

Fact Finding 2 Transfer Analysis

January 24th 2014

Joint and Common Market Meeting

Introduction

- Fact Finding 1 - Cross border resource deliverability
- Fact Finding 2 – Export and Import limits between MISO (its Local Resource Zones) and external systems to ensure reliability
- End goal – FF1 and FF2 generation and transmission limits used in conjunction to inform potential reliable network service availability between the two systems and qualification as Planning Resource in Resource Adequacy Auction replacing current point to point reservation evaluation process
- Deliverables:
 - Import Limits
 - Calculated into each MISO Local Resource Zone (LRZ)
 - Calculated into MISO from PJM
 - Export Limits
 - Calculated out of each MISO Local Resource Zone (LRZ)
 - Calculated out of MISO to PJM



Fact Finding 2 – Methodology Overview

- Generation to Generation transfers – No load scaling
- Total Transfer Capability (Base plus Incremental) – Not incremental only
- Zonal Imports: Sourced from available generation in both PJM & MISO areas with ties to that zone.
- MISO Import: Sourced from available generation in PJM areas tied to MISO
- Zonal Exports: Available generation in the zone sourced to generation dispatched in remaining MISO & PJM
- MISO Export: Available generation sourced to generation in PJM
- Key technical components
 - Model: Fact Finding 1 Model (MTEP/RTEP 2018 Summer Peak)
 - Monitored System: All MISO & Seam facilities 100 kV and above
 - Applied Contingencies: MTEP (including MISO seams) and RTEP n-1
 - Distribution Factor threshold: 3%

High Level FF2 Schedule

Milestone	Date	Location
MISO Methodology Overview	January 24 th	JCM
MISO Preliminary results	February 6 th	MISO Supply Adequacy Working Group (SAWG)
MISO Final results	March	JCM

