



Joint and Common Market  
**PSEUDO TIES**



# Overview

## Purpose

- Provide a status update on MISO-PJM pseudo ties

## Goals

- Address near term pseudo tie implementation challenges
- Discuss long term enhancements/alternatives for pseudo tie challenges

## Key Takeaways

- From a reliability perspective, MISO and PJM are ready to implement 2016 pseudo ties
- MISO and PJM are discussing solutions/alternatives to address long term challenges

# Background

- PJM and MISO pseudo tied 156 MW during 2015-2016 planning year
- PJM and MISO will pseudo tie 2061 MW for 2016-2017 planning year
- Near term goals address 2016-2017 pseudo tie implementation challenges
- Long term goals address all pseudo ties

# Near term Scope

Category	Challenge	Solution	Status
Reliability	Local Reliability	Operations Memo	Complete
	Outage Coordination	Operations Memo	Complete
	EMS Modeling	Benchmarking	Complete w/ Pending Action
Compliance	Capacity Performance (CP) Penalties for local reliability	Subject to PJM CP penalties	Complete
Markets	DA unit commitment per JOA	DA FFE exchange process	Complete
	Double counting of M2M congestion	Continue investigation of impact and alternatives	On going
	Need for M2M Pseudo tie Flowgate Coordination when Pseudo tie is offline	Develop criteria to exclude a flowgate from M2M Coordination	On going

# Long term Scope

RTOs have discussed and will continue to discuss holistic approaches to implement external capacity deliverability constructs

- MISO proposal
- Current PJM Pseudo Tie Requirement

# MISO Proposal

- The Host RTO:
  - Would be obligated to deliver energy associated with capacity resources
  - Will schedule the firm export subject to notice being provided by the attaining RTO
  - Shall not curtail the firm exports until it declares Capacity Emergency (Level 5) that results in the shedding of firm load
  - Would enforce a Day-Ahead must offer requirement on all external capacity sales
  - Would provide timely resource status information necessary to enforce attaining RTO's capacity performance framework
- When scheduled, the external capacity supplier will settle the export with both RTOs
- Both RTOs would have joint authority to review and approve planned outages

# Results from Discussion on long-term proposal

- Capacity cleared in RPM must be available for commitment and dispatch in day-ahead and real-time
- Internal and external generation must be treated comparably (deliverability & equal opportunity)
- External generation needs to be treated consistently between neighboring entities (consistency & equal opportunity)
- Capacity offers need to reflect replacement capacity costs & re-dispatch costs

# External Capacity Performance Problem Statement

PJM has discovered the following challenges with the external CP resource construct and has initiated a stakeholder process to address these challenges:

- 1) Compliance risks associated with network model expansions
- 2) Congestion management challenges and compliance risks resulting from the delivery of external capacity and energy
- 3) Transmission service evaluation process and planning requirements for external resources
- 4) Operational impacts on native systems resulting from an external entity committing and dispatching resources in their footprint



# Next Steps

- RTOs to address on going near term challenge
- RTOs and stakeholders to explore long term solutions / alternatives for external capacity
- RTOs will update stakeholders during upcoming JCM sessions & regional committee meetings

# Contacts

Solicit stakeholder feedback – send comments to:

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# Appendix : MISO-PJM Pseudo-Tie OP Guide

- Purpose – RTOs to mutually agree on pseudo tie operations protocols
  
- Concepts -
  - 1) NERC Authority – Discuss RC, BA and TOP Authority for pseudo ties
  - 2) Congestion Management – Discuss M2M and Local Congestion
  - 3) Communication – Discuss normal communication and emergency communication protocols
  - 4) Outage Coordination – Discuss Generation and Transmission outage coordination respecting RTOs outage submittal requirements

# Appendix: Scope

## Reliability

- Local reliability concerns (MISO)
- Increased interregional outage coordination (PJM)
- Expanding EMS to model per JOA (PJM)

## Markets

- DA and RT M2M Impacts (PJM)
- Out of merit dispatch for local reliability concerns (PJM and MISO)
- Native and attaining bus LMP differences (MISO)

## Planning

- Appropriateness of TSR study process (MISO)
- Unit retirements (MISO)

## Compliance

- Discuss NERC, NAESB, JOA and Tariff obligations (MISO and PJM)

# PJM Capacity Performance Key Takeaways

- Internal and external capacity performance resources within PJM's Capacity Market are always subjected to non-performance evaluation during performance assessment hours.
- Internal and external capacity performance resources will not be subject to non-performance charges when curtailed to manage congestion on facilities which are included in PJM's congestion management processes, including the inter-regional Congestion Management Process.
- Internal and external capacity performance resources will be subject to non-performance charges during performance assessment hours, when curtailments are directed by a local Transmission Operator (TOP) for facilities which are not included in PJM's congestion management processes.