Manual M14B Attachment C
Procedure Change Discussion

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Procedural Changes

• Procedural Change #1: Added language that non-radial facilities 345 kV and up will only automatically be considered as CETL limits for an LDA if they have greater than a 2% OTDF

• Reasons For Change
  – Without any OTDF cutoff, facilities on one end of the PJM footprint may limit imports on the other end of the footprint
    • Example: New Freedom – Windsor 500 kV has a 1.996% max OTDF for imports into ComEd
    • Example: Rockport – Jefferson 765 kV has a 1.905% max OTDF for imports into PSEG
  – Under the existing procedure, minor loading changes that occur on 345 kV and up facilities can conceivably cause huge CETL swings if such facilities are near their limit and LDAs have a low OTDF
    • Example: Flowgate rating = 3,500 MVA and local change results in flows increase by 50 MVA. LDA has a 1% OTDF on flowgate. Imports into LDA would need to decrease by 5,000 MW just to reduce the flowgate loading back to the original value prior to the local change.
Procedural Changes

• Procedural Change #2: Clarified that PJM may choose to include specific non-PJM transmission facilities in the load deliverability test in order to account for significant loop flows
  – Proposed change will account for non-PJM transmission facilities, identified during joint studies / discussions with non-PJM transmission owners, which experience significant loop flows from internal PJM transfers
  – Such facilities will be treated in a similar manner as internal PJM facilities
    • Same OTDF cutoff rules
    • Same procedure to determine whether facility should be included on the PJM Load Deliverability Facility List
    • PJM will work with external transmission owner of the limiting facility and the PJM transmission owners in the LDA should a non-PJM facility be identified as a potential CETL limit to ensure that the applicable equipment limitations, redispatch options and operating procedures are considered
• Procedural Change #3: Removed sentence that states that Load Deliverability Facility List will be locked down prior to each baseline
  – There are 1000s of unique flowgates that satisfy the LDA OTDF cutoffs and therefore qualify to be considered part of the Load Deliverability Facility List
  – The flowgates that qualify as Load Deliverability Facilities may change based on system topology and generation changes
  – Rather than developing and frequently updating a physical copy of the Load Deliverability Facility List, it is far more efficient to simply check if facilities qualify once they become potential CETL limits
  – The decision of whether to include a transmission facility on the Load Deliverability Facility List may involve detailed dialogue between the TO and PJM, and this is best performed once the analysis has identified a transmission limit so that the relationship between the location of the potential transmission limit and the LDA under study can be considered
  – During retools PJM can’t simply ignore system changes that result in redirection of power flows
• Procedural Change #4: New procedure added to require both thermal and voltage analysis on both Discrete Outage Case and Mean Dispatch Case
  
  – Present procedure does not allow thermal problems to act as CETL limits in the Discrete Outage Case and voltage problems to act as CETL limits in the Mean Dispatch Case
    • This is inconsistent with how the system is actually operated
  
  – Proposed procedure provides additional perspective on CETL conditions by fully examining two very different LDA dispatch patterns using a comprehensive N-1 AC contingency analysis of both thermal and voltage conditions
Procedural Changes

• Procedural Change #5: Removed steps 7, 8 and 9 from section C.5.5.2 and removed section C.6 entirely
  – The sole purpose of these steps is to derive the median loading on each flowgate
  – Developing the median loadings is a complex, time-consuming process that must be performed at each transfer level before a CETL can be identified
  – Because the median loadings are based on 10,000 different power flow cases they can’t be easily verified
  – The difference between the median loadings and the mean loadings are never more than a few percent and generally much smaller
  – The mean loadings can be easily computed and verified using the Mean Dispatch Case
  – PJM has confirmed that the use of the mean loadings will not significantly impact any of the current CETLs