



Clay Electric Cooperative, Inc.

A Touchstone Energy® Cooperative



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2019 Hurricane Preparedness Workshop



1. Clay Electric Cooperative, Inc.

- Serves Approximately 183,000 Electric Meters in 15 Counties in North Central Florida
- Distribution Primary Lines (Miles): 7,855 OH and 1,525 URD
- Transmission Lines (69, 115, and 230kV): 216 OH Miles

2. Pole Inspection & Maintenance Program

A. Distribution System: Approximately 215,000 Poles

- Groundline Inspection on 10-Year Cycle and Visual Inspection on 10-Year Cycle (Offsets GL by 5-Years): 20% of Total Poles Inspected Each Year
- Total of 44,275 Poles Inspected in 2018 Resulting in 1,217 Rejects (2.75%); 3,601 Poles Replaced
- 19,380 Pole Maintenance Items Found; 12,316 Items Addressed

B. Transmission System: 1,842 Structures Consisting of 2,545 Poles

- **Groundline Inspection on 10-Year Cycle (Last Performed in 2016)**
- **Ground Patrol Visual Inspection on 4-Year Cycle (Last Performed in 2018)**
- **Climbing Inspection on 4-Year Cycle (Last Performed in 2016):**
 - **Climbing inspection to be done instead of Ground Visual Patrol when on same year**
- **Helicopter Inspections Once per Year**
- **2018 Results: Eight (8) poles needed some form of maintenance (0.3%); three (3) poles were replaced (0.12%); Addressed fourteen (14) locations where trees endangered lines**

C. No Additional Poles Inspected for Hurricane Season

3. Vegetation Management Trim Cycles

- A. Distribution System (7,855 Miles of OH Primary Lines): 2018 Year
 - Mowing (2,611 miles), Spraying (2,380 miles), and Re-cut (2,048 miles): 3, 4, or 5-Year Cycle
 - 3-Year (1%), 4-Year (33%), 5-Year (66%)
- B. Transmission System (216 Miles): 2018 Year
 - Mowing (53.78 miles) and Spraying (54.88 miles) : 3-Year Cycle
 - Systematic Re-cutting (49.77 miles): 3, 4, or 5-Year as needed
- C. No Additional VM for Hurricane Season

4. Storm Hardening Plans and Projects

- New Construction and Rebuild Transmission Projects completed in 2018 resulted the retirement of (161) wood poles/(82) structures and construction of (70) concrete poles/structures.



- Tiger Dam system (portable) purchased to install around a substation to prevent flooding. A plan was initiated after the Irma experience to develop a permanent resolution

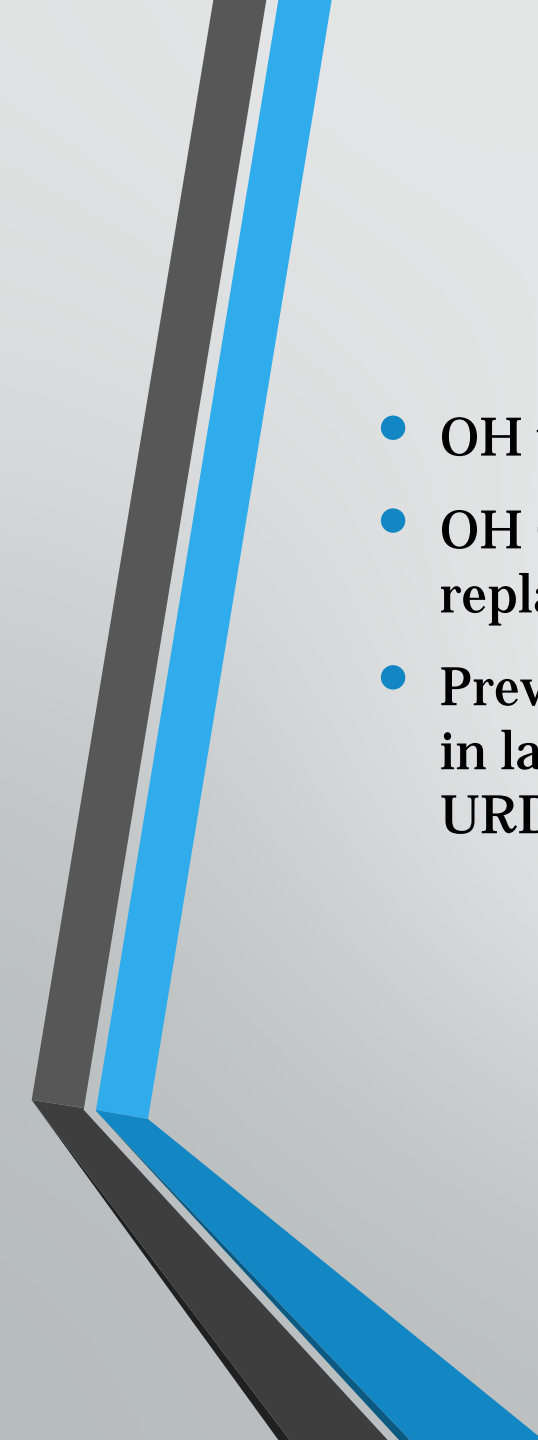


- **OH Cable System (Tree Wire) was installed in 2018 in Fort White area to reduce tree related outages and improve reliability.**




