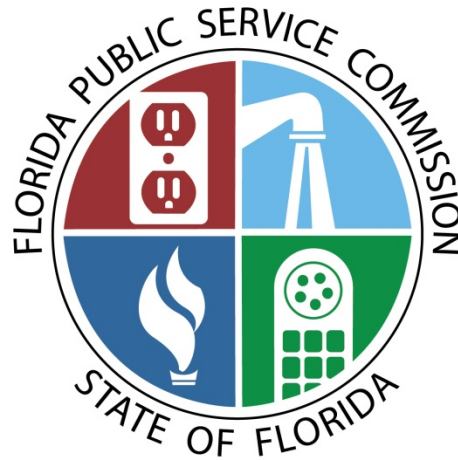


Presentation for the
2017 Florida Energy Summit
Emergency Preparedness and Resiliency in the Energy Sector



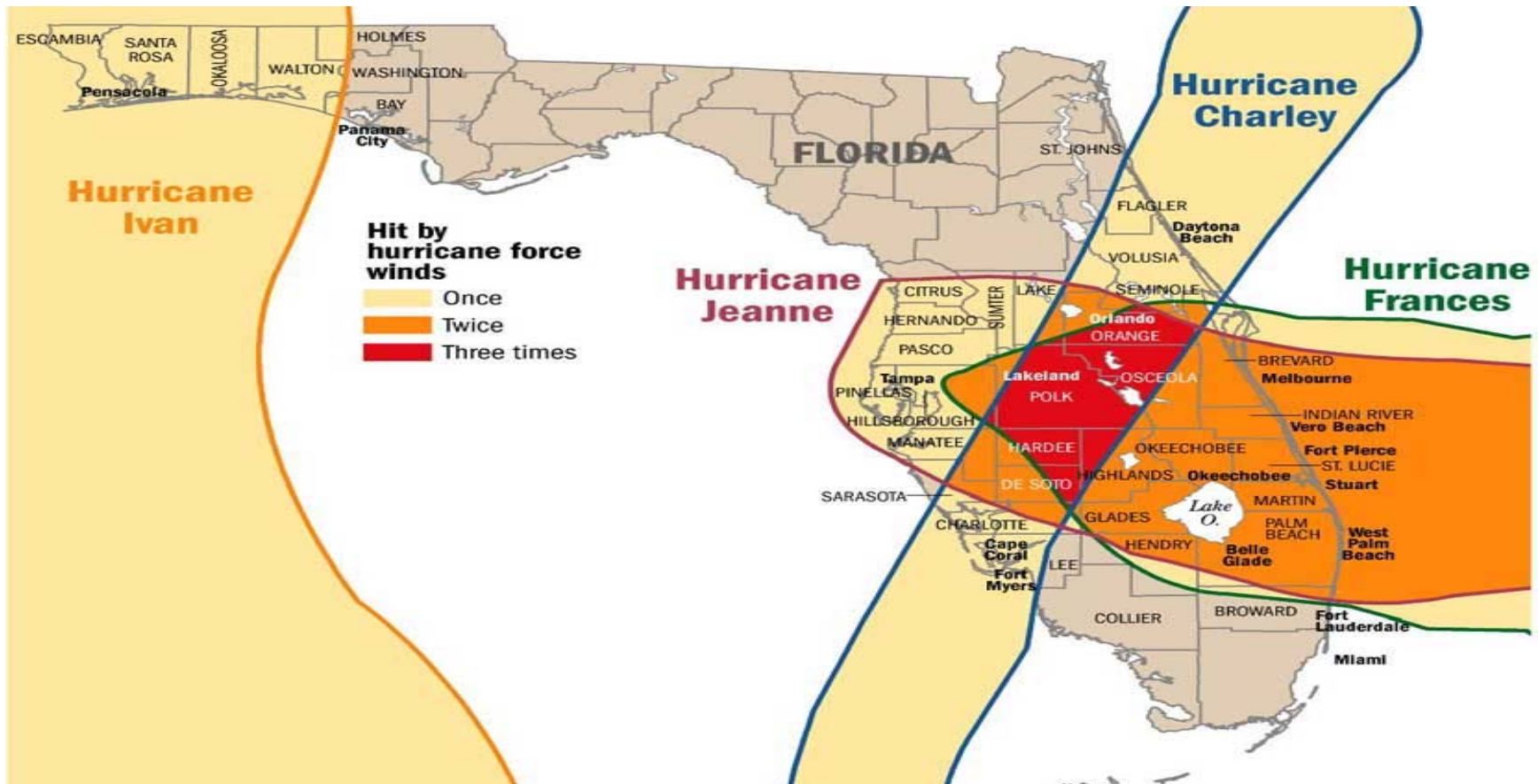
Robert Graves
Public Utilities Supervisor
Florida Public Service Commission
October 19, 2017

