

SUMMARY OF MEETING
ENVIRONMENTAL REGULATIONS

February 4, 2014 – 10:00 a.m.

Participating from the Wainwright Building in St. Louis:

MPSC Chairman Robert Kenney
President and CEO Ameren Services Dan Cole
Ameren Vice President Environmental Services Mike Menne
Ameren Sr. Director Asset Management and Trading Jaime Haro
Ameren Sr. Director Corp Development and Market Risk Management Ajay Arora
Ameren Missouri Director and Assistant General Counsel Tom Byrne
Sierra Club, Andy Knott

Participating from the Jefferson City MPSC Agenda Room, 9th Floor

MPSC Commissioner Daniel Hall
Ameren Missouri Vice President Regulatory and Legislative Affairs Warren Wood
Ameren Missouri Manager Regulatory Affairs Gaye Suggett

Participating via phone

MPSC Commissioner Advisor Goldie Tompkins

Lewis Mills, OPC was invited

February 5, 2014 – 2:00 p.m.

Participating from the Jefferson City MPSC Agenda Room, 9th Floor

MPSC Commissioner Bill Kenney
MPSC Commissioner Steve Stoll
MPSC Commissioner Advisor Rachel Lewis
President and CEO Ameren Services Dan Cole
Ameren Vice President Environmental Services Mike Menne
Ameren Missouri Vice President Regulatory and Legislative Affairs Warren Wood
Ameren Missouri Manager Regulatory Affairs Gaye Suggett

Participating via phone

Ameren Sr. Director Corp Development and Marketing Ajay Arora

Lewis Mills, OPC was invited

Dan Cole thanked those attending and introduced Mike Menne to give a presentation on the environmental regulations and their impact on the utility industry. He said most of the presentation would focus on Greenhouse Gas New Source Performance Standards.

Mr. Menne distributed a presentation entitled “Reliable Electricity at Reasonable Prices for All Missourians” (attached). He thanked the MPSC for the good comments previously submitted regarding these rules, and said that state involvement was very critical. He said each state is different, and it is very important to have flexibility with these rules. He also said that each state should be able to count what has already been done to be in compliance. Mr. Menne said Ameren has been a leader in improving the efficiency at our coal-fired power plants, and noted that Ameren Missouri has been

making the transition to a cleaner, more diverse generation portfolio for quite some time. He said that included the largest energy efficiency program in the state's history, Maryland Heights Landfill Gas Center, the Solar Energy Center being built in O'Fallon, the scrubbers on Sioux Energy Center, new precipitators at the Labadie Energy Center and keeping open the option for small modular nuclear.

Ajay Arora then discussed MISO Resource Adequacy (presentation attached). Mr. Arora noted that on 10/23/13, the MISO Board of Directors reviewed a resource adequacy study indicating a 3-7GW shortfall by 2016. Further studies and surveys conducted by MISO in January 2014 indicate the 2016 shortfall may be reduced to about 2GW. He noted that in 2016 Ameren Missouri will have adequate capacity to serve its needs. Mr. Arora provided MPSC Commissioners with Ameren Missouri's LSE Balance Sheet which is highly confidential.



Reliable Electricity at Reasonable Prices for All Missourians

A discussion on pending environmental issues



February 4, 2014

Environmental Regulations Continue To Impact Utility Industry

▶ Greenhouse Gas (GHG) New Source Performance Standards (NSPS)

- Proposed revised standard for new units published in Federal Register Jan. 8
- Proposal for existing units expected by June

