AMEREN MISSOURI CAPACITY POSITION REVIEW

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Andrew Meyer

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Agenda

Introduction
- ✓ Ameren Missouri's structure
  - ✓ Organization Chart
  - ✓ Energy Management & Trading

Resource Adequacy Compliance & Capacity Marketing
- ✓ MISO Market
  - ✓ Planning Resource Auction
  - ✓ Capacity Position Determination
- ✓ Zonal Deliverability
  - ✓ Demonstrating Compliance: Self Schedule vs FRAP

Competitive Retail Solution
- ✓ MISO Proposal Features
  - ✓ Key Provisions
  - ✓ Access to Owned Generation
- ✓ IMM Proposal
  - ✓ Key Provisions

OMS Survey
- ✓ 2015 vs 2016

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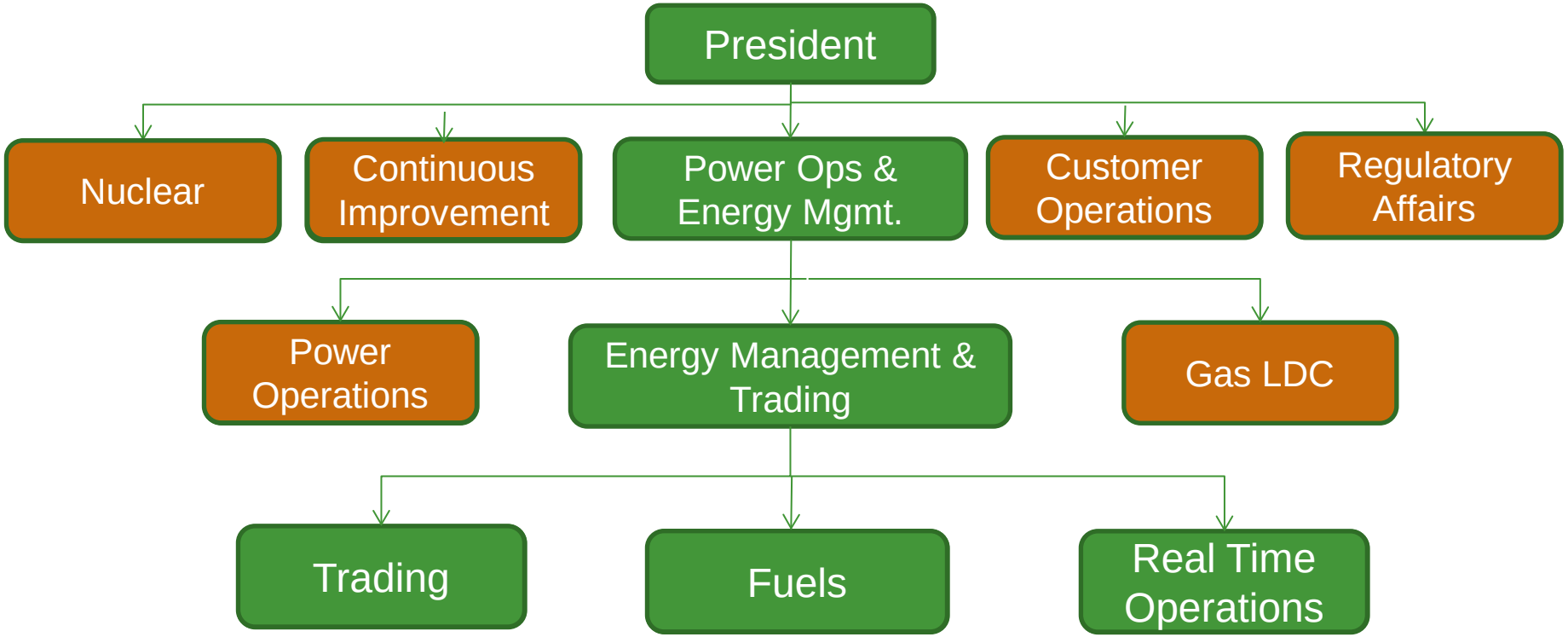
Ameren Missouri's Structure