- As of 2018, Wildlife System Protection projects have been completed and/or are ongoing at five (5) substations to minimize (eliminate) animal related outages.




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- OH to URD line conversions of selected Interstate Highway crossings.
 - OH Copper Wire Change-outs: selected lines with old and brittle wire being replaced as a result of lengthy outages.
 - Previous inspections revealed large number of safety hazards and code violations in last span of service wire to meter. Practice changed in 2018 to construct only as URD in future.

5. Storm Preparedness

- A. CEC Emergency Operations Plan (EOP) was revised after 2016 Storm Season
- Many meetings held with employees at all levels and areas of the Cooperative in advance of 2017 storm season to obtain “lessons learned feedback” from experiences of 2016 storms. Revisions were made to Emergency Operations Plan (EOP) followed up with training sessions.
 - The idea was to find out and seek to provide as practical: “What do employees need to perform the restoration process”, not “Here’s what you get to perform the task at hand”. Listening to ideas for improvement resulted in a more unified EOP chain of command (organizational chart) with improved communications.
 - Pre/Post Preparation - training to be provided annually prior to start of storm season. Specific training based on particular responsibilities. Lessons learned gathered after storm events.

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- “All hands on deck”: involve and assign ALL employees to participate in the restoration process. Additional resources assigned to district offices to assist with coordination:
 - Crew Arrival
 - Lodging
 - Meals
 - Material Distribution
 - IT support
 - Record Keeping
 - General Communications
 - Be more proactive in obtaining outside crews and lodging in advance of storm arrival.
 - Utilize catering services for food preparation. Annual deposits were paid if necessary to secure services in advance.
 - More of following items provided upon request: Crew Leads, computers with mapping system, rental trucks, etc.

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- “Inspect and Restore” method of restoration adopted. Full inspections not performed if restoration resources available to begin work.
 - Mobile fuel units obtained to help reduce congestion at District Offices where crews arrive for supplies, etc.
 - Material pods provided for more efficient material loading. Material storage units to be strategically placed at substation sites to improve material distribution and reduce congestion at district warehouses.
 - Additional resources assigned to County Emergency Operation Centers (EOC) at their request.
 - Assign emergency crews to work throughout the night.
 - Expand Call Center hours of operations to reduce call volume for Energy Control Center (ECC) dispatch.
 - “Storm Restoration Guide for Visiting Crews” created and distributed to help inform outside help of Safety Hazards, Local Medical Centers, CEC Office and Substation Locations, Emergency and CEC Contacts, and General Construction Standards.

B. Communication with Local Agencies and Members

- **CEC meets annually (typically 2nd quarter) with Local Government and EOC's**
- **CEC mails Hurricane Preparedness Guide in July member newsletter along with including resources on Cooperative web page. Topics include:**
 - **Pre-Storm Preparation Tips**
 - **During and Post Storm Safety Tips**
 - **How to Report an Outage**
 - **How to Enroll in Medical Essential**
 - **Equipment Ownership - Member/CEC Responsibilities Defined**
 - **Generator Safety**
 - **How to Track Restoration Efforts: CEC Communication Channels, Social Media, Media Releases, and On-line Outage Map**

C. Mutual Aide Agreements in place for 2019: Approximately (50) utilized during 2016 (Hermine & Matthew) and 2017 (Irma) Storms

6. Lessons Learned from 2016 and 2017

Communication with Members. Have to make ourselves “available” during the time they need us most!

- Maintain awareness of Members ever-changing expectations and what we can do to exceed them. Don't underestimate impact of Social Media.
- Embrace plan to participate and work with local EOC and Political Agencies. It is now a part of the overall restoration process.
- Reduce congestion (equipment traffic) at District Offices during “arrival and departure” times. Mobile fuel units helped.
- Documentation of work completed for system plant and FEMA reimbursement process. Need greater emphasis on “why” this is important.
- Need more QUALIFIED “Crew Leads” to guide outside crews.
- Continue annual discussions to emphasize the things that we have done well and to work on areas identified as needing to be improved.
- Many new employees so regular communication, safety and training is vitally important.... Don't take past success for granted.... CONTINUE to focus on preparedness!!!