JPS Technical Standards
For Attachment & Safety

Broadcasting Commission of Jamaica
Technical Seminar
Terra Nova Hotel – March 21, 2012
Presentation Outline

- JPS Overview
- JPS Electric Power Distribution Standards
- Typical Utility Joint Pole Space Allocation
- JPS Pole Attachment Technical Standards
- JPS/3rd Party Operational Issues
- Typical Violations of JPS Standards
- JPS disaster management
- Request for Joint Pole Use
Overview of JPS System Cont’d

Generation

Jamaica’s Total Capacity: 820 MW
JPSCo: 623 MW (76%)
Fossil Fuel: 599 MW
  Hydro: 21 MW
  Wind (Munro): 3 MW
IPPs & Others: 197 MW (24%)
  Fossil Fuel: 158.3 MW
  Wind (Wigton): 38.7 MW

Transmission

13.8, 12kV
138, 69kV
24, 13.8, 12 kV
415, 220, 110V

Distribution

Circuit Length: 1,187 Km
Number of Poles: 7,399
Substations: 42

Circuit Length: 10,557Km
Number of Poles: 280,000
Customers: 580,000
## Typical JPS Distribution Standards

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nominal Voltages</strong></td>
<td>110/220V single &amp; 3 phase, 240/415V 3 phase</td>
</tr>
<tr>
<td><strong>Voltage Drop</strong></td>
<td>+/- 5% of Nominal voltage</td>
</tr>
<tr>
<td><strong>Line Frequency</strong></td>
<td>50Hz +/- 0.2Hz</td>
</tr>
<tr>
<td><strong>Ground Resistance</strong></td>
<td>&lt; 25 ohms – pole mounted units, &lt; 5 ohms pad mounted units</td>
</tr>
<tr>
<td><strong>Insulators (T&amp;D)</strong></td>
<td>Polymer</td>
</tr>
<tr>
<td><strong>Line Design Wind Speed</strong></td>
<td>90 MPH</td>
</tr>
<tr>
<td><strong>Revenue Meter Accuracy</strong></td>
<td>+/- 1%</td>
</tr>
<tr>
<td><strong>Reference Standards</strong></td>
<td>ANSI, NESC &amp; IEC</td>
</tr>
</tbody>
</table>
Typical Utility Joint Pole Space Allocation
Joint Pole Standards

Clearances – Reference Standard is the NESC

• Clearance between JPS Secondary & LIME shall be 1.37m

• A minimum clearance of 1.07m shall be maintained between the attachment of the STVO and JPS secondary electrical circuit (220/110V)

• Clearance between an attached STVO cable and the existing telephone lines on the same pole should be 0.3m

• Access at or above the secondary circuit is DENIED.

• LIME attach at 5.49m above ground

• STVO attach at 5.79m above ground
JPS/3rd Parties Operational Issues

- Cable Spacing
- Outage Response
- Missing Down Guy
- Damaged Cable
- Clearance Request
- Interference
- Defective Pole
- Over tensioning of Cable
- Low Road Crossing
- Permission Request for attachment
- Timely Request for Supply
Violation of JPS Standards by 3\textsuperscript{rd} Party Pole Attachments

Non-standard and Unsafe Practice. J-Bolt (metal) used to anchor JPS 220V line to wood pole

Standard and safe Practice. Insulators used to anchor JPS 220V line to pole
Violation of JPS Standards by 3rd Party Pole Attachments (Cont’d)

Clearance Breach Between JPS Secondary and STVO

STVO Cables installed at correct height
Violation of JPS Standards by 3rd Party Pole Attachments (Cont’d)

Clearance Breach resulting in fire on the cables
Violation of JPS Standards by 3rd Party Pole Attachments (Cont’d)

- Missing down guy at STVO attachment resulting in a lean utility pole and sagging conductors
- Standard and safe Practice to guy pole at angled attachments
JPS DISASTER MANAGEMENT
Rehabilitation and Restoration

• Clearing the streets of damage equipment and the isolation of feeders will follow the initial damage assessment.

• Reconstruction teams will consist of a Maintenance Supervisor, Construction Coordinators, Linemen, Field Services Tech and JPS approved Contractors.

• Primary Restoration Drivers:
  – Critical Loads
  – Communication Facilities
  – Water Supplies
  – Critical Distribution Feeders
  – Critical Substations
Joint Use of Pole Agreement

• Application for pole use and power connections:
  – Written request addressed to the Director of Distribution Engineering & Maintenance
  – Drawings defining geographical area and poles STVO intend to use
  – Drawings should include/illustrate pole loadings, guying support etc.
  – Application detailing specification of equipment to be attached
Joint Use of Pole Agreement (Cont’d)

• **Terms and conditions for pole use**
  
  – ALL MODIFICATIONS to initial submission must be communicated to JPS
  
  – STVOs should give JPS at least 30-days notice of intent to do work in an area
  
  – JPS must be notified after completion of work to allow for inspection
Joint Use of Pole Agreement (Cont’d)

• **Contractual obligations**
  – Depending on the load requirement the supply will be metered or a flat rate is charged
  – Power supplies with batteries must not be mounted on JPS poles
  – Power supplies must have overload protection
  – Climbing spike are prohibited
  – CARE MUST BE TAKEN NOT TO DAMAGE THE UTILITY PLANT/POLES ETC.
Metered Power Supplies
Any Questions?

Comments?
Suggestions?
Further Ideas?

We want to hear from you our valued customers

Visit our web site www.jpsco.com