Department Functions

Trading

- Energy Hedge Plan
- Capacity Marketing
- Congestion Management
- Real-Time Power
- Gas Supply – Gen
- Origination
- Hydro Management
- Demand Forecasting

Fuels

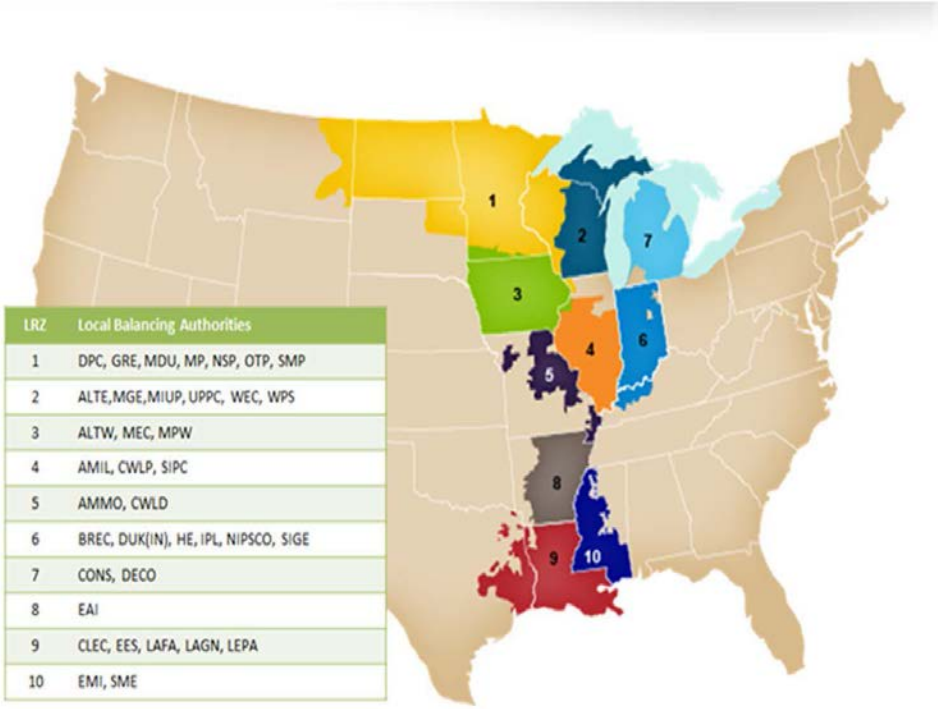
- Coal Procurement
- Rail Transportation
- Rail Surcharge
- Emissions
- Activated Carbon
- Refined Coal
- Fuel Oil
- Limestone
- Railcar Repair

Real Time Ops

- Generation Dispatch
- CTG Remote Ops
- Outage Scheduling
- Position Coordination
- Generation Offers
- Performance Monitoring
- Contingency Reserve Event Response

Resource Adequacy

MISO Capacity Market



LRZ	Local Balancing Authorities
1	DPC, GRE, MDU, MP, NSP, OTP, SMP
2	ALTE,MGE,MIUP, UPPC, WEC, WPS
3	ALTW, MEC, MPW
4	AMIL, CWLP, SIPC
5	AMMO, CWLD
6	BREC, DUK(IN), HE, IPL, NIPSCO, SIGE
7	CONS, DECO
8	EAI
9	CLEC, EES, LAFA, LAGN, LEPA
10	EMI, SME

- In 2009 MISO implemented a monthly, aggregate deliverable capacity market.
- With FERC order ER11-4081-000, the MISO construct changed to an annual requirement, with zonal boundaries to incent location specific resource planning.
- In late March each year, MISO conducts a Planning Resource Auction (PRA) for the upcoming planning year (June – May).
- The potential exists for each zone to produce a unique Auction Clearing Price (ACP).
- Loads using resources from different zones to demonstrate resource adequacy are subject to Zonal Deliverability Charges, or Benefits, if zonal prices separate.