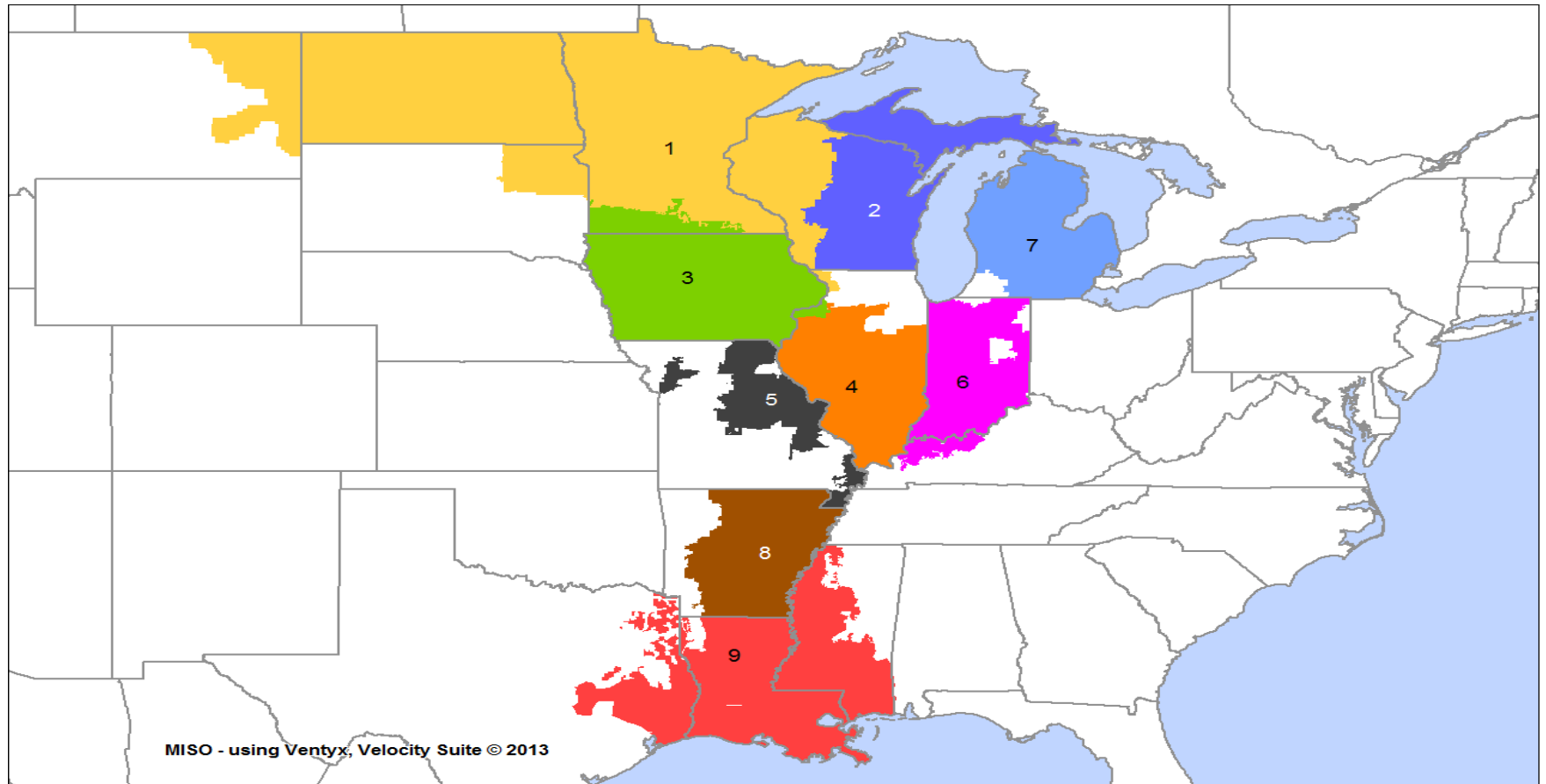


Questions?