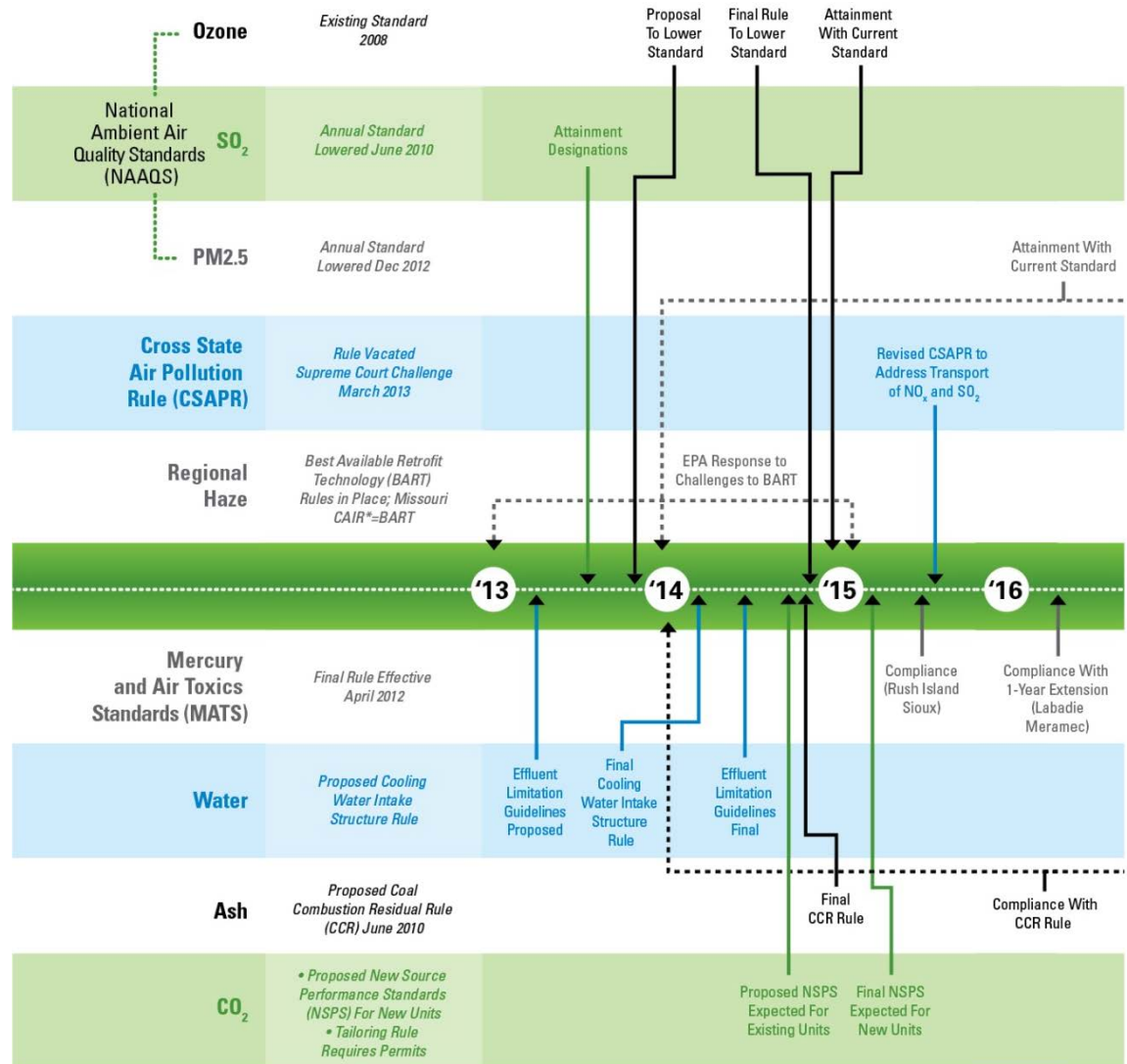
▶ Clean Water Act Section 316(b) - water intake - final rules expected at any time

▶ Coal Combustion Residual (CCR - coal ash) final determination on hazardous designation expected by end of 2014

▶ Mercury and Air Toxics (MATS) rule being challenged as Ameren works on compliance

▶ Cross State Air Pollution Rule (CSAPR) decision by Supreme court expected in June

▶ New 1-hour SO₂ standard implementation process unfolding



*Clean Air Interstate Rule (CAIR) in place until CSAPR resolved.

