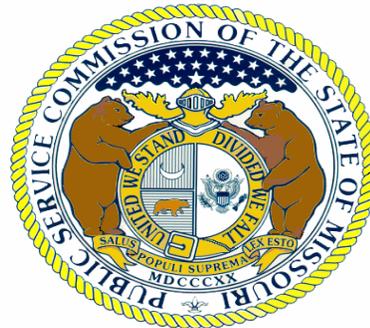


STUCK in the MIDDLE

- The Missouri Experience

Terry M. Jarrett
Commissioner, MoPSC



DISCLAIMER

- The opinions expressed in this presentation are mine, and mine alone, and are not those of the Commission, any Commissioner (other than myself) or any member of the staff of the Commission. Further, nothing in this presentation should be attributed to any case or matter before the Commission, to any member of the staff of the Commission, other Commissioner or the Commission.



AGENDA

- Regulatory Neighbors and the two RTO Conundrum
- Demand Response in Missouri
- “Show Me” success stories



REGULATORY NEIGHBORS and the TWO RTO CONUNDRUM



REGULATORY NEIGHBORS

- Having borders with multiple states presents the Regulator with:
 - an enhanced need to know and understand its state neighbors, and
 - their approach to regulation, and
 - how that approach impacts upon the Regulator's state.



REGULATORY NEIGHBORS

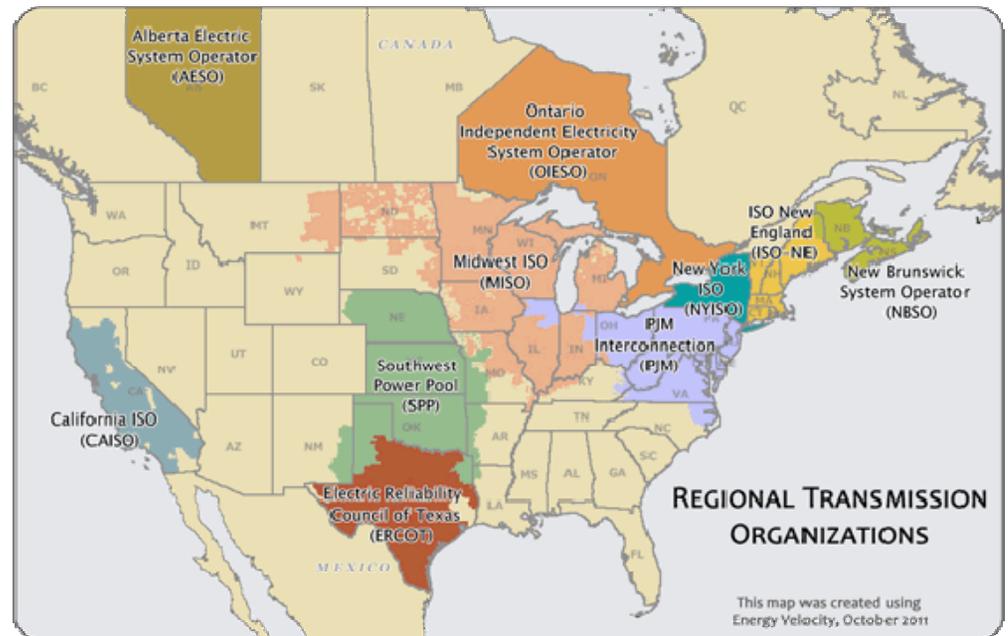


- Missouri is bordered by EIGHT states.
- Iowa, Illinois, Kentucky, Tennessee, Arkansas, Oklahoma, Kansas and Nebraska.



TWO RTO CONUNDRUM

- Missouri has 2 RTO's operating in the state:
 - Southwest Power Pool (SPP)
 - Kansas City Power & Light Company and KCP&L/GMO
 - The Empire District Electric Company
 - Midwest Independent System Operator (MISO)
 - Union Electric Company, d/b/a Ameren Missouri



TWO RTO CONUNDRUM

- Regulators facing a two RTO issue should:
 - Be mindful of the differences embedded in the different RTO's and how those differences impact ratepayers.
 - Regulate in a manner that does not create advantages or disadvantages for ratepayers based upon their utilities RTO participation.
 - Consider the impact of utilities opting to move or change to a different RTO and how another utilities entrance or exit from an RTO may impact remaining utilities of an RTO.



TWO RTO CONUNDRUM

- Currently no “day two” market for DR (or any other) resources in SPP, while MISO has “day two” market for DR (and other resources).
- SPP anticipates having a “day two” market online in June 2014. This causes demand response (and all resources) in SPP to have to vary their energy level every five minutes if requested by SPP (ramp up or ramp down).
- In MISO, there is an organized reserve clearing day ahead market allowing for DR (and other resources) to be “cleared” (selected to be ready for the next day) but not necessarily “called” (dispatched). This allows an extra revenue stream for DR resources in MISO. This is not currently available in SPP.
- MISO has a demand response working group (DRWG), a stakeholder group allowing for demand response issues to be discussed. Currently no such group exists at SPP.