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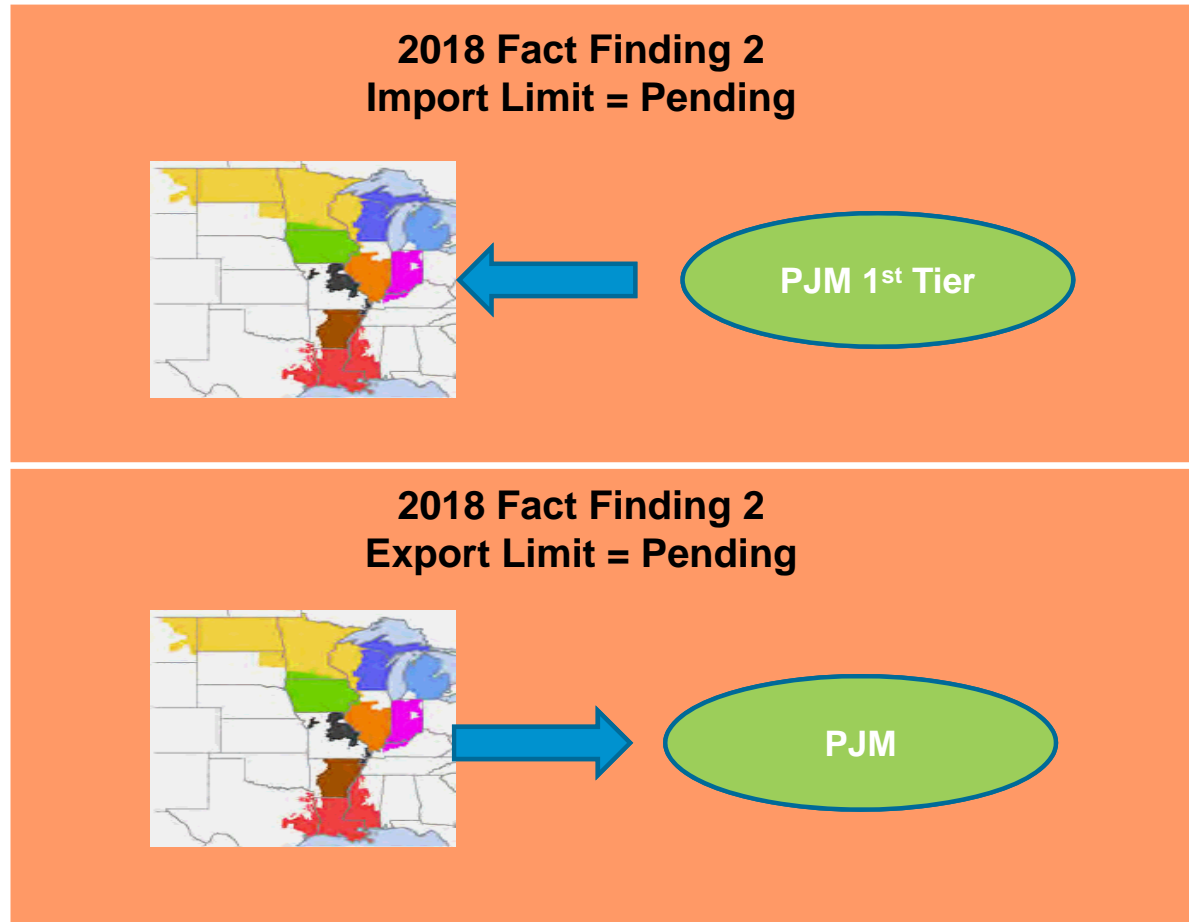
Appendix