Greenhouse Gas New Source Performance Standards

- ▶ **Proposed Standard for New Units published Jan. 8**
 - **Becomes the effective date of the rule**
 - **Essentially eliminates new coal unit construction by requiring Carbon Capture and Storage (CCS)**
 - **EPA has stated CCS will not be required for existing units, claiming CCS is cost-effective for new but not for existing units. In any case, we are concerned about the precedent of setting such a stringent standard**
- ▶ **Proposed guidelines for existing units scheduled to be issued in June.**
- ▶ **EPA will face legal challenges in developing a GHG NSPS under the Clean Air Act (CAA)**
- ▶ **If new NSPS regulations are dismissed by the courts, the existing rule cannot be implemented**
- ▶ **EPA has been taking an enormous amount of stakeholder input: meetings, seminars, webcasts, "listening" sessions.**
- ▶ **CAA requires EPA to establish guidelines for the "Best System of Emissions Reduction" (BSER), which are based on adequately demonstrated, commercially available control measures. CCS does not meet this requirement.**
- ▶ **States are required to use Federal guidelines to develop GHG NSPS emissions standards and compliance programs.**



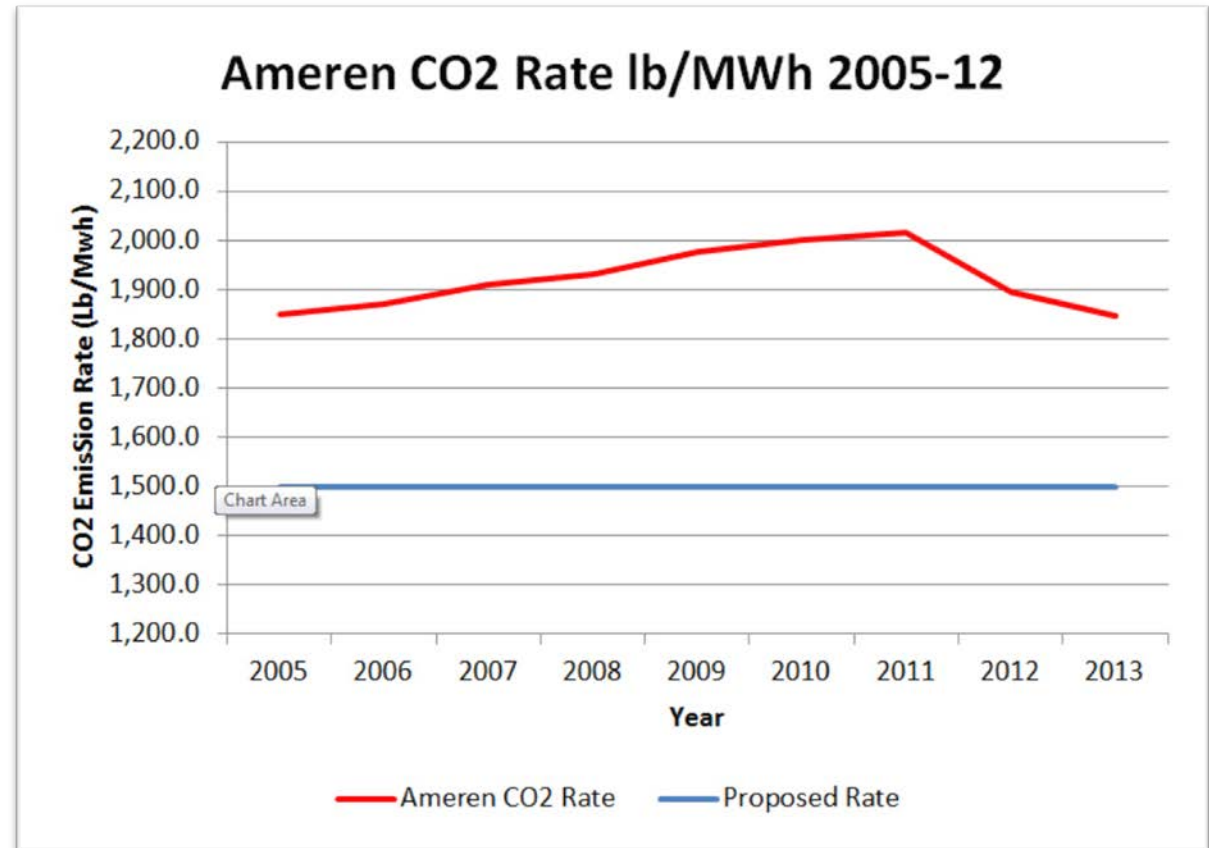
Greenhouse Gas New Source Performance Standards



