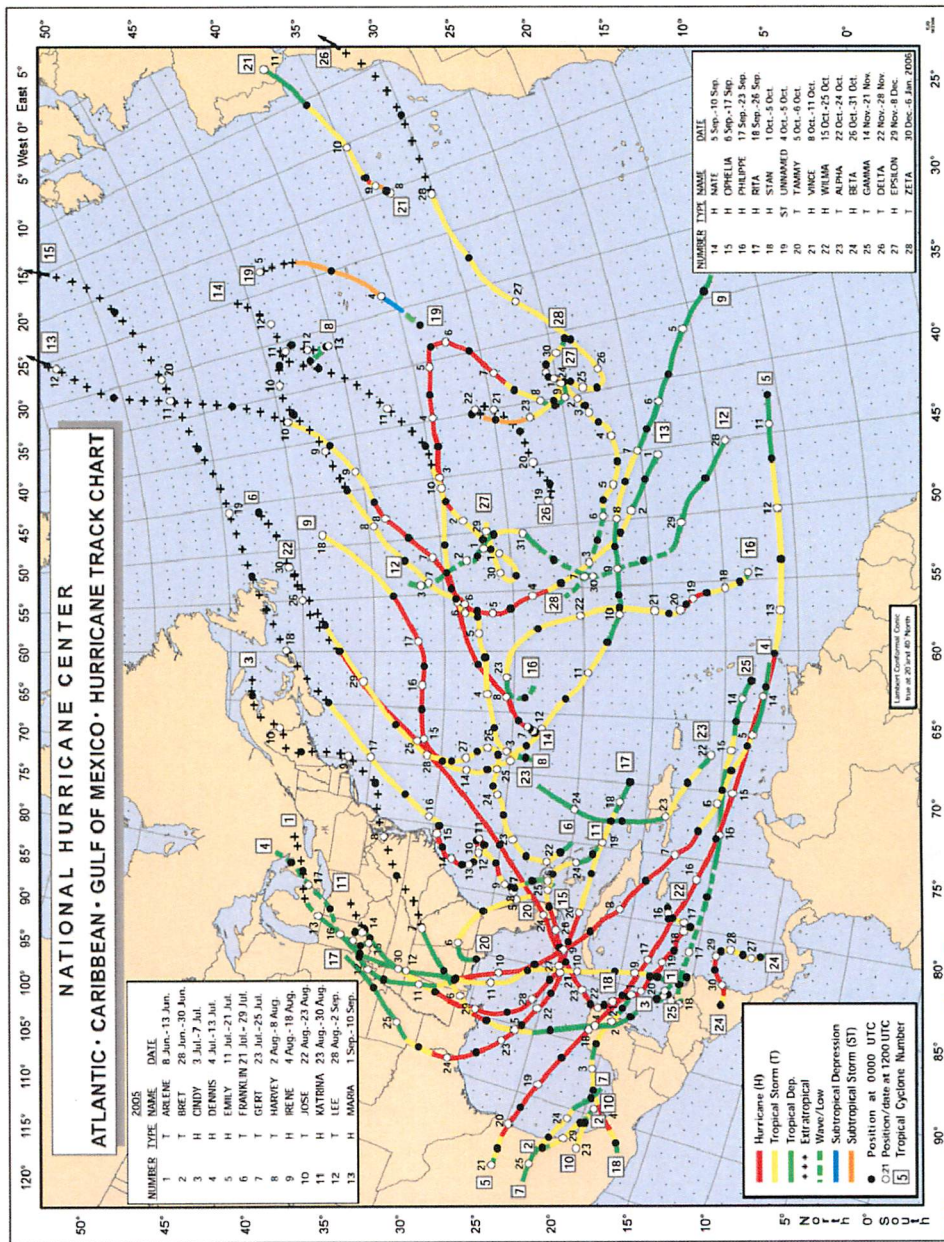


2004 Atlantic Hurricane Season





2005 Atlantic Hurricane Season



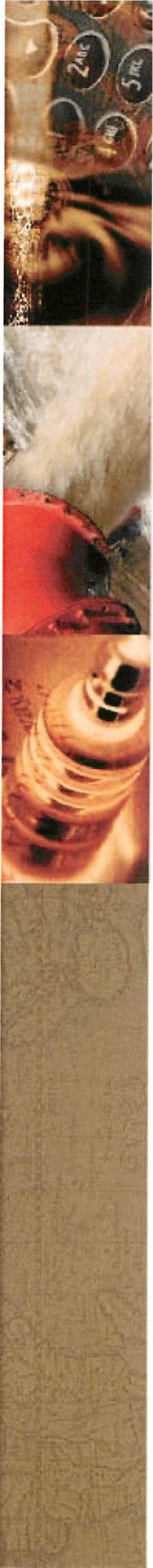


Florida Storm Damage

Year	Named Storm	Damage (000\$)
2004	Bonnie	100
	Charley	5,533,680
	Frances	5,602,120
	Ivan	4,090,400
	Jeanne	840,205
2005	Arlene	3,740
	Cindy	300
	Dennis	1,569,232
	Katrina	208,600
	Wilma	10,215,700
Total		28,064,077

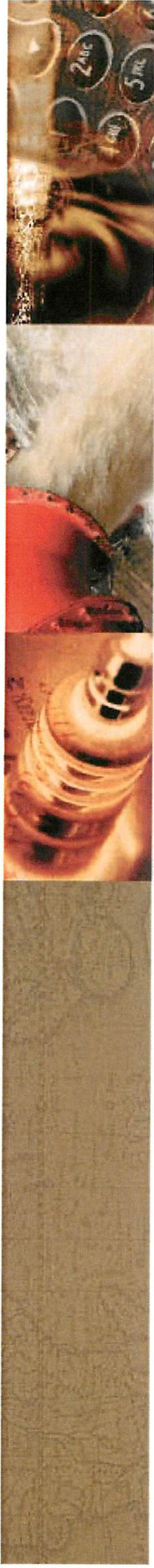
Aftermath of 2004 and 2005 Seasons

- 10 named storms
- \$28 billion in damages
- PSC convenes workshop for market participants, commission staff, and policymakers on January 23, 2006



FPSC Order PSC-06-035 1-PAA-E1

Florida would be better served by consolidating utility resources through a centrally coordinated research and development effort with universities as well as research organizations. The purpose of such effort would be to further the development of storm resilient electric utility infrastructure and technologies that reduce storm restoration costs and outages to customers.



Cooperative Initiatives

- Annual preparedness workshop
- Greater understanding of the cost effectiveness of relocating power lines under ground
- Vegetation management workshops for sharing best practices and discussing management issues
- Deployment of 50 high resolution wind monitoring stations throughout Florida

Vegetation Management Practices

- Initiative led to several vegetation management workshops
- Greater understanding of the barriers to vegetation management (property rights and municipal statutes)
- Municipal government education
- Refinement and formalization of the process
- Role of advanced technologies for management and inspection