Overview

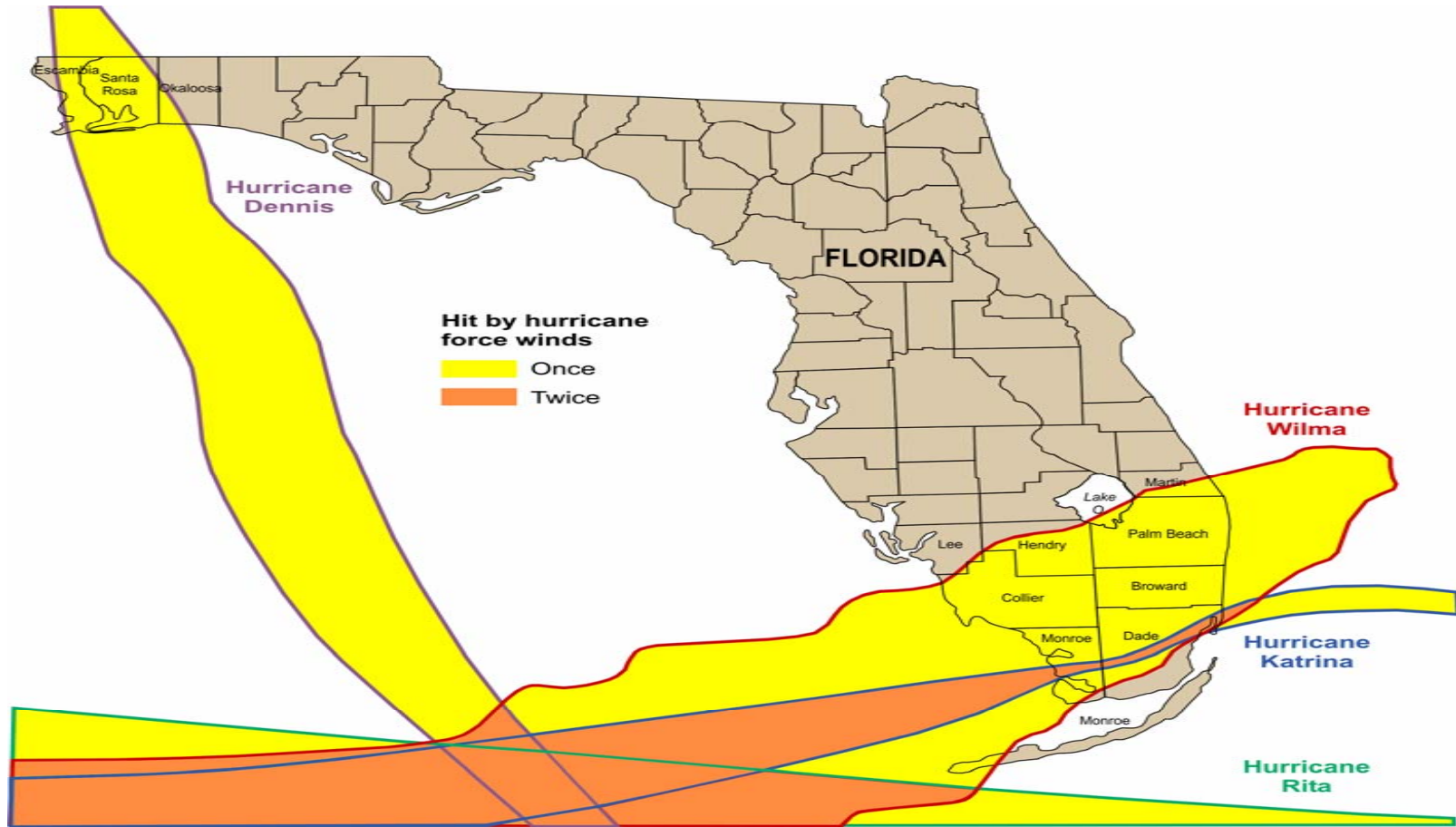
- Legislative and Florida Public Service Commission (FPSC) Actions
- FPSC's Multi-faceted Approach to Storm Hardening
- FPSC Outreach
- Restoration
- Next Steps