- ▶ We believe the EPA should be limited to defining BSER as efficiency improvements at power plants, since there is no commercially available control technology to reduce GHG emissions. However, we believe EPA may go "outside the fence" to obtain reductions.
- ▶ Ameren has been a leader in improving the efficiency at our coal-fired power plants (roughly 2-3%). Limited additional gains can be made, however, we do not believe these would be cost effective.
- ▶ Ameren Missouri recognizes the need to move toward a cleaner, more diverse generation portfolio over time. In order for this transition to be successful, thoughtful energy policies will need to be undertaken to effectively address our stakeholders' needs and expectations.
- ▶ Ameren Missouri has already taken several steps to transition to a cleaner, more diverse generation portfolio. Those steps include the largest energy efficiency program in the state's history, a landfill gas project, a new solar project, scrubbers on our Sioux Energy Center, new precipitators at the Labadie Energy Center, and keeping our options open for small modular nuclear.
- ▶ Our Integrated Resource Plan will provide further insights when filed later this year (October, 2014).

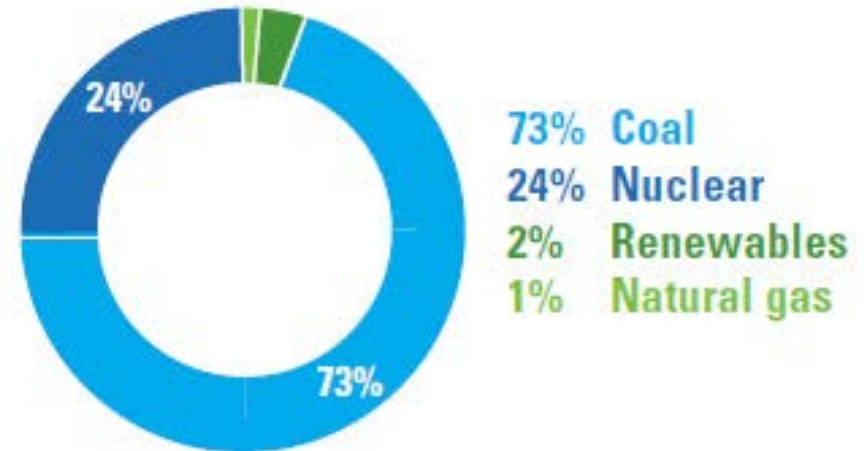
Ameren's coal-fired units cannot attain NRDC proposed emission limits

- ▶ There are some advocates, such as the National Resources Defense Council (NRDC), that have made specific recommendations on how to address coal plant GHG emissions reductions, and are extolling the benefits of carbon controls and minimizing the costs to consumers.
- ▶ Our preliminary calculations for Ameren Missouri to meet the NRDC recommended standards result in:
 - Significant increases in rates
 - Increased reliability concerns
 - Closure of coal-fired units resulting in loss of jobs
 - Drastic increases in energy efficiency programs and renewable energy development, challenging feasibility



GHG NSPS - Why Missouri Needs to be Involved in the Debate

- ▶ Major impact in Missouri because 80% of generation comes from coal.
- ▶ Potential significant customer impact (rates and reliability)
- ▶ Reliability: A stringent proposal on GHG emissions for power plants, without providing adequate time for compliance, could lead to shutdowns of existing power plants that could jeopardize system reliability.
- ▶ Economy & Jobs: Success of Missouri's businesses and its economy is dependent upon strong reliability and reasonable energy prices.
- ▶ States play a major role in the rulemaking process - by law.
- ▶ The State of Missouri has and should continue to be active in these rulemakings to implement sound energy policy and protect the ratepayers of Missouri, jobs, and the economy.
- ▶ We will continue to encourage State comments and engagement with the EPA and the Administration on these issues to help balance environmental benefits with potential impacts to our customers.