Source and Sink Definitions



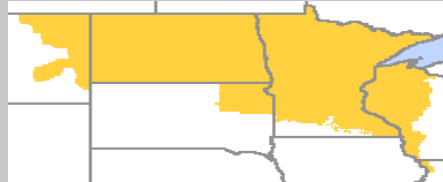
MISO Local Resource Zone (LRZ) Map

MISO



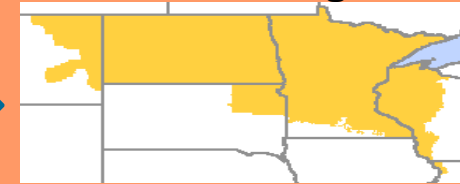
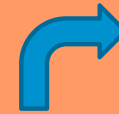
MISO Local Resource Zone 1 Limits

Current MISO PRM Study 2018
Import Limit = 3,551 MW



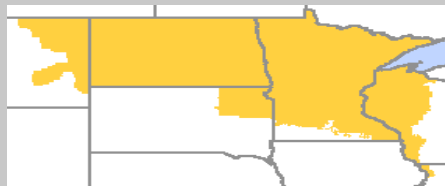
LRZ 1 Tier 1
MISO Areas

2018 Fact Finding 2
Import Limit = Pending



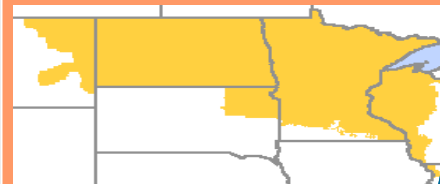
LRZ 1 Tier 1
MISO Areas

Current MISO PRM Study 2018
Export Limit = 2,499 MW



MISO - LRZ 1

2018 Fact Finding 2
Export Limit = Pending

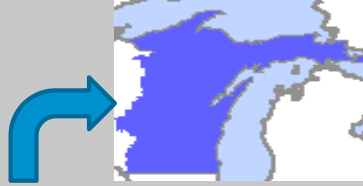


MISO - LRZ 1

PJM

MISO Local Resource Zone 2 Limits

Current MISO PRM Study 2018
Import Limit = 2,437 MW



LRZ 2 Tier 1
MISO Areas

2018 Fact Finding 2
Import Limit = Pending



LRZ 2 Tier 1
MISO Areas

LRZ 2 Tier 1
PJM Areas

Current MISO PRM Study 2018
Export Limit = 1,582 MW



MISO - LRZ 2

2018 Fact Finding 2
Export Limit = Pending



MISO - LRZ 2

PJM

MISO Local Resource Zone 3 Limits

Current MISO PRM Study 2018
Import Limit = 5,985 MW



LRZ 3 Tier 1
& 2 MISO
Areas

2018 Fact Finding 2
Import Limit = Pending



LRZ 3 Tier 1
MISO Areas

LRZ 3 Tier 1
PJM Areas

Current MISO PRM Study 2018
Export Limit = 2,983 MW



MISO - LRZ 3

2018 Fact Finding 2
Export Limit = Pending



MISO - LRZ 3

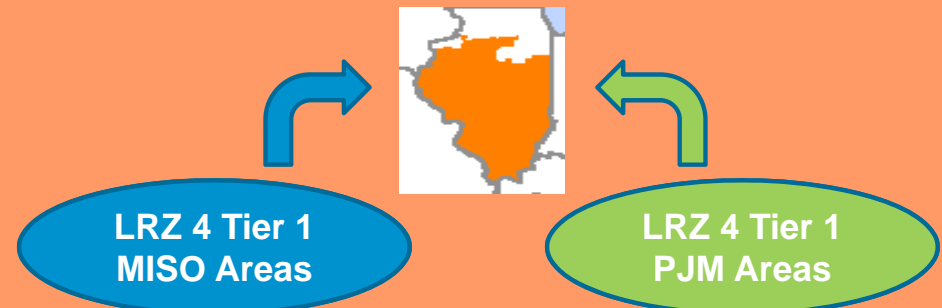
PJM

MISO Local Resource Zone 4 Limits

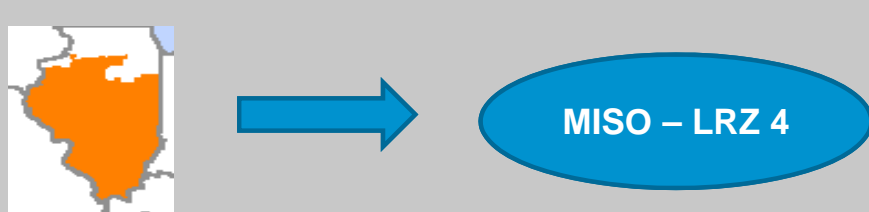
Current MISO PRM Study 2018
 Import Limit = 11,662 MW



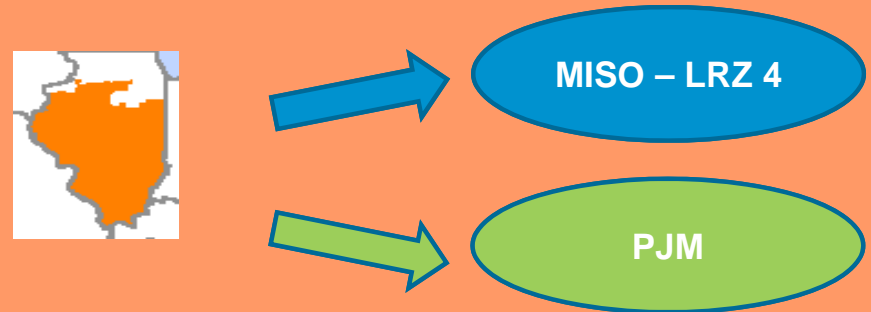
2018 Fact Finding 2
 Import Limit = Pending