State of North Carolina

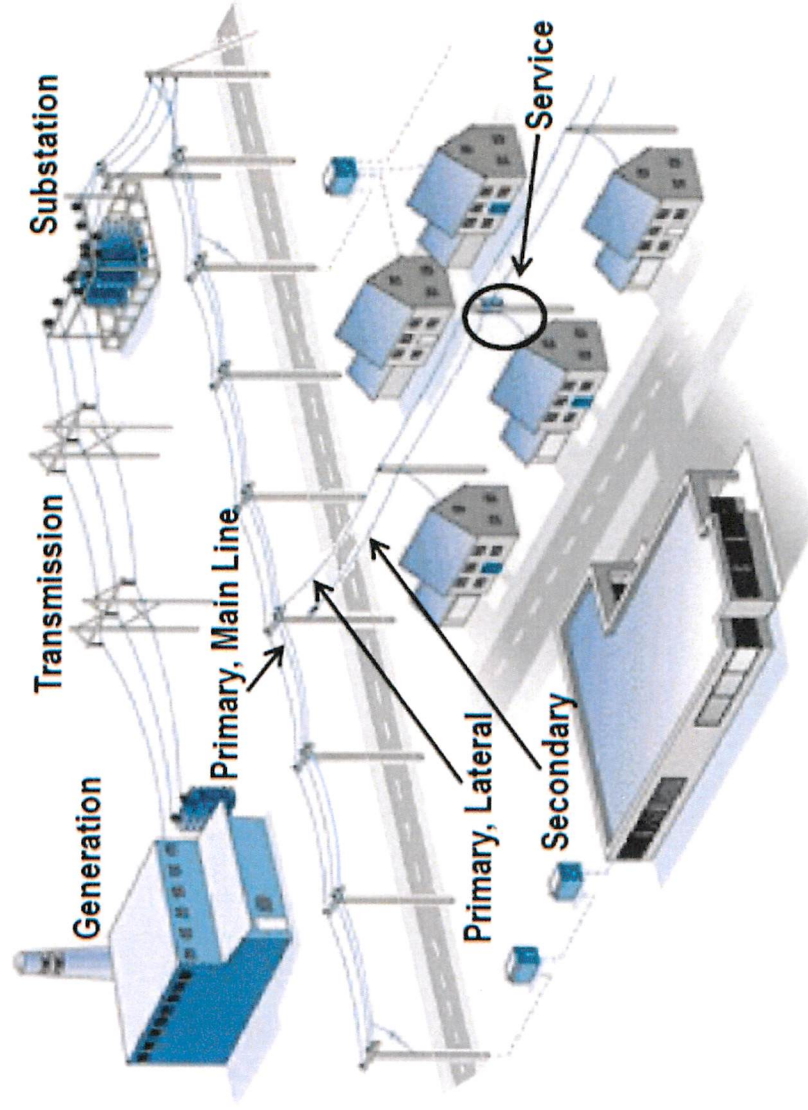
- Investigation following 2002 ice storm
- Study focused on costs and benefits of undergrounding existing infrastructure
- Concluded that project would cost \$41B (nearly six times asset book value) and take 25 years
- Electric bills would increase 125%
- Recommended that each utility identify trouble areas and develop plans to convert those facilities to underground
- Recommended that utilities continue current undergrounding practices regarding new construction

The Electric System...

Electricity travels from a power plant over high-voltage transmission lines to substations. At a substation, the electricity voltage is lowered so that it can travel over the distribution system via primary lines. Transformers further reduce the electricity voltage so it can be used by the home or business. Secondary and service lines carry electricity to the home or business.

