IMM Proposals: B/C Analysis

PC

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IMM

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Issues with Benefit/Cost Analysis

- **Order 1000 does not require the type of benefit/cost analysis included in PJM's rules.**
- **Transmission should be built to meet reliability needs in a cost effective and efficient manner.**
- **Transmission should be built to integrate new generation consistent with PJM deliverability rules.**
- **PJM's benefit/cost approach results in transmission investments inappropriately displacing new generation.**

Issues with Benefit/Cost Analysis

- **Current B/C Analysis includes only energy benefit to those zones that would benefit from the project**
  - **Ignores zones that would be hurt by project.**
- **To evaluate benefits, need to include all costs of project**
  - **Include increases in costs**

Need to Account for Risk in Benefit/Cost Analysis

- **Benefits cannot be accurately projected over a 15 year period with the certainty required to justify a significant transmission project**

Need to Account for Risk in Benefit/Cost Analysis

- **Benefit assumptions in B/C analysis are not subject to rigorous sensitivity analysis**
  - **One benefit estimate used in ratio**
  - **Does not explicitly account for different probabilities (generation build, changes in fuel costs, load change) in ratio**
- **Uncertainty in assumptions/parameters can be evaluated with a sensitivity analysis**
  - **Monte Carlo**
  - **Both Benefits and Costs subject to uncertainty**

Regional Targeted ME Projects: IMM Packages

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Status Quo: No Process

- **Uncertain benefits are highly sensitive to assumptions regarding fuel mix and fuel prices**
  - **Dramatic changes in projected benefits and costs possible**
  - **Risk of incorrect answer forced on customers in the form of a regulated rate of return asset**
  - **Market would be able to correct for a bad investment, same is not true of regulated assets**
- **LMPs are correct, not a sign of market inefficiency**
  - **Congestion is the result of least cost security constrained optimization**
  - **LMP provides the marginal price of energy by location**

Package A2

- **Proposal is to improve the calculation of benefits in the B/C analysis**
  - **Benefit measured as changes in system wide load cost, net of modeled congestion allocations**
    - Positive and negative benefits (load costs)
    - Accounting for changes in ARR related offsets
    - Use the average of the forecasted benefits
- **Cost risk considered in analysis**
- **1.25 B/C ratio**
- **Competitive window for all projects and/or funding**

Package A3

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- Cost risk considered in analysis
- 1.25 B/C ratio
- Competitive window for all projects and/or funding

Regional and Lower Voltage Benefit Calculation: IMM Packages

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Proposal 1: Eliminate The Process

- **Current approach favors nonmarket solutions over market solutions to market signals**
  - **Markets shift risk to those that can best internalize the risk**
  - **Fundamental premise of PJM markets not represented in efficiency project approach**
  - **Rate of return assets vs. competitive market responses to prices**

Proposal 1: Eliminate The Process

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Package B2

- **Proposal is to improve the calculation of benefits in the B/C analysis**
  - **Difference in total load costs before and after proposed project, net of modeled congestion allocation**
    - Positive and negative benefits (load costs)
    - Accounting for changes in ARR related offsets
    - Use a weighted average of the forecasted benefits, weights based on historic variability
    - Hourly Monte Carlo: replace single draw with average of results
  - **Same metric for benefit calculation used for regional and local projects**

Package B3

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Window: IMM Package

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Package C2

- **Status quo except for:**
  - **Window Timing (Annually rather than odd years)**
  - **Capacity Driver Criteria: Strictly follow existing OATT Att. DD, Section 15 language**

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