Current MISO PRM Study 2018
 Export Limit = 3,010 MW

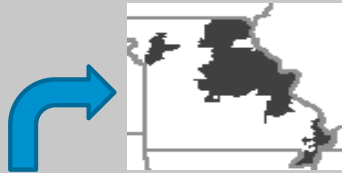


2018 Fact Finding 2
 Export Limit = Pending



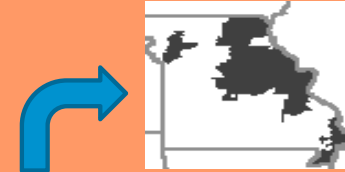
MISO Local Resource Zone 5 Limits

Current MISO PRM Study 2018
Import Limit = 3,465 MW



LRZ 5 Tier 1
& 2 MISO
Areas

2018 Fact Finding 2
Import Limit = Pending



LRZ 5 Tier 1
MISO Areas

Current MISO PRM Study 2018
Export Limit = 2,181 MW



MISO – LRZ 5

2018 Fact Finding 2
Export Limit = Pending

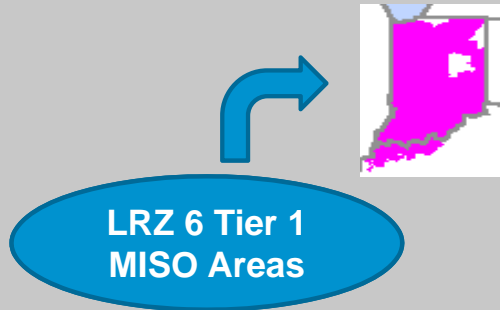


MISO – LRZ 5

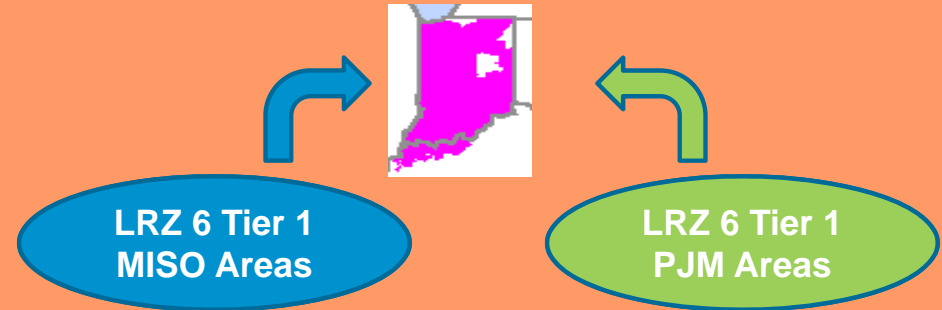
PJM

MISO Local Resource Zone 6 Limits

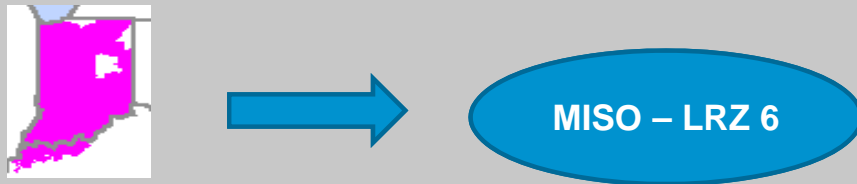
Current MISO PRM Study 2018
Import Limit = 4,874 MW



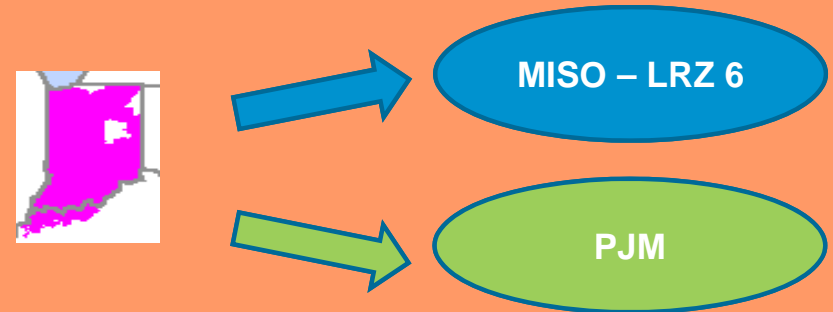
2018 Fact Finding 2
Import Limit = Pending



