New Service Request Study Process Education

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• High level, initial evaluation of project

• Customer can select a primary and secondary Point of Interconnection (POI)

• Estimates are desk-side level estimates (no field evaluation)

• Customers have 30 days to evaluate results and sign a System Impact Study Agreement (SISA)
System Impact Study

- Refinement of Feasibility Study results
- Customer must select a single POI (if two were evaluated in the Feasibility Study)
- Analysis incorporates any changes that occurred since the Feasibility Study analysis was performed
- Estimates are still desk-side
- Customers have 30 days to evaluate results and sign a Facility Study Agreement (FSA)
• Transmission Owner has majority of work

• PJM analysis required only if work is deferred from the System Impact Study phase

• Field review may be performed if required by Transmission Owner
• High level, initial evaluation of project

• Customers receive indications of impacts to the system
  – No reinforcements, costs, or time to construct

• Customers have 30 days to evaluate results and sign a System Impact Study Agreement (SISA)
Upgrade Request studies

- Types of projects
  1. Customer provides MW quantity with source-sink
     - Determine impacted flow gates through analysis of markets based case
     - Determine impacted facilities by comparing markets based case results to queue case
  2. Customer requests to increase the capability of a system element
  3. Customer requests to advance construction of a reinforcement in the Regional Transmission Expansion Plan
- Work with transmission owners to provide system impact study
  - Much less time to review impacts and design reinforcements without feasibility study
Require Same Studies To Be Performed?

- Transmission Service Requests
  - Add Feasibility Study after initial study (may require discussion with other external forums)
- Upgrade Requests
  - Add Feasibility Study
  - Does not preclude PJM’s ability to advance studies in the process if no other interactions with other New Service Requests exist
• Developed as a means to remove small project analysis interactions with larger project analysis

• PJM makes determination of Alternate Queue during Feasibility Study load flow analysis

• Alternate Queue projects will not be studied by PJM beyond the initial screening

• Transmission Owners will complete remaining studies required for the project to be consistent with Feasibility, Impact, and Facility Study analysis
• Criteria
  – project cannot be connected to a PJM monitored transmission facility as defined in PJM Manual M-03
  – project cannot be an uprate or addition to an existing facility
  – project distribution factor for any PJM monitored transmission facility may not exceed 5 percent and the MW impact of the project cannot be greater than 1 percent of the element rating
  – project may not connect to the same Point of Interconnection as any other project
  – aggregate impact of all projects connecting on any individual radial connection to a PJM monitored transmission facility shall not exceed 1 percent of line rating
• Options?
  – Remove process
  – Modify process
    • Maintain 6 month queue, but evaluate projects every three months?
• Reinforcement costs <$5 million allocated to all in a queue which add load to the violation defining the need for the reinforcement
  – Projects which do not overload the element, but add load prior to a project overloading the element, have cost allocation
  – See below for example of cost allocation for <$5 million upgrades

<table>
<thead>
<tr>
<th>Project</th>
<th>Loading added to element</th>
<th>Final element load</th>
<th>Cost Allocation?</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Yes</td>
<td>95%</td>
<td>Yes</td>
</tr>
<tr>
<td>B</td>
<td>No</td>
<td>95%</td>
<td>No</td>
</tr>
<tr>
<td>C</td>
<td>Yes</td>
<td>102%</td>
<td>Yes</td>
</tr>
<tr>
<td>D</td>
<td>Yes</td>
<td>115%</td>
<td>Yes</td>
</tr>
<tr>
<td>E</td>
<td>No</td>
<td>115%</td>
<td>No</td>
</tr>
</tbody>
</table>
• PJM must wait to have queue close to determine total impacts
• Method was requested by small generation customers to reduce impacts of reinforcement costs
• Now being seen as holding up projects which do not cause an overload
• Options
  – Remove rule
  – Redefine rule
Next Steps

Continue discussion in PC sub-group to review issues identified and determine path forward with any changes

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