Black Start Generation Procurement - 12/14/2012 - Mindjet

Verify feasibility of BS units selected

Selection Process

Frequency - Every 5 years

Calculate Critical Load requirements by zone * 1.1

Selection Process

Entire RTO in 2013

PJM

Identify BS Units to source Nuclear Critical Load, Gas Critical Load

PJM runs dynamic stability and Reactive/voltage studies on cranking paths

Issue RFP for new resources interested in supplying BS

IMM

If reliability criteria are met, but disagreement on units selected, work with TO to resolve differences

TO may elect to procure additional BS outside of PJM OATT and Selection Process

(BS Units do not need to be located in the same physical zone)

Criteria shall include:

TO may elect to “Opt Out” of Black Start selection process

No

Yes

If reliability criteria are met, discuss any localized reliability issues or any other special considerations with TO

Compensation would be outside of PJM OATT between TO and Resource Owner

Proceed to Reliability Backstop (see Reliability Backstop section)

TO would not notify PJM of BS units being used to meet reliability criteria and incorporate these their restoration

Current BS units that are not selected would be given a one year termination notice

Add cranking paths to internal PJM tools (BS database, BS calculator, etc)

Optionally, procure additional BS units outside of OATT

Verify cost data during selection process

Verify annual revenue requirement (actual cost)

Perform cost evaluation of each option

Verify feasibility of BS units selected

Select BS units

Inform State Commissions about results of selection process (general results, not unit specific)

Work with PJM on selection of BS units and verification of feasibility of BS units selected

Optionally, procure additional BS units outside of OATT

Verify cost data during selection process

Verify annual revenue requirement (actual cost)

Post RFP on PJM website and communicate via email lists (MRC, MC)

If issues are identified on cranking paths, identify alternate BS units

If Incremental RFP produces no results

Process Details

What triggers RFP?

Significant change in Critical Load requirements

Manual 14D, Section 10

Incremental RFP

Change in nuclear or gas infrastructure load

M-36; Section 8.1.9

If all methods fail

Allow Criteria Exceptions

RTEP Transmission only solution

Work with Generators in Interconnection queue to install BS capability

Work with TO to contract for BS

Allow less than 2 BS units allocated to each zone

Supplied to neighboring area as a priority to

likely not be available for many hours

Based on M-36 rules, cranking power must be

restoring internal load

M-36; Section 8.1.9

Allow BS < Critical Load Requirement

Reduce cost (order of magnitude; significant difference)

Improve restoration speed

Reduce BS Shortages

I.e. states may want priority of restoration to remain local

This would be done to meet reliability requirements, increase speed and efficiency or reduce cost.

may refuse coordination opportunity

Adjacent TO zones only (do not cross 3 or more zones

Number of TO zones in coordination with a single TO zone

Travel time, number of substations

Minimum cost savings threshold of either $1 million in savings in total capital costs 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 a 10 Year Recovery. (i.e. $1,000,000 * 0.198 = $198,000)

Opportunity for cross zonal coordination (in collaboration with TO) in order to: