Melissa Seymour
Regional Executive – Central Region
Direct Dial: 317-249-5709
Email: mseymour@misoenergy.org

December 13, 2017

The Honorable Chairman Brien J. Sheahan
The Illinois Commerce Commission
527 East Capitol Avenue
Springfield, Illinois 62701

Re: Post-Workshop Comments

Dear Chairman Sheahan,

MISO appreciated the opportunity to participate in the Illinois Commerce Commission's (ICC) December 7th MISO Zone 4 Workshop. As a follow-up to the meeting, I thought it might be informative to provide the following fact-sheets regarding the OMS/MISO Resource Adequacy survey and System Support Resources (SSR).

MISO appreciates the opportunity to provide this additional information and looks forward to participating in the January workshop.

Respectfully submitted,

/s/ Melissa Seymour
Melissa Seymour
Executive Director, Customer and
Regulatory Affairs
Midcontinent Independent
System Operator, Inc.
720 City Center Drive
Carmel, Indiana 46032
Telephone: (317) 249-5709
mseymour@misoenergy.org

OMS-MISO Annual Resource Adequacy Survey

The OMS-MISO Survey is a cooperative effort between state regulatory agencies, load-serving entities and MISO to quantify how much electricity-generating capacity the region will have going forward

In the MISO region, the responsibility for ensuring that enough resources will be available to meet the demand for electricity while maintaining an adequate supply of reserves—a concept known as achieving "Resource Adequacy"—rests with Load-Serving Entities (LSEs) and state regulatory agencies where applicable. MISO assists in this effort by looking at the supply and demand picture on a region-wide basis.

One of the tools used for this purpose is the **OMS-MISO Survey**, an annual, cooperative effort between LSEs, MISO and the Organization of MISO States (OMS) to quantify how many megawatts of electricity-generating resources will be available for five years going forward. OMS stands for the Organization of MISO States, which is comprised of representatives of the state regulatory authorities in the MISO region.

Did you know?

- The survey shows how the Load-Serving Entities in the MISO region intend to meet customer demand on a forward-looking, five-year time horizon.
- While the survey is voluntary, a very large percentage of the region's load-serving entities typically participate.
- The survey is especially important now, given that the region's historical reliance on coal-fired energy is evolving due to factors such as environmental regulations, low natural gas prices and state renewable-energy policies.

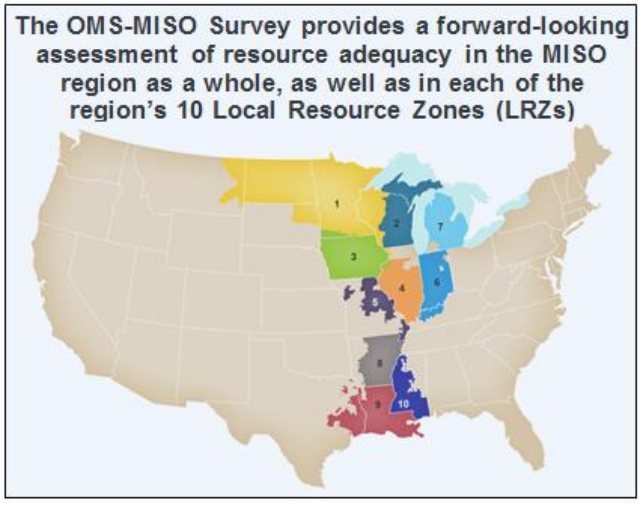
Purpose of the OMS-MISO Survey

The survey illustrates how the levels of existing and anticipated future resources compare to the MISO region's Planning Reserve Margin Requirement (PRMR), which is the amount of installed electricity-generating capacity that is needed to meet the utility industry's benchmark for reliability of the high-voltage transmission system.

The reliability benchmark is designed to ensure that the region will have enough "committed" resources to meet expected demand for electricity on even the hottest and/or coldest days, plus an additional amount of "reserve" supplies that can be called into service if the regularly committed resources become unavailable. Specifically, the benchmark seeks to limit the occurrence of loss-of load events to no more than one every 10 years, which is why it is commonly called the "1-in-10" standard.

The survey also indicates how each of the 10 Local Resource Zones (LRZs) in the MISO region intend to meet their share of the region-wide resource requirement, which they can do by either utilizing resources within their zones, or through a mix of internal and external resources.

The overarching goal in this process is to provide transparency to the LSEs, states and other stakeholders who have the authority and interest in supporting resource adequacy. The forward-looking insight that the survey provides is especially important now, as the region's historic reliance on coal-fired electricity generation is evolving due to environmental regulations, low-priced natural gas, state policies promoting renewable energy, and other factors.



How the survey works

The survey consists of several spreadsheets that are sent to each LSE in the MISO region. LSEs are asked to provide certain information about their existing and planned but not-yet-built resources. While LSEs are under no obligation to take part in the voluntary survey, a very high percentage of them do typically participate. For example, the LSEs that participated in the 2017 survey represented more than 95% of the total load in the 15-state MISO region.