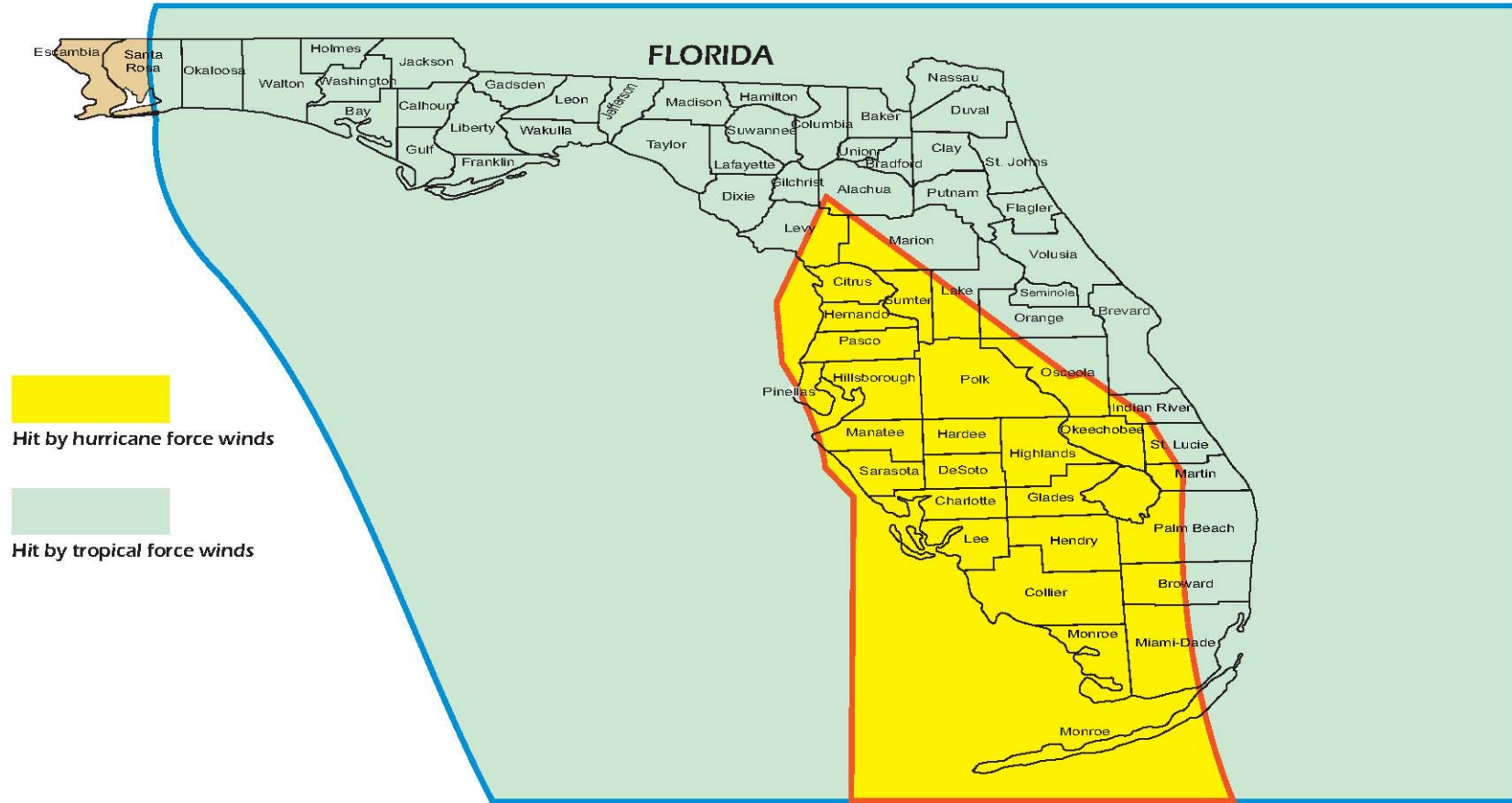
2004 Hurricane Paths





2005 Hurricane Paths



2017 Hurricane Path




Hit by hurricane force winds


Hit by tropical force winds

Hurricane Irma



Legislative Actions

- In 2006, SB 888 required the FPSC to:
 - Conduct a review to determine what should be done to enhance the reliability of Florida's transmission and distribution grids during extreme weather events.
 - Submit reports to the Governor, President of Senate, and Speaker of the House.



Legislative Actions

- Report on Transmission System Reliability and Response to Emergency Contingency Conditions in the State of Florida (March 2007)
- Report to the Legislature on Enhancing the Reliability of Florida's Distribution and Transmission Grids During Extreme Weather (July 2007)
- Addendum to the July 2007 Report: Summary of FPSC Actions May - December 2007 (February 2008)
- Update to July 2007 Report (July 2008)

<http://www.floridapsc.com/ElectricNaturalGas/EnergyInfrastructure>



FPSC Actions

- In 2006, the FPSC initiated a multi-faceted approach to hardening the electric infrastructure.
- Workshop to explore lessons learned from 2004 and 2005 hurricane seasons.
- Series of Orders and Rules implementing Storm Hardening and Preparation Activities.



FPSC's Multi-faceted Approach

- Utilities and telephone companies to inspect 100% of wooden poles within an eight year cycle. Report results annually.
- Annual hurricane preparedness briefings.
- Additional distribution reliability reporting for electric utilities.



FPSC's Multi-faceted Approach

- Ten storm preparedness initiatives:
 - 1) Three year trim cycle for distribution circuits
 - 2) Audit of joint use attachments
 - 3) Six year transmission structure inspections
 - 4) Hardening existing transmission structures
 - 5) Develop a transmission and distribution geographic information system
 - 6) Collection of post-storm forensic data
 - 7) Collection of overhead vs. underground system performance
 - 8) Increased coordination with local governments
 - 9) Collaborative research on wind and storm surge effects
 - 10) Develop a natural disaster preparedness and recovery plan



