PRC-002 Locations

Disturbance Monitoring and Reporting Requirements going into effect on July 1, 2016
Why?

- To have adequate data available to facilitate analysis of BES Disturbances.
Identify Buses

- Use methodology in PRC-002-2, Attachment 1.
Step 1

- Determine complete list of Buses
Step 1 cont.

• Make sure the list is only BES buses that you own.
  – Started with 104
  – Now at 87
Step 2

- Reduce the list to those BES buses with 3 ph short circuit MVA of 1,500 MVA or greater.

<table>
<thead>
<tr>
<th>NO</th>
<th>BUS</th>
<th>KV</th>
<th>3Ø AMPS</th>
<th>MVA</th>
<th># of Buses</th>
</tr>
</thead>
<tbody>
<tr>
<td>81</td>
<td>WSTBAY</td>
<td>138</td>
<td>6625.3</td>
<td>1,583.60</td>
<td>79</td>
</tr>
<tr>
<td>82</td>
<td>FRANKLIN3</td>
<td>115</td>
<td>7877.8</td>
<td>1,569.15</td>
<td>80</td>
</tr>
<tr>
<td>83</td>
<td>MANFLD</td>
<td>138</td>
<td>6099.9</td>
<td>1,458.02</td>
<td>81</td>
</tr>
<tr>
<td>84</td>
<td>PART</td>
<td>138</td>
<td>5689.3</td>
<td>1,359.87</td>
<td>82</td>
</tr>
<tr>
<td>85</td>
<td>CLRNCE</td>
<td>138</td>
<td>4297</td>
<td>1,027.08</td>
<td>83</td>
</tr>
<tr>
<td>86</td>
<td>I.P.</td>
<td>138</td>
<td>3339.1</td>
<td>798.12</td>
<td>84</td>
</tr>
<tr>
<td>87</td>
<td>WFORK</td>
<td>138</td>
<td>3169.1</td>
<td>757.49</td>
<td>85</td>
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<tr>
<td>88</td>
<td>YBAYOU</td>
<td>138</td>
<td>3065.4</td>
<td>732.70</td>
<td>86</td>
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<tr>
<td>89</td>
<td>GUIDRY</td>
<td>138</td>
<td>2863.9</td>
<td>684.54</td>
<td>87</td>
</tr>
</tbody>
</table>
Number of Buses

- Started with 104
- After Step 1, the number reduced to 87
- After Step 2, the number reduced to 80
- If there are no buses, Done!!!!!!
Step 3

- Determine the 11 BES with highest MVA level.
Step 4

- Calculate the median MVA level of the 11 BES buses.
Step 5

- Multiple the median MVA level by 20 percent.
Step 6

- Reduce the BES bus list to only those that have MVA higher than 20% of median MVA level.
Number of Buses cont.

- Started with 104
- After Step 1, the number reduced to 87
- After Step 2, the number reduced to 80
- After Step 6, the number reduced to 78
Step 7

- Determine number of buses remaining on list.
  - If none, no FR and SER data required.
  - If 1 or more but less than or equal to 11, FR and SER data is required at BES bus with highest MVA level.
  - If more than 11, SER and FR data is required on at least the 10 percent of the BES buses with highest MVA level.
Step 7 cont.

- If more than 11, SER and FR data is required on at least the 10 percent of the BES buses with highest MVA level.

- $78 \times 0.10 = 7.8$, therefore to meet requirement Cleco will use buses 1-8.
FR & SER location

- 11 of more BES buses. At least 10%
Step 8

• Select another 10% of the locations at TO’s discretion to provide maximum wide-area coverage for SER & FR data.
Step 8 cont.

- The following BES location are recommended:
  - Electrically distant from other DME devices
  - Voltage sensitive areas
  - Cohesive load and generation zones
  - BES buses with high number of incident circuits.
  - BES buses with reactive power devices.
  - Major Facilities interconnecting outside the TO’s area.
QUESTIONS

138KV TRANSFER BUS

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CLECO
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