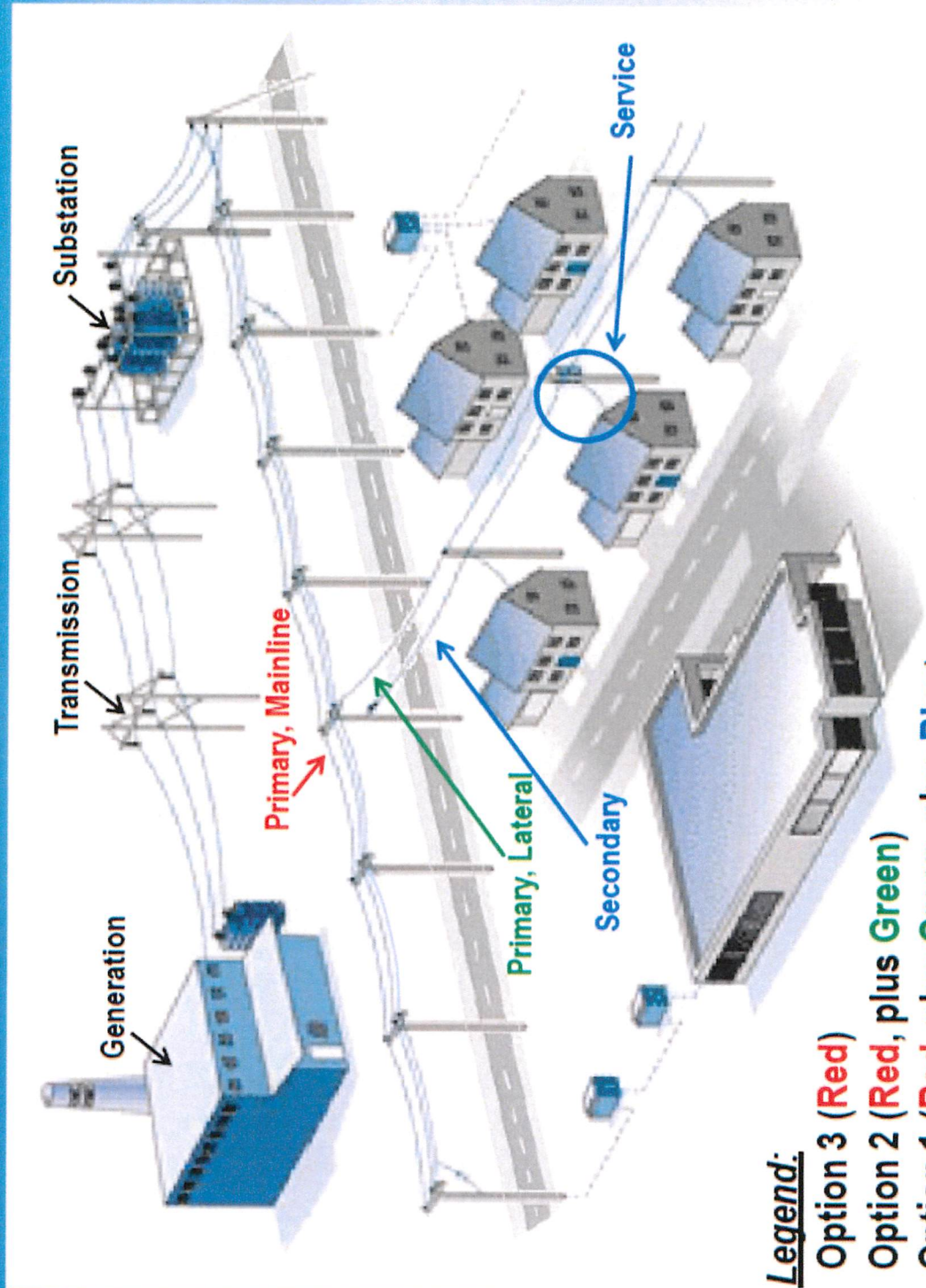
D.C. System

- ✓ 160,000 customers supplied via underground system
- ✓ 80,000 customers supplied via overhead system
- ✓ 660 circuit-miles of overhead
- ✓ Customers impacted by outages during 2008 were related to:
 - Overhead System: 112,345 customers
 - Underground System: 97,650 customers
 - Other: 49,593 customers



Note: Illustration is based on "Pepco, Summer Storms – July, August 2010" presentation, with modifications.

District-wide Undergrounding Options Considered



Legend:

Option 3 (Red)

Option 2 (Red, plus Green)

Option 1 (Red, plus Green, plus Blue)

Note: Illustration is based on "Pepco, Summer Storms – July, August 2010" presentation, with modifications.

District-wide Undergrounding Option Implications

Option	Estimated Cost to UG (\$2006)	Customers Affected (2008 data)	OH Customer Outages Avoided	Incremental Cost per Customer Affected	Relative Benefits
Undergrounding Mainline Primary (Option 3)	\$ 1.1 Billion	73,384	65%	\$14,990	Significant reliability improvement; least road-work needed to implement
Undergrounding Mainline Primary and Laterals (Option 2)	\$ 2.3 Billion	97,650	87%	\$49,452	Additional reliability benefits, almost equal to those of Option 1; addresses 87% of customer outages
Undergrounding All Existing Overhead Assets (Option 1)	\$ 5.8 Billion	112,345	100%	\$238,176	Slightly increased reliability over Option 2; maximum aesthetic benefits