FPSC's Multi-faceted Approach

- New rule to locate distribution facilities in readily accessible and safe locations.
- New rules that require Investor-Owned Electrical Utilities to file storm hardening plans for review every three years.
- New rules and tariffs to promote the undergrounding of distribution facilities.



FPSC Outreach

- Since 2006, the FPSC has conducted annual hurricane preparedness meetings with Florida's Investor-Owned Electrical Utilities. The following are examples of the topics that are addressed:
 - Report of inspections, maintenance and repairs completed and scheduled.
 - Changes made to hurricane drills and to storm preparedness plans.
 - Status update on progress towards storm hardening goals.
 - Identify any lessons learned if the utility was involved in any relief efforts in other areas.
 - Outreach programs the utility is currently involved with.



FPSC Outreach

- On April 20, 2017, the FPSC held a Hurricane Preparedness Roundtable where:
 - Division of Emergency Management staff presented an overview about the State's Emergency Operations Center.
 - Presidents and CEOs of the five Investor-Owned Electrical Utilities provided an overview of their utilities' hurricane preparedness with focus on customer outreach, storm hardening efforts, and lessons learned from hurricanes Hermine and Matthew.
- The current and past presentations are available on the FPSC's website:

<http://www.floridapsc.com/ElectricNaturalGas/HurricanePreparationWorkshops>



FPSC Outreach

- The FPSC's webpage contains links to resources to help residents prepare for storm season. The resources include an interactive page, called Hurricane House, which provides tips addressing safety before, during, and after a hurricane:

<http://www.floridapsc.com/ConsumerAssistance/HurricaneHouse>

- Another resource is called Florida Be Prepared, which provides a check list in case of a power outage:

<http://www.floridapsc.com/Files/PDF/Publications/Consumer/Brochure/BePrepared.pdf>

- The FPSC also provides hurricane preparation material to customers during customer meetings and consumer outreach events.



