



# Evaluation of an RTO Capacity Import Limit Methodology

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PJM Transmission Planning

11/7/2013

- **Linked to RTO Capacity Import Limit Methodology Problem Statement & Issue Charge**
  - <http://www.pjm.com/~media/committees-groups/committees/pc/20130912/20130912-item-03-rto-capacity-import-limit-problem-statement-issue-charge.ashx>
- **Charge: The PC will evaluate and adopt a method to determine an RTO Capacity Import limit for use in PJM Planning and applied in the RAA and future RPM auctions**



# Problem Statement & Issue Charge

## Key Work Activities

- Evaluate PJM staff analysis of the transmission system's ability to reliably import the quantity of Capacity Resources currently committed via the RPM auctions, plus the assumed CBM.
- Consider alternative methodologies and inputs for ensuring that the maximum level of Capacity imports is not exceeded through the RPM auction process, to potentially include path specific values vs. an overall RTO import limit.
- Evaluate alternative methodologies for calculating an RTO Capacity import limit for potential application in the PJM planning process and the RAA for use in future RPM auctions.
- Establish an RTO Capacity import limit calculation methodology or alternative mechanism based on the above review and evaluation.



# Methodology Development Timeline

- August PC
  - Problem statement introduced
- September PC (9/12/2013)
  - Problem statement approved
  - Technical overview
- September MRC (9/26/2013)
  - Problem statement & discussion
- September PC Special Call (9/27/2013)
  - Technical discussion
  - Stakeholder feedback
- October PC (10/10/2013)
- October PC Special Call (10/18/2013)
  - Technical discussion
  - Stakeholder feedback
- October MRC (10/24/2013)
  - Status update
  - Review RAA and Tariff – Attachment DD language
- November PC (11/7/2013)
  - Propose and request approval of Methodology
- November MRC (11/21/2013)
  - Request approval of Methodology
- February 2014
  - Import limit method anticipated to be included in the 2017/18 RPM BRA Planning Parameters
- May 2014
  - 2017/18 RPM BRA

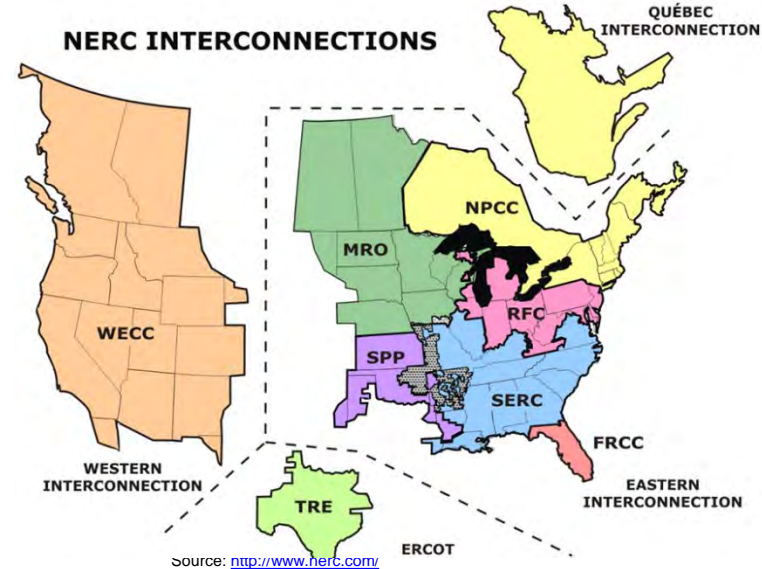
- **Stakeholder Feedback**
  - Committee meetings
    - PC, MRC
  - Teleconference
  - Email
  