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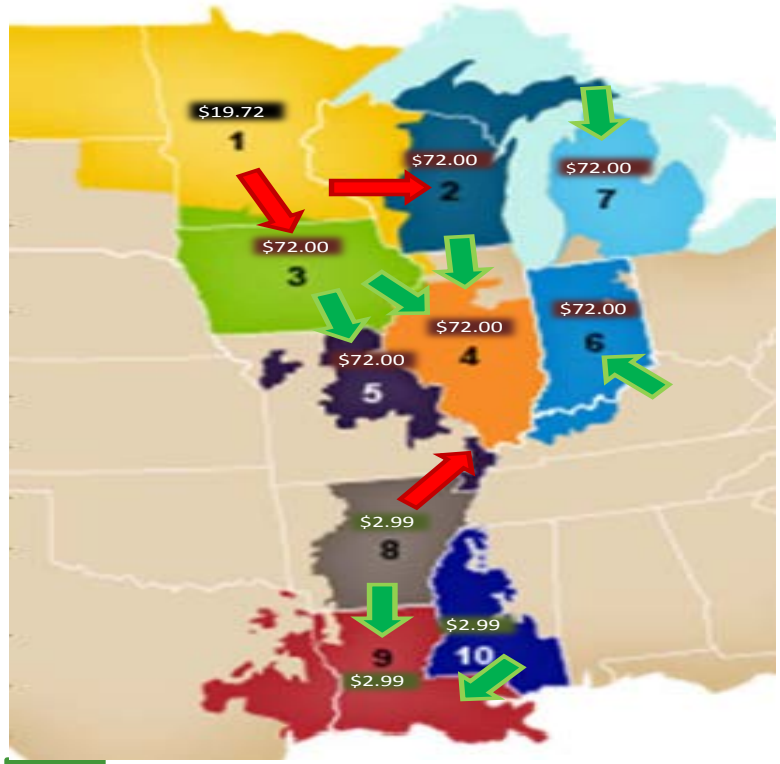
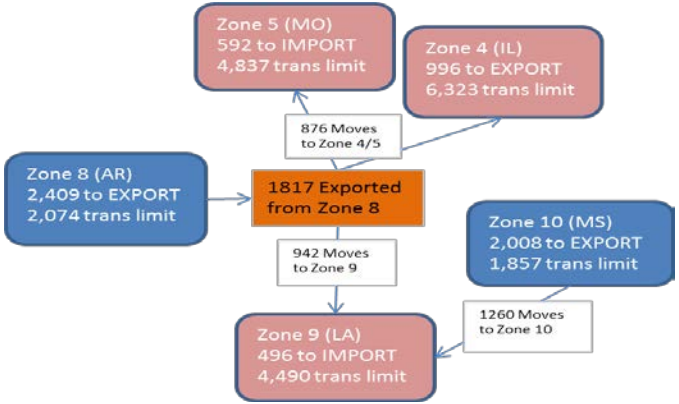
PY 2016/17 PRA Results



- ✓ The Sub-Regional Export Constraint from the South region to the Midwest region bound at 876 MW causing significant price separation between the two regions.



- ✓ Zone 1 met the PRA Capacity Export Limit (CEL) of 590 MW causing price separation in the northwest. All other Zones maintained a free flow of capacity.

