Eastern Interconnection Planning Collaborative

Task 5 High-Level Transmission Analysis and Cost Estimate

EISPC Meeting / SSC Meeting
July 26 and July 28, 2011

From the Previous Discussion

- Provides relative comparisons between Futures
- Not necessarily representative of what would/could be built
- No power-flow analyses will be performed at this stage
- Provides high-level cost estimates for generic transmission line "building blocks"
- Integration of remote resources will be handled on a case-by-case basis

- Two sets of written comments – responses posted

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Stakeholder Comments

- Variety of block sizes should be available to reflect physical restrictions (e.g., urban). Load density should be accounted for in regional multipliers.
  - Block sizes added, which take into account load density
- Line terminal costs should be accounted for.
  - Procedure revised to consider terminal costs when significant
- Will EIPC always build to at least double the limit?
  - No, block sizes have been added to mitigate this, and PA knowledge of their system can be utilized to identify a cost-effective solution
- Building blocks may need to be added for HQ and Maritimes.
  - EIPC will incorporate additional high level cost estimates as necessary

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Approach

1. The SSC provides the EIPC with the increase in transfer capability corresponding to each selected "NEEM Pipe". Agreement to use "hardened" transfer limits.
2. The Planning Authorities ("PA") that were responsible for developing the initial transfer limits for the corresponding NEEM Pipe are to approximate the combination of building blocks that will achieve the requested increase in transfer capability.
3. The PAs should use the knowledge of their local system(s) to approximate the termination points and mileages of the transmission building blocks that could potentially accommodate the increase in transfer capability.
4. PAs shall apply the base costs per mile for the amount of facilities located within each NEEM Bubble and the multipliers applicable to the NEEM Bubbles involved.
5. If applicable, the PAs will provide the SSC with guidance on the potential utilization of HVDC.
6. If variations, provide explanations.

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Results from Future 2

- Started with “Future 2 TX Limit increase” page of the hardened limit file (posted on EIPC website under modeling results)
- PA results shown in file ”EIPC F2-OL75 Transmission Cost 7-21-2011”

Results from Future 2

- Total Transmission Miles = 10737
- Total Low Cost = $26,030,876,200
- Total High Cost = $40,691,482,300

Example 1

- Limit Increase:
  - 768 MW from MISO_IN to MISO_MI
- "Building block" additions:
  - Two 75-mile single ckt 345 kV, 900 MW tie lines
- Total Cost = $157,500,00 - $233,100,000

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Example 2

- Limit Increase:
  - 315 MW from NEISO to NYISO_J_&_K
- "Building block" additions:
  - One 23.4-mile single ckt 345 kV, 900 MW line from NYISO_GHI to NEISO
  - One 6.67-mile single ckt 115 kV, 300 MW line within NEISO
- NE to J&K is capable of additional 315 MW when upstream contingencies are relieved.
- Total cost = $108,086,200 - $234,052,300

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Questions

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