



Joint and Common Market

ITEM 4 – PSEUDO TIES



Overview

Purpose

- Provide a status update on MISO-PJM pseudo ties

Goals

- Address near term pseudo tie implementation challenges
- Explore 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 will discuss 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

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)

Near term Scope

Category	Challenge	Solution	Status
Reliability	Local Reliability	Operations Memo	Complete
	Outage Coordination	Operations Memo	Complete
	EMS Modeling	Benchmarking	Pending
Compliance	Capacity Performance (CP) Penalties for local reliability	Subject to PJM CP penalties	Complete
Markets	DA unit commitment per JOA	DA FFE exchange process	Pending
	Need for certain M2M Flowgate Coordination when the impacted Pseudo tie is offline	Develop criteria to exclude impacted Flowgates from M2M Coordination	Pending

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.

Long term Scope

RTOs are discussing 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

Long term Scope and MISO Proposed Solution

Category	Challenge	Proposed Solution	Status
Markets	DA unit commitment per JOA	Add Must offer language to Tariff for non-MISO capacity resource	Open
	Local Reliability Dispatch	Not Applicable	Pending
	Native and Attaining LMP Differences	Not Applicable	Pending
	Firm Flow Entitlements	Additional discussion needed	Open
Reliability	EMS Modeling	Alternative does not require EMS model expansion by attaining balancing area	Pending

Long term Scope and PJM Proposed Solution

Category	Challenge	Proposed Solution	Status
Markets	DA unit commitment per JOA	FFE rewrite (Tariff)	Open
	Local Reliability Dispatch	JOA settlement process	Pending
	Native and Attaining LMP Differences (For Partial)	CTS + Shadow Price Convergence	Pending
Reliability	EMS Modeling	EMS model expansion by attaining balancing area is needed	Pending

Common to Both Proposals

Category	Challenge	Proposed Solution	Status
Markets	Congestion Overlaps	Under review	Open
Planning	TSR study challenges	Enhance TSR study process	Open
	Unit Retirements	MISO Tariff Filing to notify Host BA	Pending
Compliance	IRO (EMS) and INT (CMP) Standards	Under review	Open

Next Steps

- RTOs to address outstanding near term
- RTOs to explore long term solutions/alternatives for external capacity
- RTOs will update stakeholders during upcoming JCM sessions

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