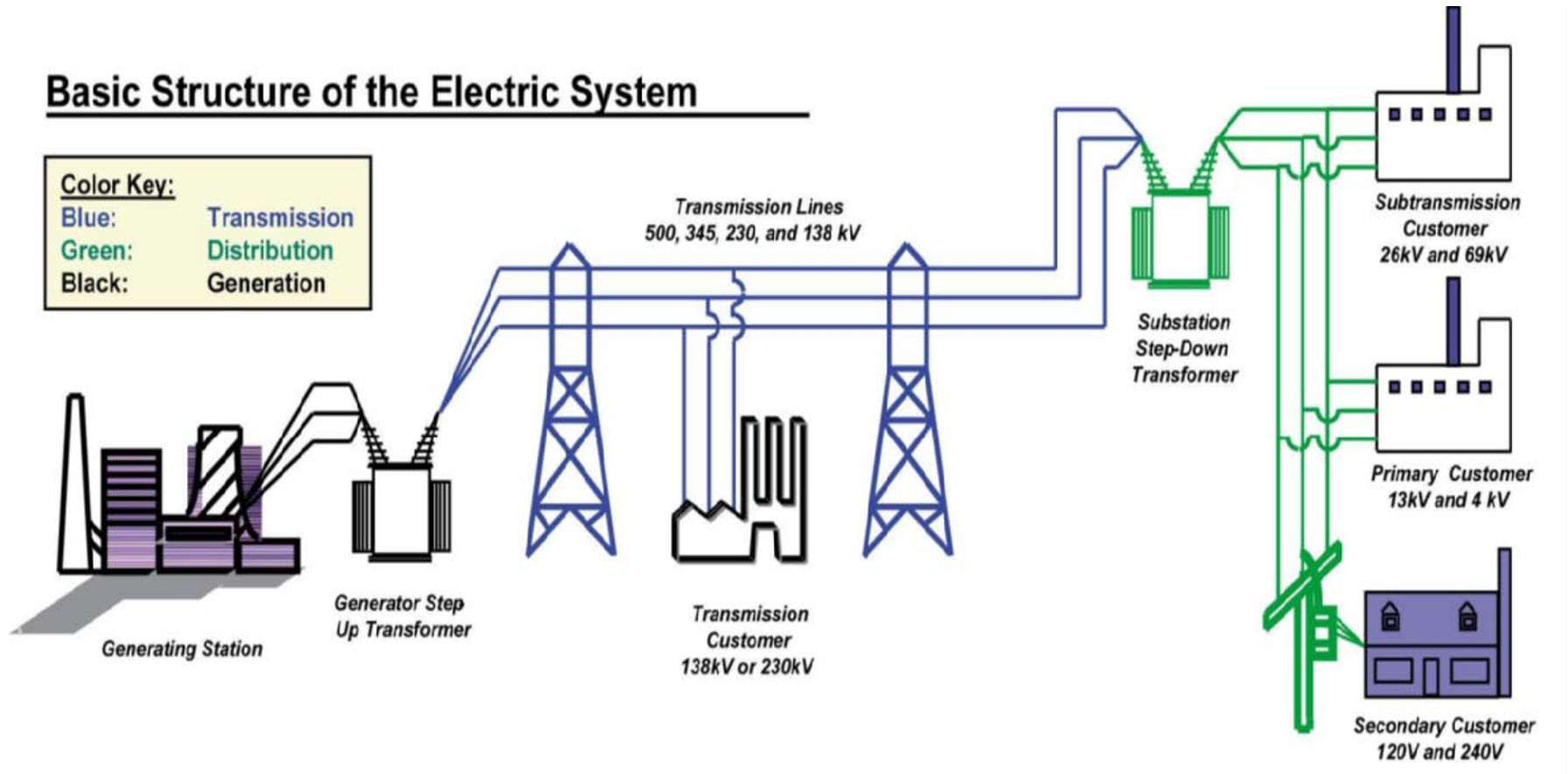
Restoration

- During an emergency/disaster situation, the FPSC provides staffing of Emergency Support Function 12.
- Role is to maintain communication with utility representatives to determine response and recovery needs and to assist support agencies and organizations to identify emergency shelter power needs or other emergency power needs.