Current MISO PRM Study 2018
Export Limit = 1,639 MW

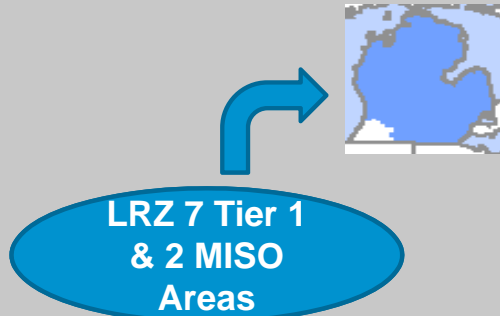


2018 Fact Finding 2
Export Limit = Pending

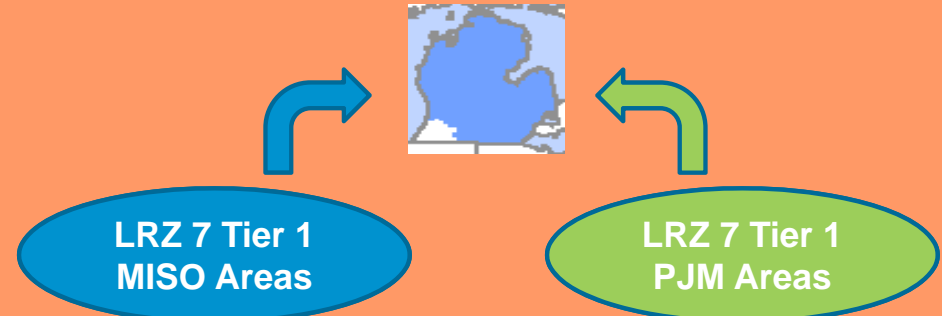


MISO Local Resource Zone 7 Limits

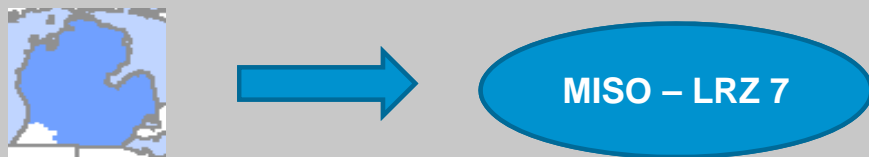
Current MISO PRM Study 2018
Import Limit = 2,922 MW



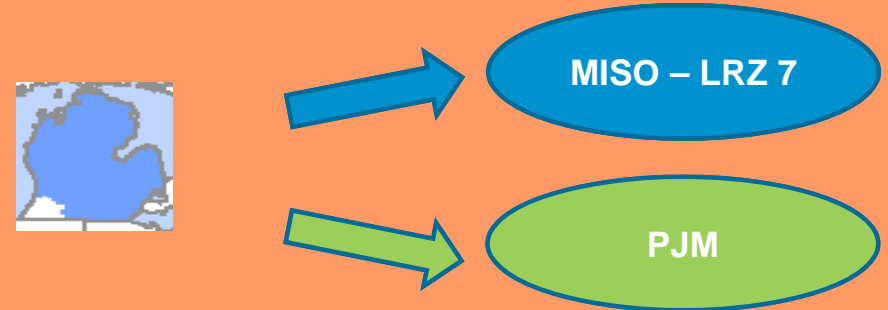
2018 Fact Finding 2
Import Limit = Pending