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Self-Schedule vs FRAP

- ✓ **Load-serving Entities (LSEs) have the option to either submit a Fixed Resource Adequacy Plan (FRAP) in advance of the PRA or to self-schedule their resources.**
- ✓ **A FRAP allows the LSE to essentially remove their generation and load from the auction clearing process.**
  - ✓ If the LSE's FRAP includes resources from a zone other than the load and the price of capacity in the load zone is higher than the price of capacity in the resource zone, then the LSE will incur what MISO terms a Zonal Deliverability Charge – the LSE will receive a bill for the price difference.
  - ✓ If the price difference is flipped and the price in the resource zone is higher than the load zone, the LSE forfeits the ability to benefit from the price difference by using the FRAP.
- ✓ **A self-schedule involves offering the LSEs resources at $0.00/MW-day, up to the MW amount needed to meet obligations. This ensures that at least that amount of resources will clear in the auction.**
  - ✓ Using a self-schedule allows the LSE to retain the benefit of having the resource zone clear at a price higher than the load zone, while leaving the LSE in the same position as the FRAP when the opposite occurs.
  - ✓ A self-schedule provides a hedge against the cost of purchasing capacity for the load. The net of gross sales revenues and the gross purchase expenses represent the net impact to LSE customers.

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Self-Schedule Benefits

- ✓ In the PY 2015/16 PRA, Zone 4 (where many of Ameren Missouri's CTG's are located) cleared at a price of $150/MW-day, while Zone 5 (where the entire load and the balance of generation are located) cleared at a price of only $3.48/MW-day.
- ✓ Ameren Missouri's load obligation in Zone 5 exceeded available resources in Zone 5 by 536.1 MW.

- ✓ Because Ameren Missouri used a self-schedule instead of a FRAP, the 536.1 MW shortfall in Zone 5 was purchased at $3.48/MW-day for a cost of $0.7 million and the same amount in Zone 4 was sold at $150/MW-day for a revenue of $29.4 million. This resulted in a net benefit to Ameren Missouri customers, split 95% and 5% respectively via the FAC sharing mechanism, of $28.7 million above the revenue received for excess capacity sales.
- ✓ Had Ameren Missouri chosen to use a FRAP, customers would not have enjoyed the additional $28.7 million net benefit.
- ✓ For the PY 2016/17 PRA, Zone 4 cleared at the same price as Zone 5. Ameren Missouri received the auction clearing price of $72/MW-day for the generation in Zone 4 and paid $72/MW-day for the load in Zone 5. Ameren Missouri customers paid the same price as they would have using a FRAP.

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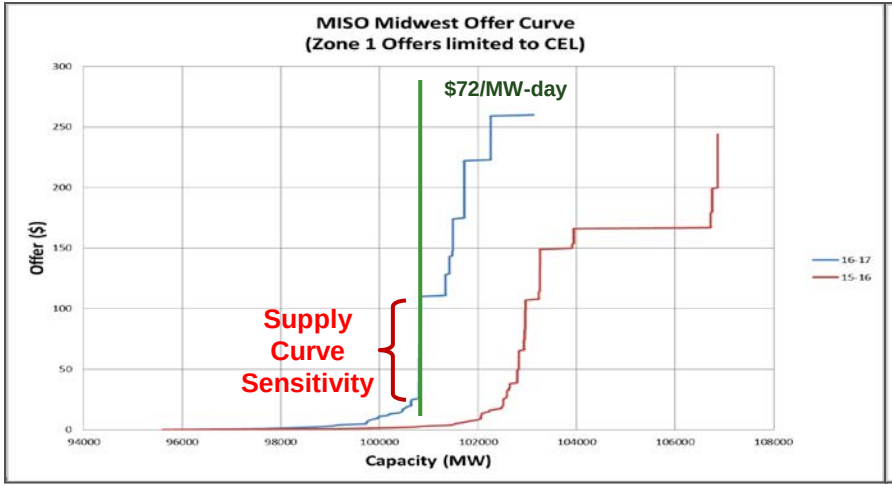
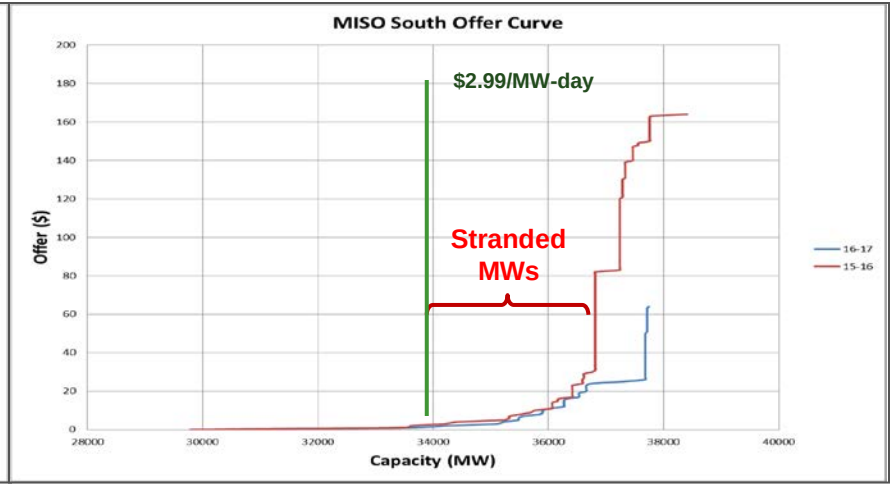
Supply Curve

