Objective – Discuss criteria used to evaluate cross-zonal coordination of Black Start opportunities.

1) Technical Feasibility (requirements)
   a. Voltage
      i. Generator ability to absorb VARs
   b. Thermal
   c. Dynamic Stability
   d. Timing requirements of serving critical load if using cross zonal BS
   e. Test history (if available) and performance history (EFORd) of the Black Start unit

2) Complexity considerations
   a. Amount of switching
      i. Length of cranking path – (travel time, number of substations)
      ii. Staffing availability (field/control room) to support building cranking path to neighboring area
         - SCADA versus Manual control
   b. Logistical Coordination
      i. Adjacent TO zones only (do not cross 3 zones)
      ii. Type of load restored in each TO zone (i.e. underfrequency)
      iii. Potential additional TO costs incurred to enable cross zonal coordination
      iv. Number of TO zones in coordination with a single TO zone

3) TO/State Relationships considerations
   a. States may want priority of restoration to remain local

4) Cost Savings
   a. Choice between BS unit inside zone and BS unit outside zone
      i. Minimum of 50% cost savings for units (typically capital recovery rate)
      ii. On a unit basis, minimum threshold of either $1 million in savings in total capital cost OR $198,000 in savings in Unit Total Annual Revenue Requirements
         - The Total Annual Revenue Requirement savings is calculated using the Total Capital Cost savings times the CFR factor (from Schedule 6A) for an average 10 Year Recovery. (i.e. $1,000,000 * 0.198 = $198,000)
      iii. If this criteria is met, TO would not have option to refuse unless they opt out

Comment [GB1]: Remove percentage criteria
Comment [GB2]: **Need to discuss if this is the right number
b. Consider opportunities for savings less than these thresholds, but only implement if all involved parties agree.