Current MISO PRM Study 2018
Export Limit = 4,813 MW



2018 Fact Finding 2
Export Limit = Pending



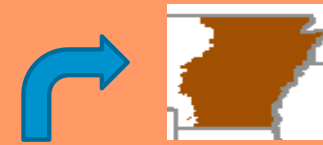
MISO Local Resource Zone 8 Limits

Current MISO PRM Study 2018
Import Limit = 1,110 MW



LRZ 8 Tier 1
MISO Areas

2018 Fact Finding 2
Import Limit = Pending



LRZ 8 Tier 1
MISO Areas

Current MISO PRM Study 2018
Export Limit = 2,180 MW



MISO - LRZ 8

2018 Fact Finding 2
Export Limit = Pending



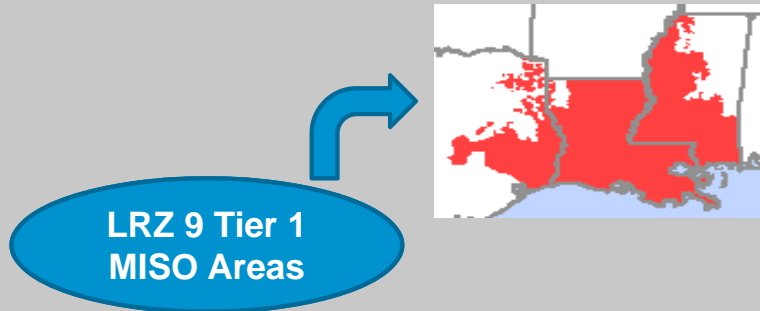
MISO - LRZ 8



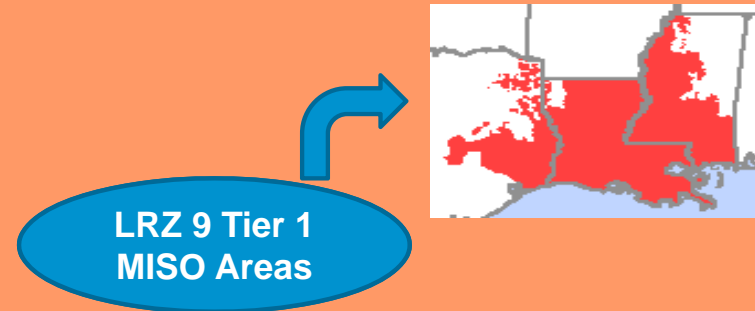
PJM

MISO Local Resource Zone 9 Limits

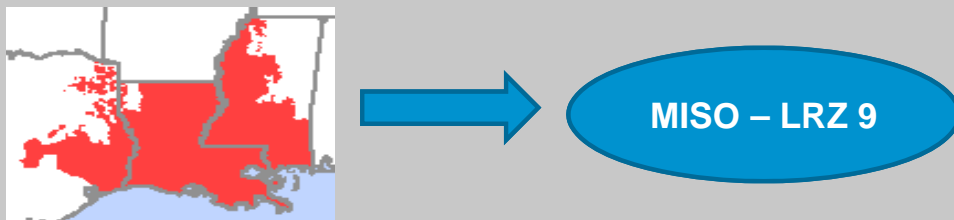
Current MISO PRM Study 2018
Import Limit = 3,972 MW



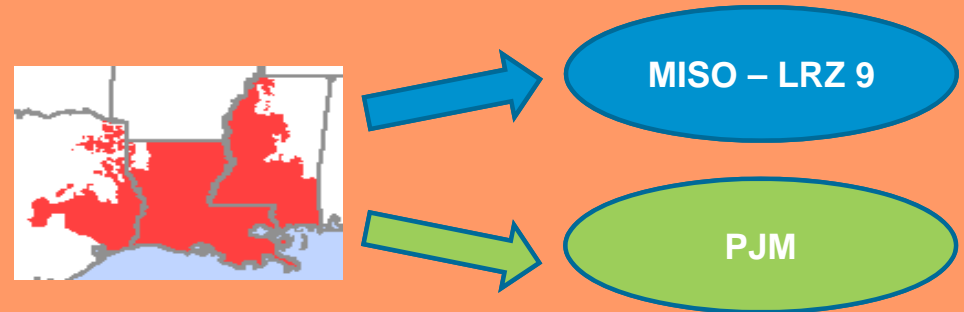
2018 Fact Finding 2
Import Limit = Pending



