Florida Public Service Commission
2011 Hurricane Season
Preparation Briefing

OUC—The Reliable One
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Florida Municipal Electric Utilities
OUC Electric System

OUC System Statistics
Service Area = 394 Square Miles

Electric Customers = 235,559
  222,512 Residential
  13,047 Commercial

Water Customers = 91,704
  83,985 Residential
  7,719 Commercial
# OUC Electric Distribution System

## Overhead vs. Underground Statistics

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overhead Pole Miles</td>
<td>1,358 (40%)</td>
</tr>
<tr>
<td>Wood poles = 77%</td>
<td></td>
</tr>
<tr>
<td>Concrete poles = 23%</td>
<td></td>
</tr>
<tr>
<td>Underground Conduit Miles</td>
<td>1,939 (60%)</td>
</tr>
<tr>
<td>Total Miles</td>
<td>3,297</td>
</tr>
</tbody>
</table>
### OUC Electric Transmission System Statistics

<table>
<thead>
<tr>
<th>Description</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total 69 kV Transmission Miles</td>
<td>48</td>
</tr>
<tr>
<td>Total 115 kV Transmission Miles</td>
<td>276</td>
</tr>
<tr>
<td>Total 230 kV Transmission Miles</td>
<td>70</td>
</tr>
<tr>
<td>Total Transmission Miles</td>
<td>394</td>
</tr>
<tr>
<td>Wood poles = 15%</td>
<td></td>
</tr>
<tr>
<td>Steel or Concrete poles = 85%</td>
<td></td>
</tr>
<tr>
<td>Substations</td>
<td>36</td>
</tr>
<tr>
<td>Distribution Feeders = 269</td>
<td></td>
</tr>
</tbody>
</table>
OUC System Design & Hardening Standard
Construction Standards

- 80% of new distribution construction is underground
- Transmission and Distribution facilities are constructed to NESC 120 mph extreme wind loading standards (NESC 140 mph extreme wind loading at the coast)
- Ensure “foreign” utility attachments meet OUC design and wind loading standards
- Loop Design distribution underground circuits
- Redundant circuits to key critical customers with automatic transfer scheme
- All new and replacement transmission poles are steel or concrete
OUC Reliability-Centered Maintenance Program

Vegetation Management

- Davey Tree – 10 crews
- Four-year Distribution System trimming cycle
  - 1,296 Miles of overhead Distribution Lines
  - Trim 324 Miles per year
- Annually inspect trees on main feeders for fast growers
- Three-year Rural and One-year Urban Transmission System trimming cycle
  - 362 Miles of overhead Transmission Lines
  - Trim 100 Miles per year
OUC Reliability-Centered Maintenance Program

Facilities Maintenance (Distribution and Transmission)

- Four Inspectors (Vegetation, Pole inspection, Pole electrical hardware)
- Five Distribution Maintenance Crews
- Two Transmission Maintenance Crews
- Inspect wood poles based on an eight-year cycle
- Annual visual and infrared inspection of all main feeders
OUC Reliability-Centered Maintenance Program

Facilities Maintenance
(Distribution and Transmission)

- Produces an average of 1,471 Distribution system work orders per year
- Produces an average of 60 Transmission system work orders per year

<table>
<thead>
<tr>
<th></th>
<th>Identified</th>
<th>Work Orders Complete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pole Replacement</td>
<td>654</td>
<td>585</td>
</tr>
<tr>
<td>Lightning Arresters</td>
<td>298</td>
<td>298</td>
</tr>
<tr>
<td>Primary Connections</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>Primary Insulators</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Secondary</td>
<td>108</td>
<td>108</td>
</tr>
<tr>
<td>Primary Static</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>600A Primary Switches</td>
<td>33</td>
<td>33</td>
</tr>
<tr>
<td>Primary Insulating T-Bracket</td>
<td>65</td>
<td>65</td>
</tr>
<tr>
<td>Cross Arm</td>
<td>124</td>
<td>124</td>
</tr>
<tr>
<td>Transformer</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>1,471</strong></td>
<td><strong>1,444</strong></td>
</tr>
</tbody>
</table>

Typical Overhead Distribution Inspection Results
OUC Reliability Performance
Tracking Performance

- Daily outage reports via email to the CEO, Vice Presidents, Key Customer Accounts Representatives and Media Relations – 7 a.m., 2 p.m. and 10 p.m.
- Instant notification via email to the CEO and Operations Vice Presidents for circuit feeders lockouts and power plants unscheduled outages
- Outage Map on OUC Website (www.ouc.com)
- Track Performance using Florida Public Service Commission Reliability Index
OUC Reliability Performance Trending

SAIDI 9-Year Average = 43 Minutes

System Average Interruption Duration Index

\[
\text{SAIDI} = \frac{\text{Sum of all customer minutes interrupted}}{\text{Total number of customers served}}
\]

<table>
<thead>
<tr>
<th>Year</th>
<th>SAIDI</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>42.6</td>
</tr>
<tr>
<td>2003</td>
<td>54</td>
</tr>
<tr>
<td>2004</td>
<td>47.5</td>
</tr>
<tr>
<td>2005</td>
<td>54.2</td>
</tr>
<tr>
<td>2006</td>
<td>36.9</td>
</tr>
<tr>
<td>2007</td>
<td>41.8</td>
</tr>
<tr>
<td>2008</td>
<td>32.6</td>
</tr>
<tr>
<td>2009</td>
<td>37.6</td>
</tr>
<tr>
<td>2010</td>
<td>38.2</td>
</tr>
</tbody>
</table>
OUC Reliability Performance Trending

MAIFI<sub>e</sub> 9-Year Average = 8.6 Events

Momentary Average Interruption Frequency Index - Event

\[
\text{MAIFI}_e = \frac{\text{Sum of all customer momentary interruption events}}{\text{Total number of customers served}}
\]
Storm Preparation

Emergency Operations

– Adopted the National Incident Management System (NIMS)
– Operates under Incident Command System (ICS)
– Constructed a new Incident Command Center
– Established liaisons at Cities and Counties Emergency Operations Center (EOC)
– Purchased Logistics Tracking software – “Resources on Demand”
– Installed new 800 MHz Radio System
– Updated Integrated Voice Response (IVR) System
Storm Preparation

Emergency Operation Plan
- Annual review of Emergency Operation Response Procedures
- Procedures are updated as needed
- Employee storm assignments reviewed annually
- Training/Refresher classes conducted annually
- Critical customer list reviewed and updated
- Annual Hurricane tabletop exercises
- Due to the critical nature of the electric and water facilities, OUC will be holding terrorist tabletop exercises with the Orlando and Orange County EOC’s
- Plan established to walk neighborhoods, if necessary (ex. damaged weatherhead)
Storm Preparation

- Mutual Aid Agreements reviewed annually
  - Florida Municipal Electric Association
  - American Public Power Association
  - Florida Electric Coordinating Group
- Contracts are established or renewed annually with Electrical and Tree Trimming Contractors
  - Terms and pricing are settled prior to Hurricane season
- Annual review of potential equipment and material vendors
  - Terms and pricing are settled prior to Hurricane season
- Contracts established with local radio and television stations for before, during and after the storm “customer communication”
- Community storm preparation meetings
Questions