Utility[1] name: Ameren Missouri

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Ameren Missouri has attempted to provide its current view on the issues and matters posed by the MPSC. However, considerable uncertainty remains with the CPP and its implementation. Specifically, legal challenges regarding the CPP have been filed which -- if successful -- could materially change the final rule. The state of Missouri is still developing and has not published for public comment its proposed regulatory approach. Further, the company's 2014 IRP analysis predates the final CPP and while it represents the basis of Ameren Missouri's analysis regarding resource planning and many of the answers provided here -- the various regulatory and market assumptions and cost estimates contained in that IRP analysis could now be uncertain. Nevertheless, Ameren Missouri responds as follows:

1. Please identify planned unit retirements
   a. Unit, capacity, date of planned retirement.

      The table below outlines the planned retirements of coal-fired generating stations at Ameren Missouri. Please note that Labadie Units 3 and 4 are expected to be retired in 2038, and Units 1 and 2 are expected to be retired in 2042.

Energy Center	Units	Capacity (MW)	In-Service Year	Age (years)	Estimated Retirement	Age at Retirement
Labadie	4	2,374	1970-73	41-44	2042	65-70
Rush Island	2	1,182	1976-77	37-38	2046	69-70
Sioux	2	972	1967-68	46-47	2033	65-66
Meramec	4	831	1953-61	53-61	2022	61-69
All Coal Energy Centers	12	5,359	1953-77	37-61		61-70

   b. Plan for load replacement and rationale/estimated cost associated with that plan.

      All current planned retirements and replacements are consistent with Ameren Missouri's Integrated Resource Plan (IRP) that was filed with the PSC on October 1, 2014, and with the Report on Life Expectancy of Coal-Fired Power Plants performed by Black & Veatch and included in exhibits filed in Ameren Missouri's most recent electric rate case (ER-2015-0258). These documents present information and analysis supporting the expected remaining useful life of each plant based on operational, economic and risk considerations.

[1] For purposes of these questions, "Utility" is used generically to refer to investor-owned, municipal, rural electric cooperative, RTO, AECI.

Ameren Missouri's current filed IRP indicates that units planned for retirement prior to 2030 can be replaced with a combination of load reductions from continued energy efficiency programs as well as the expansion of renewable energy resources; replacement of the Sioux Energy Center (planned retirement in 2033) is satisfied with new a combined cycle gas generation in operation starting in 2034 in the preferred plan; replacement of units planned for retirement thereafter has not yet been fully evaluated through the company's IRP process since those retirements fall beyond the IRP 20-year planning horizon.

c. Are these planned retirements a result of the Clean Power Plan?
No, these planned retirements were included in the current IRP that was filed before the release of the Clean Power Plan. The development of Missouri's state implementation plan is still in progress and the Ameren Missouri IRP including planned retirements will be reevaluated based on the final Missouri state plan that will be filed to comply with the requirements of the final Clean Power Plan.

d. Has your utility modified its retirement plans based on the final Section 111(d) rule?
No, the development of Missouri's state implementation plan is still in progress. Therefore, retirement plans for existing units have not yet been evaluated to comply with the final Clean Power Plan.

e. Is there a possibility that these plans will change based on the state compliance plan?
Yes, it's possible that retirement plans may change to reflect compliance with the final Clean Power Plan based on Missouri's final state implementation plan.

f. What implications/costs would be involved if your utility needed to move a planned retirement date to assist with state compliance (e.g., a planned retirement is scheduled for 2035, but the retirement is moved to 2029)?
Ameren Missouri's expectation is that advancing significant unit retirements currently planned beyond 2030 to pre-2030 retirement would increase customer costs. Firstly, the depreciation schedule and recovery would need to reflect the advanced retirement date for that generation source. In addition, per our current IRP projections, an early retirement of a generation unit that is planned for retirement beyond 2030 would necessitate the advancement and/or addition of new generation. This new generation would most likely consist of a combination of renewable and gas-fired generation. Costs for such new generation are expected to approximate the generic costs presented in Ameren Missouri's 2014 IRP. Total costs depend on the amount and timing of retirements and the combination of replacement generation selected.