OMS-MISO Annual Resource Adequacy Survey

High-Certainty and Low-Certainty Resources

The image below shows some of the types of information that the survey asks LSEs to provide about their existing and planned resources:

Existing Resources (hypothetical data for illustrative purposes only)

LSE	LBA	Actual LRZ Resource Location	Physical Location (City, State)	MECT Planning Resource Name	Fuel Type of Planning Resource	Planning Resource Type	Corrected ICAP (UCAP Renewables)	UCAP MW	2017* YES/NO	2017** Factor	...	2025 YES/NO	2025 Factor
TEST_LSE		Zone X	TBD	Example unit 1	Coal	Gen	165.0	159.2	Yes	H	...	No	H
TEST_LSE		Zone X	TBD	Example unit 2	Gas	Gen	153.0	145.9	Yes	H	...	Yes	H
TEST_LSE		Zone X	TBD	Example unit 3	Diesel	BTMG	26.5	21.3	Yes	H	...	Yes	H
TEST_LSE		Zone X	TBD	Example unit 4		DRR	36.8	36.8	Yes	H	...	Yes	L
TEST_LSE		Zone X	TBD	Example unit 5	Gas	ER	88.6	84.7	Yes	H	...	No	L

As the columns that are circled in **red** illustrate, the survey allows LSEs to categorize their existing resources as either "High Certainty" (H) or "Low Certainty" (L) on a year-by-year basis. The categories refer to the likelihood that a resource will actually be available in a given year, which helps MISO and its stakeholders to better plan for the future.

High Certainty resources, which are sometimes referred to as "Committed Capacity," are resources that are obligated to serve MISO load. These include:

- Resources within the rate base of MISO utilities;
- New generators with signed interconnection agreements; and
- External resources (resources located outside of the MISO region) that have firm contracts to serve MISO load.

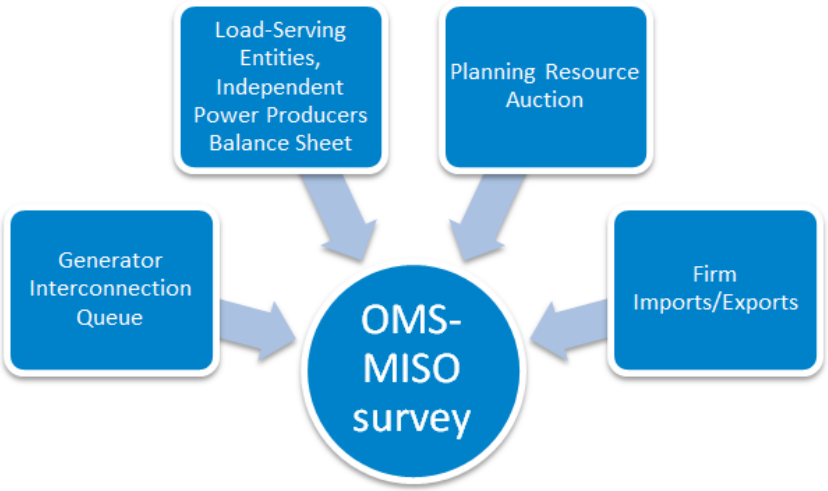
Low Certainty resources, which are sometimes referred to as "Potential Capacity," are those that *may* be available to serve MISO load, but do not have firm commitments to do so. These include existing resources that LSEs may decide to retire or suspend from use.

Additionally, in 2017, MISO and OMS agreed to revise the methodology of the survey to allow some planned but not-yet-built energy projects to be counted as Low-Certainty resources going forward. Specifically, this change pertains to projects in the Definitive Planning Phase (DPP) of the MISO Interconnection Queue.

Load Considerations

The survey also relies on load forecasts, which are initially gathered from the base data used in the annual Planning Resource Auction.

These forecasts are combined with Local Clearing Requirements (the minimum amount of generation physically needed in each Local Resource Zone) and the reserve margin requirement to represent total capacity requirements on a regional and zonal basis.



System Support Resources
Power Generation Unit Retirement Process

MISO's robust System Support Resource (SSR) determination process considers stakeholder solutions while assuring regional system reliability

System Support Resource Overview

A System Support Resource – or SSR – is a power plant that must be available for MISO to operate to ensure electric system reliability. The SSR designation is a temporary, last resort measure requiring the electric generating unit(s) to keep operating until an alternative is identified.

As the regional reliability coordinator, MISO is obligated to maintain reliability of the electric grid. While MISO's planning accounts for temporary generation outages, such as for maintenance or repairs, the long-term or permanent loss of a power generator can negatively impact system reliability. In these instances MISO can designate the unit as a SSR.

Did you know?

- A System Support Resource (SSR) designation is used only in cases where reliability is threatened.
- MISO solicits Stakeholders for alternative solutions; an SSR Agreement results if none exist.
- Load Serving Entities requiring the SSR for reliability pay costs to keep it operating.

SSR Designation Process

A power plant owner seeking to retire or suspend all or part of a power plant (typically comprised of multiple electric generating units) must obtain approval from MISO prior to remove a plant or generating unit(s) from operation. Upon receipt of a power plant owner's application to suspend or retire, MISO performs a reliability-based evaluation to determine the impact of the power plant's removal from service. This evaluation examines both the impact of the power plant or generating unit's removal and potential alternatives (such as other generation sources, transmission line upgrades or demand response) to replace the lost energy capacity. If MISO finds that an electric generating unit or power plant is required for reliable operations and no alternative exists, it designates the generator as an SSR. If the plant is not needed for reliable operations or if feasible alternatives exist, then the power plant owner is permitted to suspend or retire.

Once an SSR designation occurs, MISO periodically reassess the need for the power plant and alternative solutions. Once the plant is no longer needed – typically due to transmission upgrades, new generation, or demand response – or the power plant owner rescinds the request to remove the plant from service, MISO ends the SSR designation.

SSR Agreement and Compensation

SSR Agreements define the terms of the arrangement, including compensation. SSRs receive compensation for the costs resulting from remaining online and available. The parties determine the costs based on actual historical plant costs, and submits to FERC for approval. MISO collects SSR costs from the Load Serving Entities that benefit from the plant's operation. Agreements have initial terms of 12 months and require annual reassessment of continued need.