TWO RTO CONUNDRUM

RTO		Under approved FERC tariff	Under FERC Order 719	Under FERC Order 745
MISO	DR compensation -Above threshold -Below threshold	Credit full LMP; charge LSE Credit full LMP; charge LSE	See Order 745.	Credit full LMP Credit as done currently
SPP		DR's are compensated like generation when dispatched	Same as present.	Same as present.
MISO	ARC Compensation	Not addressed.	Rejected MFRR as presented.	ARC payment when LMP above threshold must be full LMP.
SPP	ARC Compensation	Not addressed.	Same as present.	Same as present.
MISO	Cost allocation	Charge LSE through reconstituted load.	See Order 745.	Allocate the costs of DRR's to those who benefit - \geq threshold: zonal charge $<$ threshold: LSE
SPP	Cost allocation	Not applicable-gross methodology	Through RNU.	Allocate the cost of DR's to all who benefit as will be outlined in upcoming filing.



What does the border and 2 RTO conundrum have to do with Demand Response?

- Multiple surrounding states and two RTO's add to the layers that must be considered in developing and implementing demand response program (s).
 - Multiplicity expands the field of stakeholders.
 - Enhances opportunities to build on established demand response programs, best practices and lessons learned from other states and from RTO participants.



Demand Response In Missouri



Demand Response in Missouri

- Integrated Resource Planning
 - By rule, demand side resources must be treated the same as generation sources for planning purposes.
- Section 393.1075 RSMo - "Missouri Energy Efficiency Investment Act".
 - Even though the title refers to “energy efficiency” the Act also encompasses **demand response**.



Demand Response in Missouri?

- The Missouri PSC initiated workshops and rulemaking proceedings in conformance with the Act.
 - **EW-2010-0265** (Workshop)
 - **EX-2010-0368** (Rulemaking)



So where is Missouri now on Demand Response?

- The Missouri PSC in 2009 opened a WORKSHOP on Demand Response; **EW-2010-0187**
 - On March 31, 2011 the Commission issued an Order Temporarily Prohibiting The Operation of Aggregators of Retail Customers
- Work continued with the last workshop in EW-2010-0187 held on October 4, 2011.
 - Awaiting compliance filings by both SPP and MISO.
 - The regulatory balance between two RTO's is demonstrated here as FERC 745 and 719 compliance filings have a significant bearing on the path forward for the State Regulator.



Waiting game for DR in Missouri?

- While DR may have been sidelined in Missouri with regard to ARC's, efforts related to other aspects of the Missouri Energy Efficiency Investment Act have aggressively been addressed.
- Implementation of the “energy efficiency” components of the Act have been completed.
 - **EW-2010-0265** (Workshop)
 - **EX-2010-0368** (Rulemaking)



PENDING MEEIA Cases.

- **DOCKETS**

- EO-2012-0142 (Ameren Missouri)
- EO-2012-0206 (Empire District Electric Company)
- EO-2012-0009 (KCPL-GMO)(former Aquila territory)

- **RATE CASES**

- ER-2012-0175 (KCPL-GMO) (former Aquila territory)
Includes MEEIA issues



"SHOW ME" Success Stories



“SHOW ME” Examples of Success

- The marketplace and business have directed EE and DR in Missouri.
- **Success Stories** – are tied to strong BUSINESS cases.
 - KCP&L - MPower
 - Anheuser – Busch Stadium, St. Louis, Missouri
 - City of Columbia, Missouri Water and Light.



"SHOW ME" the BUSINESS CASE

- KCP&L

- MPower
- Summer load management program that pays customers to reduce peak electric usage.
- As a participant of MPower, KCP&L will write an annual check when the customer reduces their electrical usage a few times a year.
- So successful that no new participants are currently being accepted.



"SHOW ME" the BUSINESS CASE

● BUSCH STADIUM

- The St. Louis Cardinals partnered with Microgrid Energy, the Electrical Connection, and Sachs Electric, to bring solar energy to Busch Stadium.
- Fans attending the **April 13, 2012** opening day game enjoyed food, beverage and retail shops powered by **106 solar panels**, producing approximately **32,000 kilowatt** hours of solar energy per year.



BUSCH STADIUM ENERGY MODEL

- Whole building energy building model to identify potential Energy Efficiency Measures for the stadium
- The model addressed the major energy end uses: HVAC, lighting, water heating, plug loads and building envelope.
- It was **evaluated** against criteria based upon the Cardinals **GOALS and BUDGETS.**



SOLAR SUCCESS



Photos courtesy of
Microgrid Energy

"SHOW ME" MORE

- Columbia, Missouri
Columbia Water and Light
(Municipal)
 - Electric Customers
 - 45,943 total at the end of fiscal year 2011
 - Residential: 39,622
 - Small General Service: 5,250
 - Large General Service: 1,041
 - Industrial: 31



"SHOW ME"

Residential DR Success

- Initiated Demand Response Programs designed to reduce electrical demand when needed by the utility. There are incentives for customers to participate in these voluntary programs (Residential and Small Commercial Customer)
- Program intent is to reduce peak electric demand by **controlling air conditioning loads** when the cost of electricity is at its highest, typically on hot summer afternoons.
 - The customer electric discount was 3% in 2010 (participation discount).



"SHOW ME" Success

- At the end of 2011, there were **19,751** switches installed on the Columbia system with an estimated cumulative capacity reduction of **7.5 megawatts an hour**.
- On July 21, 2011 an all-switch test was conducted and the load reduction was **29 megawatts**. Under normal circumstances all the switches are not activated at once but in case of an emergency, there could be a substantial curtailment of Columbia's electric load.



Questions?



Terry M. Jarrett

Missouri Public Service Commission

573-751-3243

www.psc.mo.gov