Current MISO PRM Study 2018
Export Limit = 2,295 MW



2018 Fact Finding 2
Export Limit = Pending



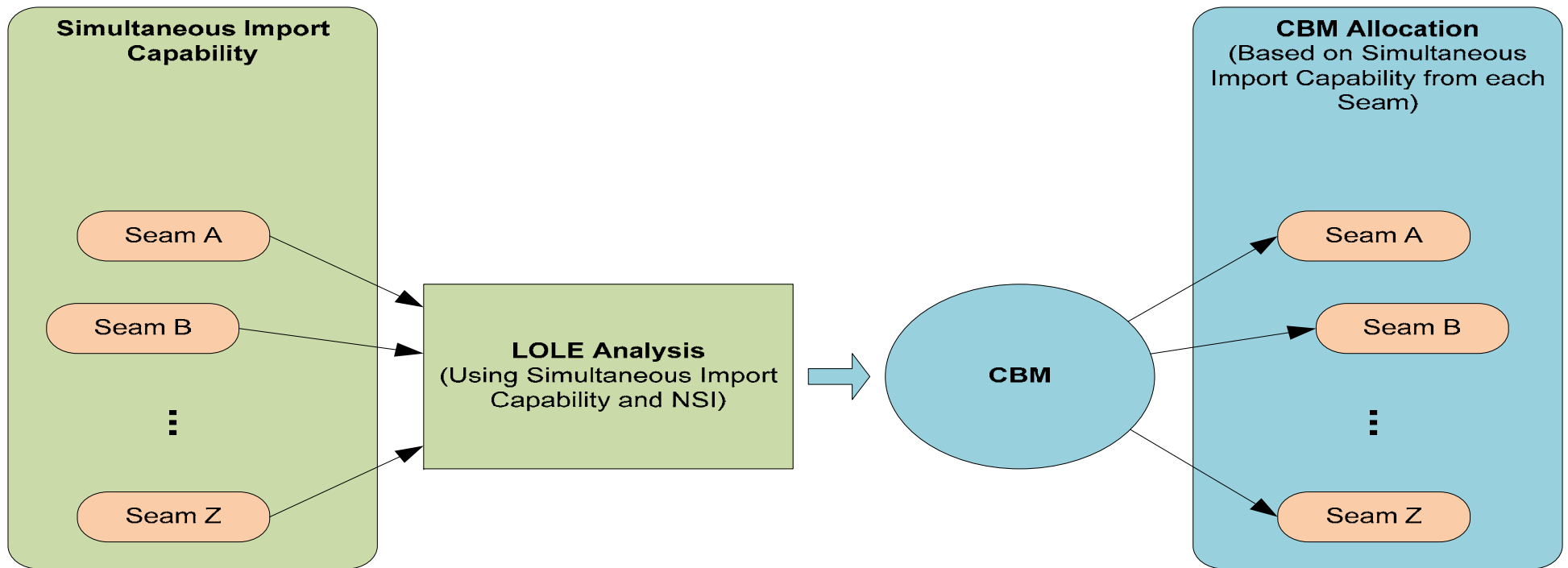
Tier Definitions

System	LOLE Study Tier	LOLE Tier Area Detail	Fact Finding Tier 1 Detail (all constraints identified using tier 1 only)
LRZ 1	1 & 2	ITCM, ALTE, WPS, MEC, AMMO, AMIL, MPW, WEC, MGE	ITCM, ALTE, WPS
LRZ 2	1	METC, XEL, DPC	METC, XEL, DPC, CE
LRZ 3	1 & 2	AMMO, AMIL, XEL, DPC, EES-EAI, SIPC, MP, OTP, ALTE, SMMPA, GRE, WPS	AMMO, AMIL XEL, DPC, CE
LRZ 4	1 & 2	DEI, NIPS, AMMO, ITCM, MEC, BREC, HE, SIGE, IPL, METC, XEL, MPW, DPC, WPS, EES-EAI, CWLD	DEI, NIPS, AMMO, ITCM, MEC, BREC, CE, AEP
LRZ 5	1 & 2	AMIL, ITCM, MEC, EES-EAI, DEI, NIPS, SIPC, XEL, MPW, DPC, CLEC, EES-EMI, LAGN, PLUM, OMLP, WMU, CWAY, BUBA, PUPP, NLR, EES	AMIL, ITCM, MEC, EES-EAI
LRZ 6	1	SIPC, AMIL, METC	SIPC, AMIL, METC, CE, AEP, DEO&K
LRZ 7	1 & 2	WEC, NIPS, DEI, AMIL, ALTE, WPS, UPPC	WEC, NIPS, FE, AEP
LRZ 8	1	EES-EMI, LAGN, EES, AMMO	EES-EMI, LAGN, EES, AMMO
LRZ 9	1	EES-EAI, PLUM, OMLP, WMU, NLR, BUBA, CWAY, PUPP, AMMO	EES-EAI, PLUM, OMLP, WMU, NLR, BUBA, CWAY, PUPP, AMMO

Tier Definitions cont.

System	PJM 1 st Tier
MISO	CE, AEP, FE, DEO&K
LRZ 2	CE
LRZ 3	CE
LRZ 4	CE, AEP
LRZ 6	AEP, DEO&K, CE
LRZ 7	FE, AEP

Proposed end use of MISO CILs



Generation Redispatch

Background

- Generation redispatch will be investigated to determine impact on constraints

Assumptions

- Common assumptions with redispatch for baseline reliability projects

Generator selection

- Exports
 - Generators limited to Local Resource Zone under study
- Imports
 - Generators in importing subsystem can be dispatched up
 - All MISO can dispatch down