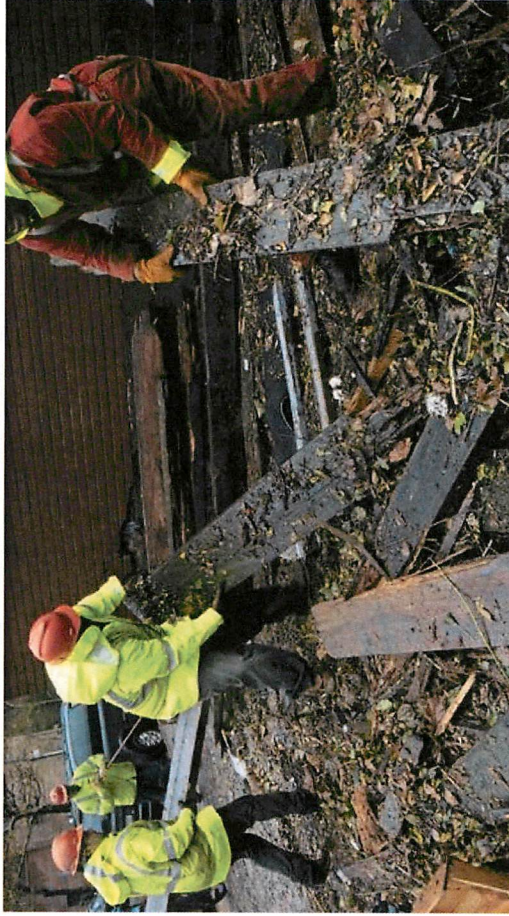
Pepco Area in Washington, DC

- Study in 2010 of the reliability implications, technical and economic feasibility of undergrounding DC power lines
- Reviewed 16 reports from 8 states from 2000 through 2009 and found that no study found quantifiable benefits for undergrounding existing facilities on a system-wide basis
- Did not model environmental impacts, business and tourist impacts of construction, resident's inconvenience, or monetary value of aesthetics
- Concluded that 65% of outages could be avoided at a cost of \$1.1B, but that an additional \$4.7B would be necessary to avoid the remainder of outages
- Mayor's Task Force on Undergrounding ultimately approved a strategic \$1B undergrounding project





Your Choice?



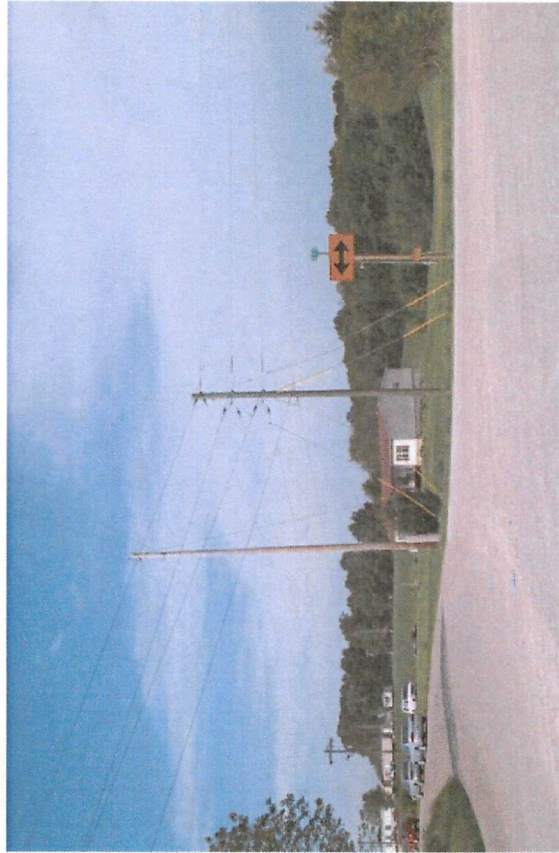
The Underground Choice

- Cost of underground power lines varies widely and depends on geography and population density
- Location of power lines underground mitigates the effects of damage from wind events and flying debris
- Underground lines are more susceptible to damage from storm surge and flooding
- Underground lines may also be more difficult to access, leading to longer outages when they do occur
- Utilities and regulators must ensure that customers are receiving value for their investments