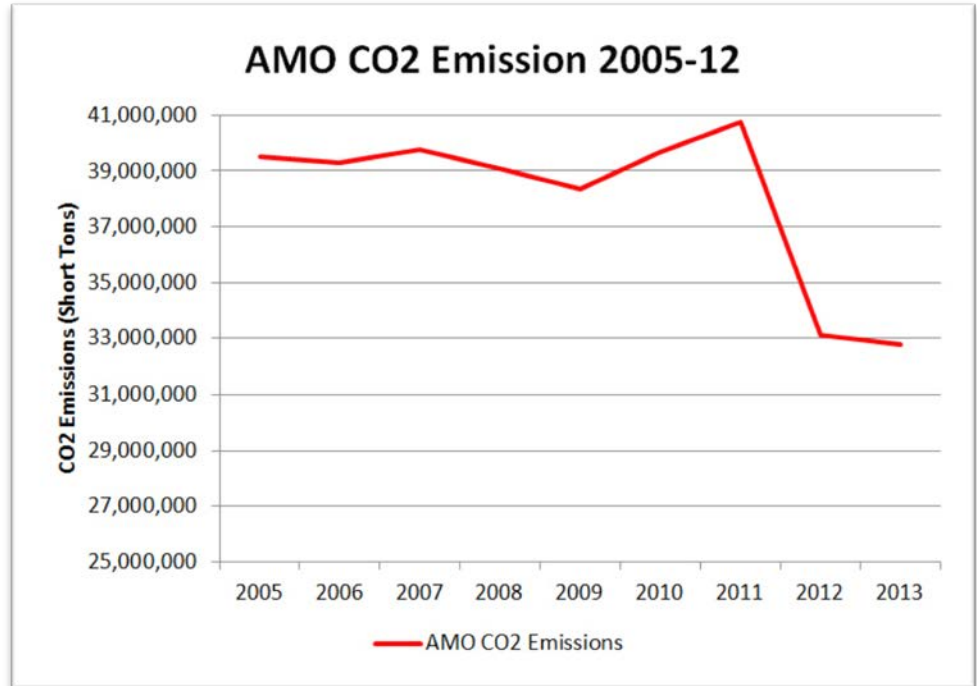


AMEREN MISSOURI GENERATION MIX

Electric-generation sources for the year ended Dec. 31, 2012.

GHG NSPS - Key Perspectives of Ameren Missouri

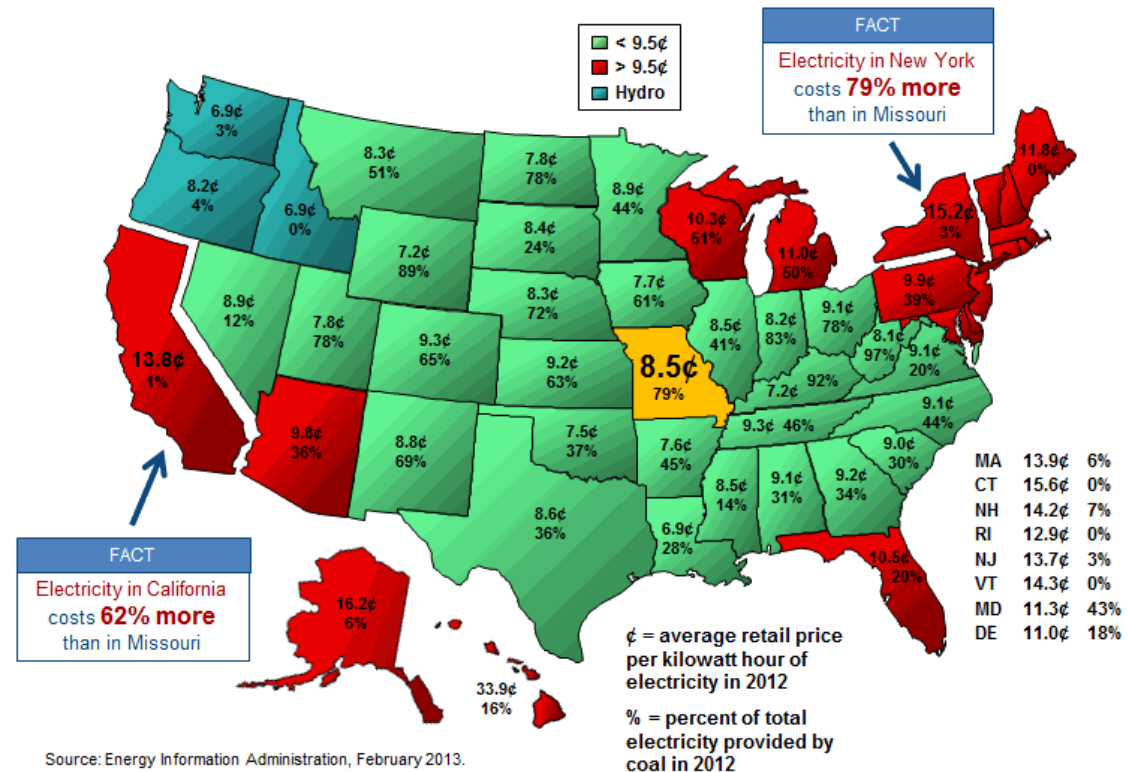
- ▶ There is no need to take drastic action to reduce GHG emissions, since the nation is continually moving closer to the President's stated goal of 17% reduction from 2005 levels. Nationally, emissions are projected to be down 15% by 2020 without any regulation. Ameren Missouri's CO2 reductions have been approximately 15% over the past 5 years.
- ▶ Transitions to cleaner, more diverse generation portfolios will occur naturally as plants are retired, and if necessary, replaced with alternative energy sources.
- ▶ EPA and other Federal Agencies are beginning to use a recently updated "Social Cost of Carbon" model to justify GHG reduction regulations on the basis of societal benefits. Many aspects of this model are non-peer reviewed and the assumptions used are highly debatable.