- **Incorporation of Feedback**
  - Alternative methodology development

- **Previous 9/27/2013 Alternative**
  - Reviewed at 9/27/2013 Special PC Call
  
- **Previous 10/18/2013 Alternative**
  - Reviewed at 10/18/2013 Special PC Call
  
- **Current Alternative (Recommended)**

# Evaluation of an RTO Capacity Import Limit Methodology – Methodology & Key Analytical Assumptions

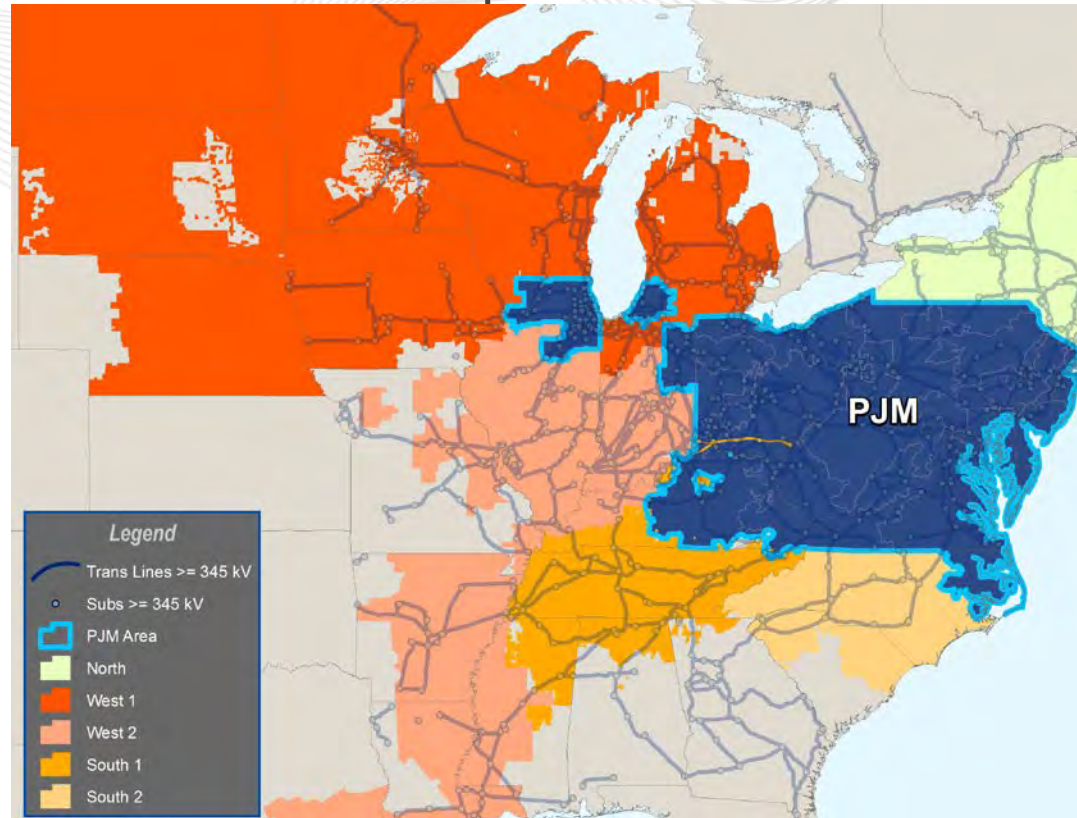
- **Key Analytical Assumptions**

- Monitored facilities
  - Thermal
    - All Eastern Interconnection BES (100 kV and above)
  - Voltage
    - Any part of the Eastern Interconnection for voltage collapse
    - All PJM BES for voltage magnitude and voltage drop limits
- Simulated contingencies
  - PJM single contingencies
    - All PJM internal BES contingencies + ties
  - Eastern Interconnection single contingencies
    - All non-PJM 230 kV+ bus-to-bus
    - Selected non-PJM BES breaker-to-breaker





- Five external source zones
  - North = NYISO & ISO NE
  - West 1 = MISO East, MISO West & OVEC
  - West 2 = MISO Central + MISO South
  - South 1 = TVA & LGEE
  - South 2 = VACAR (non-PJM)
  
- Source zone optimization
  - Scale zones independently
  - Internal to each zone, scale uniformly





- **Monitored facilities**
  - All Eastern Interconnection as described on a previous slide
- **Distribution Factor**
  - Minimum 3% DFAX cutoff applied to impacted facilities
- **Source Regions & Regional Optimization of Import**
  - Five conceptual source regions
- **Individual Generating Unit Redispatch**
  - No redispatch

## PJM IMPORT LIMITS (MW)

	Simultaneous	North	West 1	West 2	South 1	South 2
FCITC	9700	2500	3600	1200	2000	3900
CBM*	3500	902	1299	433	722	1407
FCITC - CBM	6200	1598	2301	767	1278	2493

\* CBM is allocated to each path based on the path's FCITC divided by the PJM simultaneous FCITC

- Result based on current 2018 assumptions
- CBM = Capacity Benefit Margin (3,500 MW per the PJM RAA)
- FCITC = First Contingency Incremental Transfer Capability

- See RAA language for specific rules
- Overview of exemption for external resources:
  - i. Dedicated to identified load in PJM
  - ii. Pseudo-tied
  - iii. Confirmed firm transmission service
  - iv. Commits to must offer requirement, same as internal generation

- **Request PC approval of methodology and close of the issue charge**
  - Today
- **PC review of the Manual, RAA, and Tariff language to support the method**
  - Today
- MRC approval of methodology, RAA and Tariff – Attachment DD language
  - Request on 11/21/2013
- PC endorsement of the Manual language to support the method
  - Request on 12/11/2013
- MRC approval of the Manual language
  - Request on 12/19/2013

Questions?  
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