- ✓ The PRA cleared in a highly-sensitive portion of the supply curve. A 185MW change in capacity demand results in a price differential of ~$25/MW-day to ~$110/MW-day.





- ✓ Continued volatility is expected if the current capacity construct remains in place.
- ✓ Capacity to the right of the South region demand curve shown in the chart represent stranded MWs that could not be moved north into the Midwest region.

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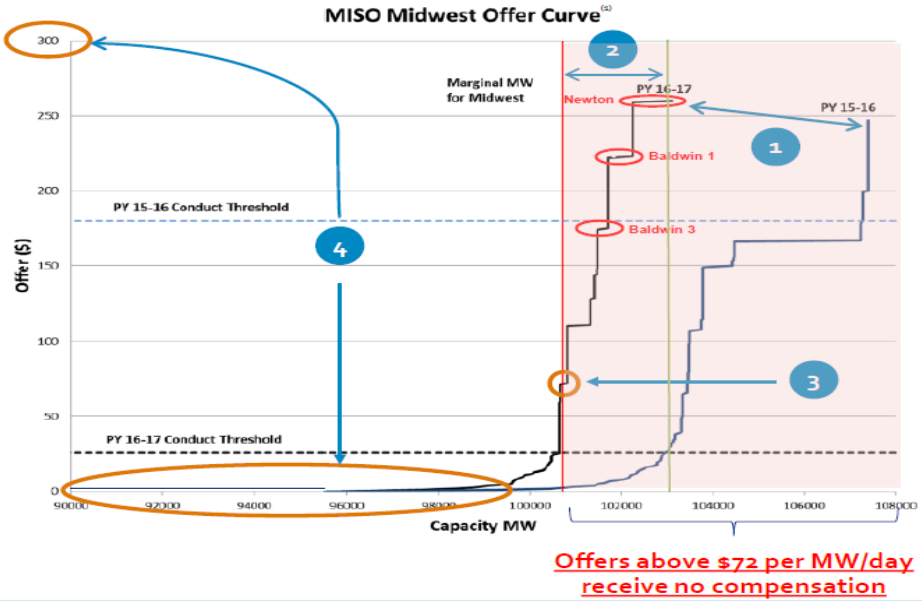
Dynegy Q1 2016 Earnings Presentation



1. **Lower supply:** Retirements and exports lowered supply by ~4 GW
2. **Capacity requirement decreased:** MISO decreased the 2016/2017 capacity requirement by ~2 GW
3. **Clearing price unable to address rising costs, tight energy margins:** Given lower energy margins, merchant generation needs higher capacity revenues to cover costs. Dynegy's cost based offers approved by the IMM exceeded the $72 per MW-day clearing price
4. **Hybrid market design suppresses capacity pricing:** Regulated utilities recover on average ~$300/MW-day for capacity through rate base resulting in their units being offered in at little to no cost

Offers above $72 per MW/day receive no compensation

Current construct leaves over 2,000 MW of Dynegy's and IPH's MISO generation without cost recovery

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[1] Source: MISO's 2016/17 Planning Resource Auction Results report released on April 14, 2016

DYNEGY

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MISO Competitive
Retail Solution

Background

- ✓ Price spikes in Zone 4 during the PY 2015/16 PRA resulted in an outgrowth of complaints to FERC and subsequent FERC Order issued in December 2015.
- ✓ MISO formed the Competitive Retail Solution Task Team (CRSTT) to review the issue
- ✓ Based on feedback from stakeholders and the CRSTT, MISO issued a proposal in mid-March that phases in additions to the existing market construct over a 1.5 year period.