Drop in 2012 is due primarily to drop in natural gas prices, which has led to lower market sales and lower plant generation. Plant efficiency gains and consumer energy efficiency efforts also have contributed to the decrease.

GHG NSPS - Key Perspectives of Ameren Missouri

- Missouri agencies should continue to emphasize the State primacy in the development and implementation of this regulatory program, with considerable flexibility to meet any emissions reduction targets. This is consistent with the President's Climate Action Plan.
- We must ensure adequate time is provided for compliance (initial compliance after 2020) and ensure that any control program meets the CAA requirement that compliance schedules take into account the remaining useful life of the facility.
- Ameren is aligned with the other utilities in the State as well as many other industries and stakeholder groups in the belief that we must protect our customers, regional jobs and the regional economy from a regulatory program that is unbalanced and that aggressively targets coal-fired generation.



Source: Energy Information Administration, February 2013.

GHG NSPS - Next Steps

- ▶ As this rulemaking significantly affects energy policy and carries the potential for major disruptions and the imposition of high costs on Missouri energy consumers, Ameren believes Missouri's State Agencies and officials should continue to be actively engaged with the Administration and EPA on this issue.
- ▶ The next two months are critical for this engagement. The proposed standard for existing plants is expected by June.
- ▶ Ameren will continue to engage in a dialogue with State agencies and officials on this critical program and is available to help respond to inquiries or provide information in support of Agency or Administration outreach efforts.



MISO

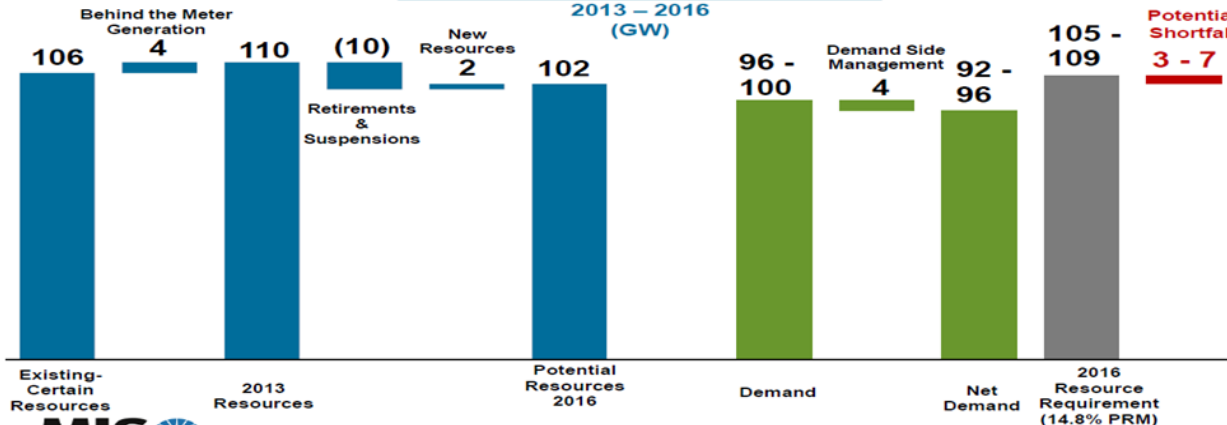
✓ **Resource Adequacy**



Forecasted MISO Reserve Margin

Current forecasts project available resources to be below planning reserve margin requirements by 2016