Restoration

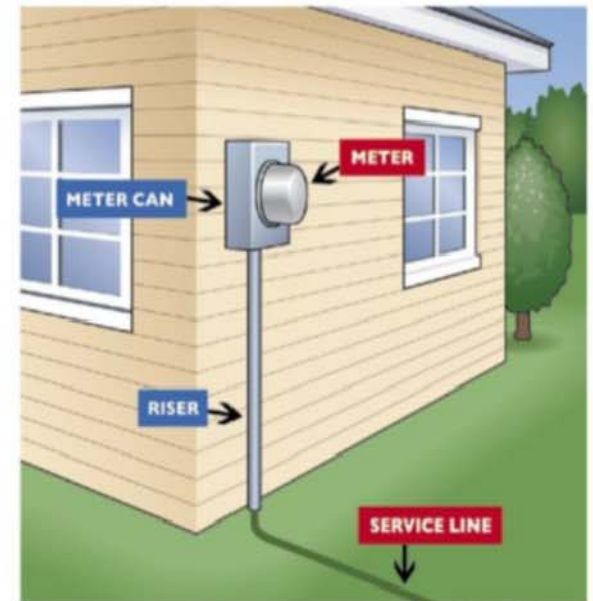
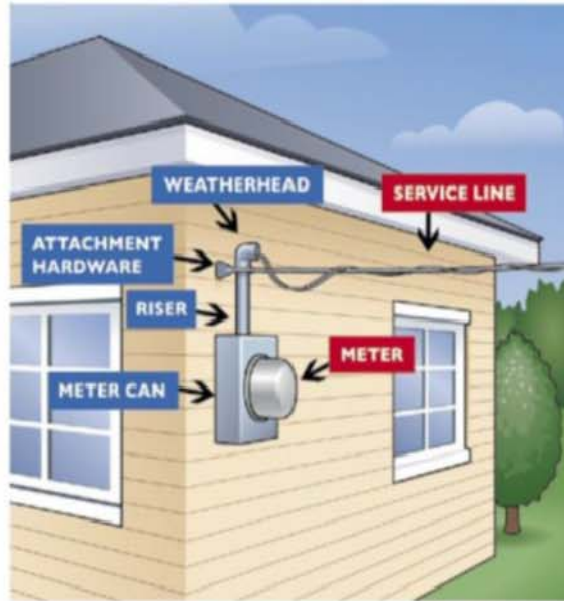
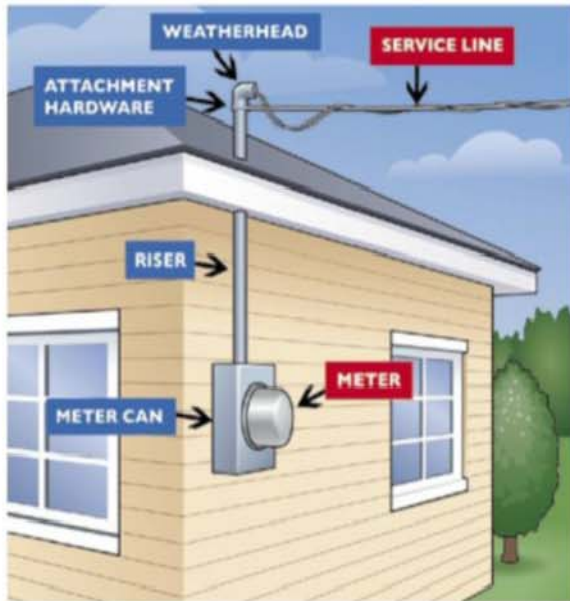
Basic Structure of the Electric System



Restoration

WHO IS RESPONSIBLE FOR FIXING WHAT?

If your electrical components are damaged, you may be responsible for repairs. Identify your type of service connection below to learn what your responsibilities are.