2. Please provide the estimated cost of compliance with the final Section 111(d) rule based on each of the following scenarios or assumptions[2]:
    b. Missouri uses a mass-based approach and allocates allowances pro-rata based on an historical baseline (sometimes referred to as grandfathering) using one of the following parameters:
        i. CO_2 emissions
        ii. Heat input
        iii. Net Generation
    c. Missouri uses a mass-based approach as described in scenario "a" and allowances are either:
        i. Irrevocable even if a unit retires or
        ii. Redistributed to existing affected units if a unit retires
    d. Missouri uses a mass-based approach and allocates allowances as described in Scenario "a" and includes set-asides for one or more of the following:
        i. Renewable energy projects
        ii. Energy efficiency projects
        iii. Existing NGCC output-based
    e. Missouri uses a mass-based approach and allocates allowances based on updating output-based allocations where affected sources and potentially one or more of the following are eligible to receive allocations based on their pro-rata share of updated generation levels each compliance period.
        i. Renewable generating resources that began operation post 2012
        ii. New/uprated nuclear
        iii. Energy from qualified biomass
        iv. Energy savings from post 2012 demand-side energy efficiency measures
    f. Missouri uses a mass-based approach and, similar to the RGGI regional auction model, auctions allowances with proceeds deposited into an energy efficiency investment fund. Assume a market clearing price per allowance of:
        i. $5.50;
        ii. $7.50.
    g. Missouri uses a mass-based approach and allocates allowances as described in Scenarios "a" or "d" and includes a new source complement.
    h. Missouri uses a mass-based approach and allocates allowances as described in Scenarios "a" and "d" and sets aside five percent (5%) of allowances for renewable energy or energy efficiency.
    i. Missouri takes advantage of the Clean Energy Incentive Program.

    Answer to a-h:
    Ameren Missouri does not currently have compliance cost estimates for the specific scenarios identified in subparts a-h. However, Ameren Missouri believes that the state's goal should be to achieve compliance with the Clean Power Plan's

[2] The form of the questions and representative scenarios should not be interpreted as a decision by the State of Missouri to pursue any particular path of compliance.

targets in an affordable manner while maintaining the reliable service Missouri customers expect. Ameren Missouri supports a mass-based compliance approach for Missouri that allocates allowances to all affected sources based on a historical multi-year baseline. In order to provide certainty that is critical in resource and compliance planning, Ameren Missouri supports allowance allocations being irrevocable and permanent regardless of whether a unit retires or is operational. Thus Ameren Missouri does not support subpart d above which would update allocations over time.

Ameren Missouri believes the allowances should not be auctioned as it could result in higher costs to its customers. Further, any state plan that sets aside allowances that are required for compliance by affected generation sources would make the compliance requirements inappropriately more stringent on the customers of these sources and could result in subsidies to entities that do not own affected generation units.

Ameren Missouri believes that allowances should be allocated to all affected sources based on a historical multiyear baseline and the robust resource planning efforts already in place in Missouri should be used to determine a balanced compliance plan that continues to provide affordable and reliable power within the constraints of the Clean Power Plan to Missouri customers.

Ameren Missouri believes that the Clean Energy Incentive Program (CEIP) should be structured as a pure incentive program for early action and as such EPA should not require the state to set aside allowances from its allocations for participating in the CEIP. Ameren Missouri supports the EPA's goal of incenting early action in renewable energy and energy efficiency but it should not come at a cost of increasing the stringency of compliance targets and hence cost of compliance for all of the customers of affected sources. Instead, the incentive should come from additional federal allowances that are provided by EPA and not from state allowance budgets.