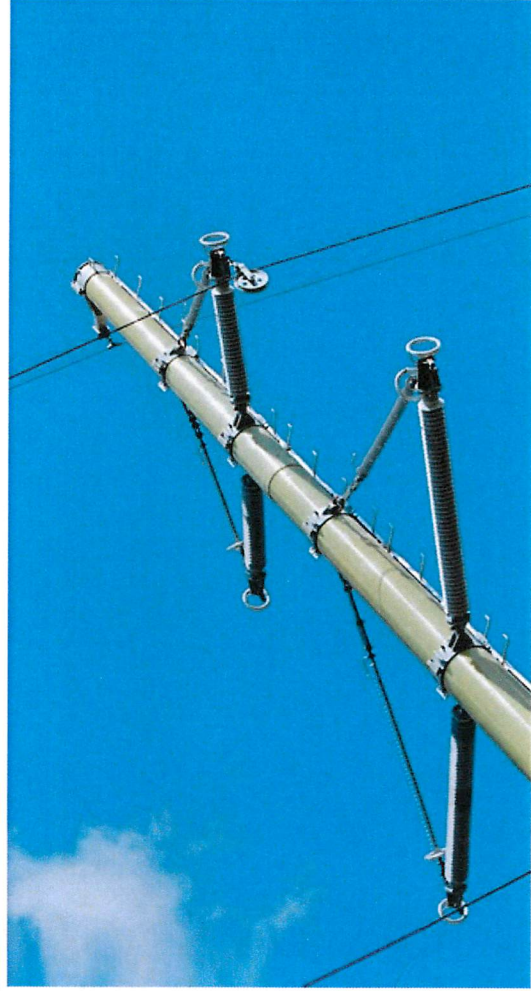


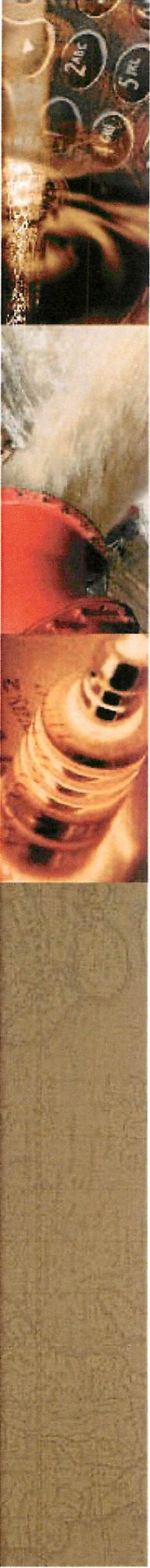
Storm Hardening Alternatives

- Alternative methods for protecting power lines from wind damage and flying debris may be almost as effective at a fraction of the cost
 - Refined vegetation management practices
 - Guy wires for reinforcing traditional poles (typically in sparsely populated areas)
 - Composite materials for utility poles



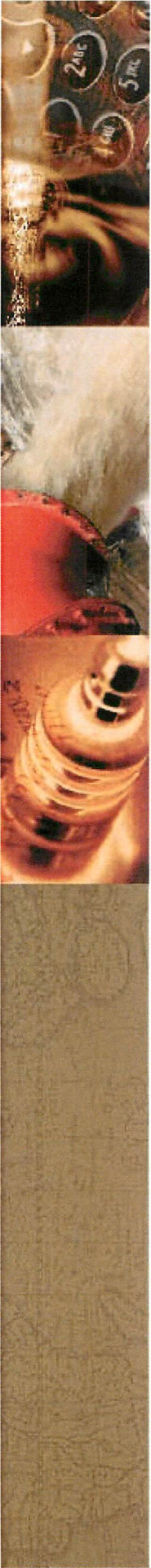
Underground Alternatives





Conclusions

- Stakeholders can accomplish goals as a cooperative that they cannot achieve alone
- Regulatory leadership required to initiate this cooperative effort
- Cost effectiveness of storm hardening depends on many factors – no straightforward answers



Contact Information

- Ted Kury
ted.kury@warrington.ufl.edu