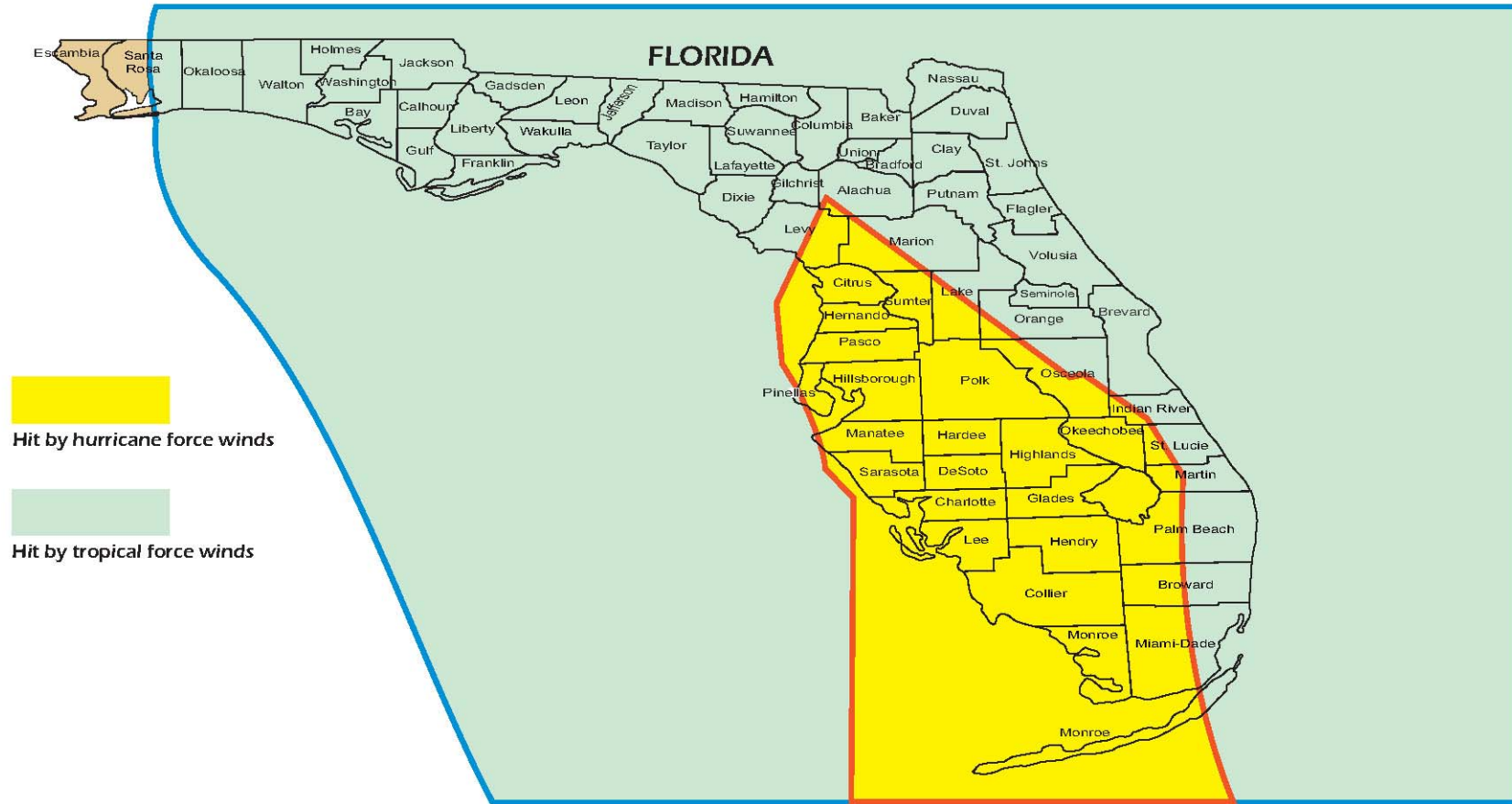


Courtesy: Kissimmee Utility Authority

CUSTOMER RESPONSIBILITY **UTILITY RESPONSIBILITY**



2017 Hurricane Path



Hurricane Irma



Next Steps

- On October 3, 2017, the FPSC directed its staff to open a generic docket (20170215-EU) to review utility hurricane preparedness and restoration activities.
- An objective is to collect and analyze forensic data, review tree trimming practices, and review pole inspection cycles to assist in identifying potential additional damage mitigation options.
- The FPSC will also review restoration practices for potential improvements.
- A generic docket provides a publicly accessible vehicle for the FPSC to collect information from the utilities and stakeholders, including customers.



Questions?