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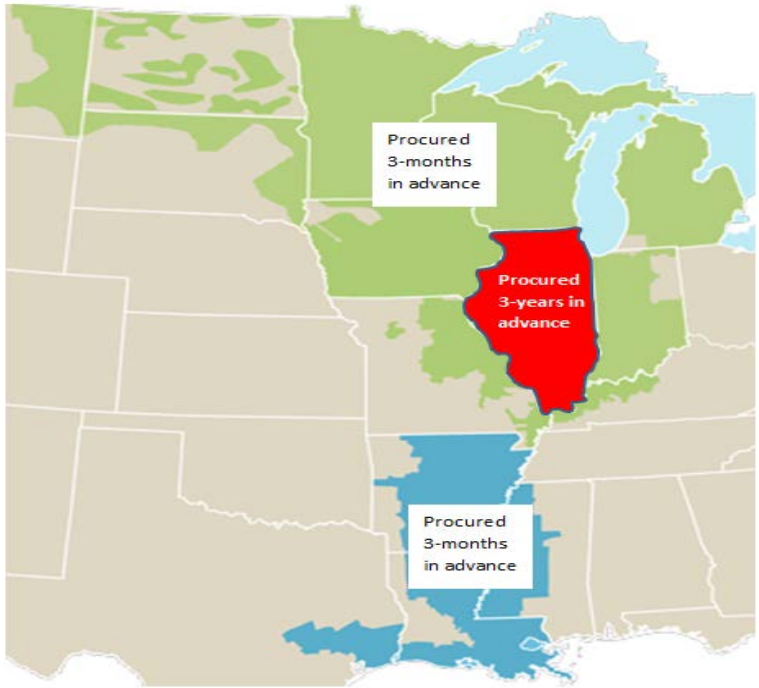
MISO Proposal Details

- ✓ The MISO proposal leaves the existing PRA construct in place and adds a three year Forward Resource Auction (FRA) for portions of the MISO footprint that rely on markets to assure resource adequacy.
- ✓ The proposal includes
  - ✓ A variable (downward sloping relative to price) demand procurement volume for all resources procured to meet participating demand
  - ✓ A residual prompt procurement process for remaining resource needs that is fully integrated with the existing prompt year
- ✓ The FRA pertains to Competitive Retail Areas (CRA) such as Zone 4 and to a lesser degree areas in other retail choice states.



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Key Provisions

- ✓ Optional participation by other Load Serving Entities.
  - ✓ If an LSE in a non-competitive retail region desires, it may choose to have its demand represented in the newly created construct for both the forward and prompt auctions. *After consultation with OMS, this option was removed in MISO's revised proposal.*
- ✓ **Limited Must-Offer for Supply Resource Participation Criteria**
  - ✓ Participation in the FLRA for supply resources will be voluntary, except for resources located in a LRZ with participating demand. Resources located in the same LRZ as participating demand will be subject to existing market power monitoring and mitigation measures under Module D requirements of the MISO Tariff for the FLRA.
  - ✓ However, a **Safe Harbor Exemption** from such provisions will apply to supply resources owned or controlled by LSEs with forecasted demand not otherwise represented in the FLRA that is equal to or in excess of their portfolio of supply. This may include LSEs with resources in a participating LRZ and demand to serve in a different LRZ.