Summer Resource Adequacy
0% – 1.4% Load Growth
 2013 – 2016
 (GW)



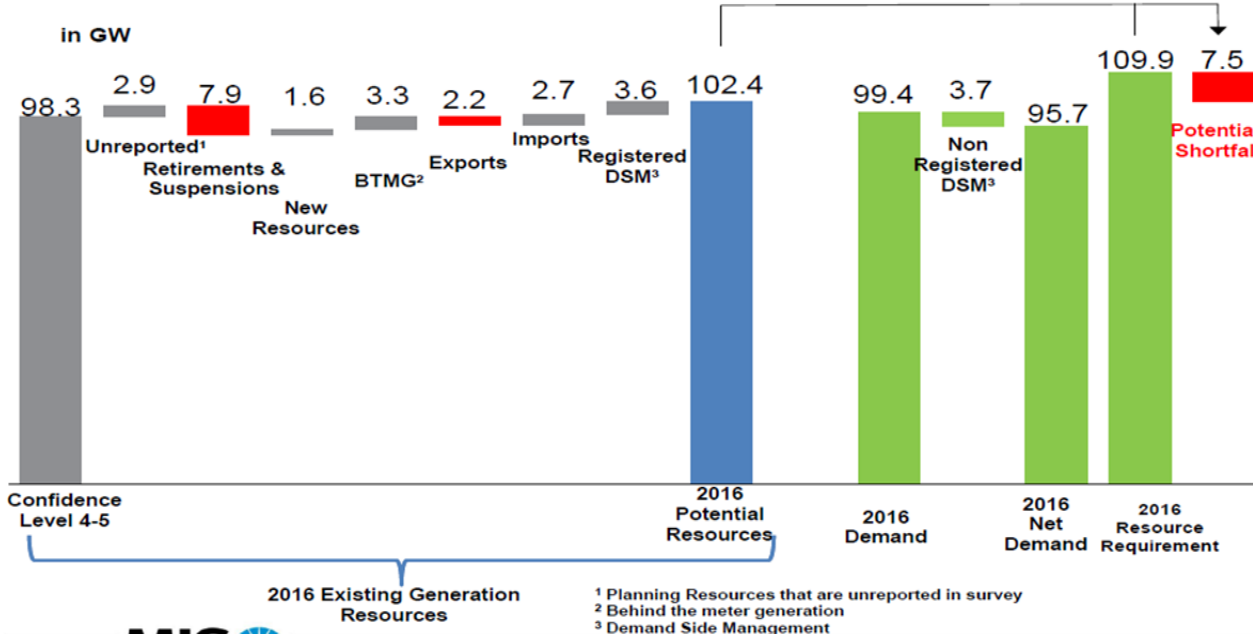
1. Assumes suspended units not returning
2. 2013 forecast is 50/50 weather normalized load

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- On 10/23/13, MISO Board of Directors reviewed a resource adequacy study indicating 3-7GW shortfall by 2016
- At the 12/5/13 Supply Adequacy Working Group MISO reported the Load Serving Entities Survey results in which MISO had a 99% response rate.
- Survey projects a 7.5 GW reserve margin shortfall in 2016 in MISO North and Central regions without transfers from MISO South.
- MISO South independent of North and Central regions is projected to have a reserve margin of 21%.

Forecasted MISO Reserve Margin

2016 Resource Adequacy Detail - MISO North and Central



- MISO is assuming load growth of 0.8% per year
- One issue that MISO is working on is the expectation and reliance on demand side load management resources and additional MISO experience with all capacity resources during summer peak times.
- Additional issues being evaluated are the availability of 5.2 GW low confidence level resources wherein a firm decision to retire has not been made.
- Also, there is about 3.5 GW of transmission limited or summer only capacity that could be available with additional transmission upgrades
- Further MISO is evaluating the availability of capacity resources from MISO south which has 7.6 GW of excess generation.
- Current MISO South to MISO North energy flows are restricted to 2GW



Present Ameren Missouri LSE Balance Sheet

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- Ameren Missouri recommends further discussing 3 and 5 year resource adequacy needs with MISO in detail in the Supply Adequacy Working Group to determine actual MISO supply balance by zone and determining what actions may need to be taken for long term resource adequacy.



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