



Moving Missouri Beyond Coal.

Holly Bressett
Associate Attorney
Sierra Club



Blue Ridge Wind Farm, MO



Labadie Coal Plant, MO



Three Primary Considerations for the MO PSC:

After an overview of the rules and their applicability, the Commission should consider, on a unit-by-unit basis:

- (1) Whether the generation capacity is needed (or is it excess);
- (2) If the capacity is needed, whether the utility has a plan for compliance with ALL public health and environmental regulations?
- (3) Whether that compliance plan is reasonable and prudent.





EPA Rules Overview

According to WRI, utilities have know, or should have know about the suite of EPA regulations for anywhere from 3 to 35+ years.

CLEAN AIR ACT

- (1) Cross State Air Pollution Rule (Best Controls = FGD and SCR)
- (2) Air Toxics Rule (MACT) (Best Controls = FGD, ACI, Baghouse)
- (3) Regional Haze (Best Controls = FGD, SCR)
- (4) Updated NAAQS (Best Controls = FGD, SCR, Baghouse)

CLEAN WATER ACT

- (1) Effluent Limitation Guidelines (Best Controls = Zero Liquid Discharge, chemical & biological Treatment, reverse osmosis)
- (2) Cooling Water Intake Structures (Best Controls = closed-cycle cooling)

RCRA

- (1) Coal Combustion Residuals (Best Controls = Zero Liquid Discharge, dry storage and remediation)



Is All Generation Capacity Necessary?

**“Demand has softened...”
Thomas Voss, CEO Ameren**

On October 21, 2011 Ameren announced early retirement programs in light of economy and reduced demand.

Commission Questions:

- What are the utilities' demand growth expectations in light of admitted demand reductions?
- What programs are the utilities pursuing to reduce demand over time through demand-side management and energy efficiency?



What are the Utilities' Plans for Compliance?

“In anticipation of [CSAPR] and other EPA rulemakings, Exelon made decisions to invest in pollution controls and alternative non-polluting technologies, and to retire certain older, fossil fuel-fired units.” - Exelon’s motion to intervene in support of EPA.

“[The company] has based all planning on an apparent assumption that existing units must continue to operate regardless of cost-effectiveness...The company has selectively chosen to accelerate compliance for certain environmental regulations without examining the overall cost effectiveness of continuing unit operation despite other expected environmental regulations; The company has consistently ignored potentially cost-effective compliance mechanisms for meeting existing and impending environmental regulations, such as unit repower or retirement; as a consequence, ratepayers have borne, and may continue to bear, the burden of potentially non-cost effective decisions made by the company.” - Dr. Jeremy Fisher in testimony for Sierra Club in Utah PSC Docket No. 10-035-124 for Rocky Mountain Power.



Are the Utilities' Compliance Plans Reasonable and Prudent?

Facility Name	State	County	Owner/ Operator	2009 Capacity Factor	2010 Annual SO ₂ Emissions (tons)	2014 SO ₂ Allocation (tons)	% Change from 2010 Emissions	2010 Annual NO _x Emissions (tons)	2014 NO _x Allocation (tons)	% Change from 2010 Emissions
Asbury	Missouri	Jasper	Empire District Electric	66.27%	9,403	3,215	-65.81%	962	927	-3.64%
Hawthorn	Missouri	Jackson	Kansas City Power & Light	76.49%	1,946	2,644	35.87%	1,493	2,482	66.24%
Iatan	Missouri	Platte	Empire District Electric, Kansas City Power & Light, Aquila Merchant Services	60.15%	152	11,256	7305.26%	2,122	3,247	53.02%
James River	Missouri	Greene	City Utilities of Springfield	54.99%	3,674	3,195	-13.04%	1,391	943	-32.21%
Labadie	Missouri	Franklin	Union Electric (AmerenUE)	82.35%	66,794	38,300	-42.66%	9,796	10,124	3.35%
Lake Road	Missouri	Buchanan	KCP&L Greater Missouri Operations	35.61%	1,590	1,508	-5.16%	1,885	437	-76.82%
Meramec	Missouri	Saint Louis	Union Electric (AmerenUE)	66.32%	17,076	13,936	-18.39%	4,633	4,019	-13.25%
Montrose	Missouri	Henry	Kansas City Power & Light	65.00%	11,750	7,934	-32.48%	5,933	2,289	-61.42%
New Madrid	Missouri	New Madrid	Associated Electric Coop	68.94%	15,040	15,908	5.77%	3,592	4,669	29.98%
Rush Island	Missouri	Jefferson	Union Electric (AmerenUE)	73.69%	26,066	18,391	-29.44%	3,383	4,192	23.91%
Sibley	Missouri	Jackson	KCP&L Greater Missouri Operations	63.16%	13,059	1,605	-87.71%	2,532	463	-81.71%
Sioux	Missouri	Saint Charles	Union Electric (AmerenUE)	59.81%	40,332	12,967	-67.85%	7,500	3,741	-50.12%
Thomas Hill Energy Center	Missouri	Randolph	Associated Electric Coop	74.22%	17,068	17,458	2.28%	7,739	5,037	-34.91%



Are the Utilities' Compliance Plans Reasonable and Prudent?

Unit Name	Owner	Opp. Cost	FGD Cost	SCR Cost	Baghouse Cost	ACI Cost	Cooling Tower Cost	Retrofitted Cost	Wind
Lab.1	Am.	\$19.6	\$15.0	\$5.3	\$3.5	\$0.5	\$3.4	\$47.4	\$37
Lab.2	Am.	\$19.4	\$14.2	\$5.0	\$3.3	\$0.5	\$3.1	\$45	\$37
Lab.3	Am.	\$19.5	\$14.4	\$5.1	\$3.3	\$0.5	\$3.3	\$46	\$37
Lab.4	Am.	\$19.5	\$14.4	\$5.1	\$3.3	\$0.5	\$3.3	\$46	\$37
Mon1	KCPL	\$27.2	\$26.0	\$8.4	\$5.9	\$0.9	\$7.9	\$76.3	\$37
Mon2	KCPL	\$27.0	\$24.8	\$8.1	\$5.6	\$0.9	\$7.5	\$73.8	\$37
Mon3	KCPL	\$26.8	\$23.2	\$7.5	\$5.2	\$0.8	\$6.9	\$70.8	\$37

Assumes \$37 average regional price for wind. Does NOT account for cost of Carbon, cost of compliance with effluent rule and coal ash rules. Does NOT account for the value of NOx and SO2 credits. does NOT account for cost of parasitic load from pollution controls.



We can replace coal with clean energy.

Off-shore wind



Building efficiency



Solar





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Wind is reliable and inexpensive in the Region!

“The addition of this wind generation to our system...will allow us to best meet our members’ needs for reliable energy at the lowest possible cost.” -Stuart Lowry, President and CEO of Sunflower Electric Power Corp. describing the company’s 20-year purchase contract for 104 MW wind.



Questions the PSC should ask.

1. What (if any) planning has the utility done to prepare for compliance with existing and emerging regulations?
2. What were the results of these planning processes?
3. How will the compliance plan impact rates?
4. When was the utility's most recent RFP for wind and what were the \$/mwh bid responses?
5. When was the utility's most recent RFP for existing natural gas energy and/or capacity what were the \$/mwh bid responses?
6. Is the utility on track to meet RPS obligations in the states where it is regulated?
7. For each unit in their respective fleets:
 - What retrofits are planned for compliance?
 - When will those retrofits take place?
 - What is the anticipated cost of those retrofits on a \$/mwh basis?
 - Which plants will be closed rather than retrofit?



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