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MISO Stakeholder Meetings

- ✓ At each of the last three MISO stakeholder meetings, many entities voiced concerns with the proposals.
- ✓ The Independent Market Monitor (IMM) voiced objections to the proposed 3-year construct and instead favors the continuation of the existing prompt year PRA with the addition of a sloped demand curve for Zones with competitive retail states.
- ✓ Exelon and Dynegy are supportive of a capacity construct similar to PJM's capacity market.
- ✓ The Illinois Attorney General and Illinois Industrial customers want to maintain the current construct for Ameren Illinois.

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Independent Market Monitor Proposal

- ✓ Introduce a demand curve for the local requirement in Competitive Retail Areas (CRA) that reflects the marginal reliability value of capacity in the CRA.
- ✓ Optimize the procurements in the CRA through the prompt auction.
- ✓ Define the capacity product the same as in other MISO areas.
- ✓ Procurement quantities and prices outside the CRA would be determined by the current market structure (i.e., the vertical demand curves).

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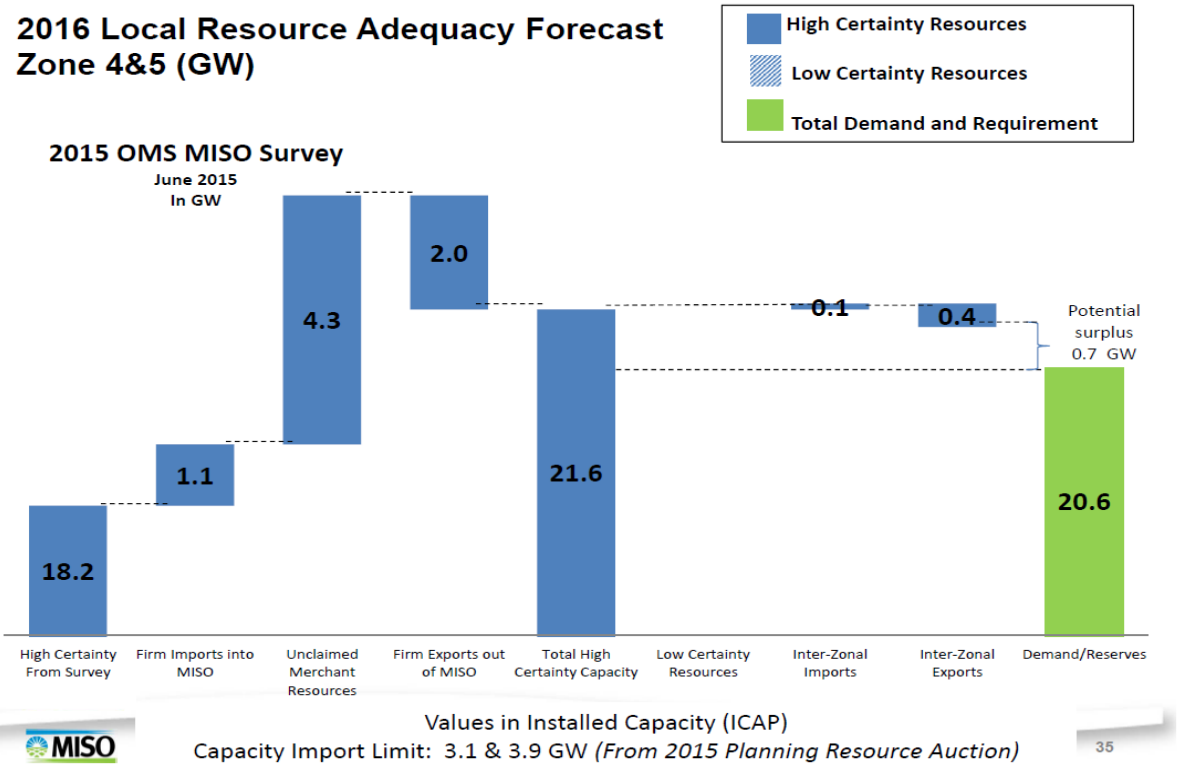
OMS Survey

2015 OMS Survey Results



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