Withlacoochee River Electric Cooperative, Inc. (WREC)

2013 Hurricane Preparedness

Florida PSC Hurricane Preparedness Workshop

April 3, 2013
FLORIDA ELECTRIC COOPERATIVES ASSOCIATION

Cooperatives listed by county
System Statistics

- Miles of Transmission Line .........................64
- Miles of Overhead Distribution Line ........7,099
- Miles of Underground Distribution Line ......3,634
- Number of Substations ..............................53
- Number of Services Connected .................217,210
## Meters Served by County
(March 31, 2013)

<table>
<thead>
<tr>
<th>County</th>
<th>Meters Served</th>
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</thead>
<tbody>
<tr>
<td>Pasco</td>
<td>97,363</td>
</tr>
<tr>
<td>Hernando</td>
<td>78,619</td>
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<tr>
<td>Citrus</td>
<td>24,688</td>
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<tr>
<td>Polk</td>
<td>517</td>
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<tr>
<td>Sumter</td>
<td>932</td>
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</tbody>
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**Total Active Meters 202,109**
Standards of Construction

• NESC 2012 Compliance
• Prior 2012 – Compliance to standard at time
• RUS bulletins, drawings and engineering specifications
• WREC Construction & Operations Manual
• Pole Foreman – calculates pole strength capabilities & clearances of specified spans and compare results (extreme wind loading)
Flooding & Storm Surges

- Stainless Steel pad mounted equipment
- Strand-filled Jacketed cable inside duct
Safe & Efficient Access / Attachments by Others

• 2012 – Relocated approx. 30,000’ of OH primary lines from rear lot line to street. (estimate 4 yr. completion time frame)

• Joint use agreements specify compliance with NESC & RUS requirements. Clearance and loading evaluated per each attachment request.
Facility Inspections

- 2012 – approx. 2,800 miles of line inspected or addressed by line patrol, rear to front relocation, voltage conversion & S.T.A.R program
- Transmission = 62 miles patrolled annually (aerial and ground)
- Substations inspected monthly
- Pole inspection on schedule for 8 year cycle
- Monthly/Annually maintenance on equipment (control panels, relays and etc.)
- Annual Infrared of Critical Infrastructure
Vegetation Management

- Aggressive VMP implemented in 2004 to increase both horizontal & vertical clearances and problem tree removal
- Currently on a three (3) year cycle for all distribution lines
- Transmission lines are trimmed annually as needed
- ROW service orders are generated and completed for cycle busters (1,334 in 2012)
Storm Preparedness

Annual Activities:

- ERP Reviewed and Updated
- Roundtable Discussion of ERP
- Participate in Seminole & County EOC drills
- Internal Resources Pre-assigned
- Contractor Storm Restoration Contract
- FECA Mutual Aid Agreement
Communications

• Personnel Assigned to County EOC’s
• Web Based Graphical Outage Map
• Daily updates from Manager of PR
  FECA
  Local EOC’s
  Local Media
  Cooperative Website
Vulnerability Concerns

- Coastal Flooding - Raised pad mounted equipment
- Insufficient Outside Crews - Enter storm restoration contract
- Heavy Right-of-Way – Increased clearances on distribution lines in rural wooded areas
- Multiple Storms – Conversion allows for back feed of any substation (80% completed - 4 yr. completion)
WREC
Emergency Restoration Plan
ERP

The Primary Objective of this plan is to:

– Evacuate employees and equipment from areas subject to storm surge.
– Protect the public from exposure to hazardous conditions caused by the disaster.
– Limit damage to Cooperative property.
– Provide for the orderly restoration and repair of the Cooperative’s transmission and distribution system.
Restoration Procedures

- Objective:
  To establish uniformly implemented methods for expediting power restoration while maintaining the highest level of safety.
Damage Assessments

- General Assessment (ball park)
- Detailed Assessment (bird dogging)
- Assessment Teams pre-identified
- HQ Engineers assigned to districts
Priority Accounts

– Medical facilities, Shelters, Jails
– Major intersections
– County administration buildings
– Water, Sewer plants
– Restaurants, Grocery Stores, Pharmacies
– Hotel, Motels
Crew Briefings

• Hold each morning at 6:00 A. M. during restoration period.
• Discuss work hours, safety hazards, work progression and feedback from field personnel.
• Invite General Foremen of contract crews to attend.
FOREIGN CREWS

Circuit maps will be made available to all foreign crews due to their unfamiliarity of WREC’s system.
Line Patrol

- All substations, transmission and distribution lines shall be inspected and/or patrolled prior to energizing.
Outage Management System

- Dispatch assigned for night duty
  (3:00 P.M – 6:00 A.M.)
- Primary objective to update OMS.
- Identify outage areas with high consumer density.
Additional Topics

• Drills – Major storm in March tested system. Meeting scheduled for April to discuss means of improvement

• The company removes problem trees at company expense – no replacement program

• Total of 200,446 poles on system and installed/replaced 26,000 since starting storm hardening (approx. 70% of wood poles are CCA)

• Company is on target to meet storm hardening goals
Additional Topics

• Hurricane Sandy caused extreme flooding to some of our coastal service area. We have raised pad mounted equipment.

• Roundtable discussion scheduled in April – outcome will determine any revisions to plan.

• Critical Infrastructure improvements are identified in 2 yr. work plans (2012-2014)
QUESTIONS ?