3. Please describe any anticipated reliability issues or capacity constraints if Missouri implements a compliance plan that includes the following scenarios or assumptions:
   b. Missouri uses a mass-based approach and allocates allowances pro-rata based on an historical baseline using one of the following parameters:
      i. CO_2 emissions
      ii. Heat input
      iii. Net Generation
   c. Missouri uses a mass-based approach as described in scenario "a" and allowances are either:
      i. Irrevocable even if a unit retires or
      ii. Redistributed to existing affected units if a unit retires
   d. Missouri uses a mass-based approach and allocates allowances as described in Scenario "a" and includes a set-aside for one or more of the following:

i. Renewable energy projects
ii. Energy efficiency projects
iii. Existing NGCC output-based

e. Missouri uses a mass-based approach and allocates allowances based on updating output-based allocations where affected sources and potentially one or more of the following are eligible to receive allocations based on their pro-rata share of updated generation levels each compliance period:
   i. Renewable generating resources that began operation post 2012
   ii. New/uprated nuclear
   iii. Energy from qualified biomass
   iv. Energy savings from post 2012 demand-side energy efficiency measures
f. Missouri uses a mass-based approach and, similar to the RGGI regional auction model, auctions allowances with proceeds deposited into an energy efficiency investment fund. Assume a market clearing price per allowance of:
   i. $5.50;
   ii. $7.50.
g. Missouri uses a mass-based approach and allocates allowances as described in Scenarios "a" or "d" and includes a new source complement.
h. Missouri uses a mass-based approach and allocates allowances as described in Scenarios "a" and "d" and sets aside five percent (5%) of allowances for renewable energy or energy efficiency.
i. Missouri takes advantage of the Clean Energy Incentive Program.

Answer to a-h:
It is premature for Ameren Missouri to comment on reliability concerns or capacity constraints issues as it relates to the question posed. The MISO RTO is currently modeling the Clean Power Plan for its region. It is assessing reliability issues as a part of the analysis. The results of their assessment have not been finalized at this time.

4. If Missouri uses a mass-based approach without a new source complement and allocates fixed irrevocable allowances pro-rata based on an historical baseline without any set- asides, to what extent would your company's compliance approach likely rely upon purchasing allowances from the market and/or building new natural gas combined cycle capacity? Explain if and how this would this change if the new source complement and/or an alternative allowance allocation process were used?

In order to develop a cost effective and reliable compliance plan for our customers to meet the requirements of the final Clean Power Plan, Ameren Missouri would consider additional cost-effective energy efficiency programs, new renewable resources, allowance purchases, new natural gas fired generation and any other compliance elements included in the state plan.

5. Are you aware of an approach that Missouri may be able use in its plan to address emissions leakage to new units while minimizing cost and reliability impacts? If so,

explain the approach. If not, which approaches to address emissions leakage in the state plan would be most likely to increase cost or cause reliability concerns?

Ameren Missouri believes that leakage may have only a minimal impact in Missouri. The state has four existing combined cycle units in the state that were all installed in the late 1990s and very early 2000s. Three of them operate in the SPP region and one operates in the AECI region. There are no combined cycle generation units in the Ameren Missouri service territory within MISO.

Given the fact that the combined cycle units will have the majority of their useful lives completed by the start of compliance with the Clean Power Plan in 2022 and the fact that MISO, SPP and AECI dispatch their regions separately from each other, Ameren Missouri believes that the state of Missouri should conduct an analysis to determine what, if any, impact leakage from existing combined cycles to new combined cycle generation may even occur in Missouri. The state of Missouri should then develop a plan to address only the amount of leakage that may be expected to occur.

6. If Missouri takes advantage of the Clean Energy Incentive Program, will your utility's current plans for plant investment be modified? If yes, please explain.

Ameren Missouri has not yet determined a compliance plan for the Clean Power Plan. However, any modifications to our current IRP preferred plan will consider all options available and will be designed to satisfy the compliance requirements of the state plan in a manner that most effectively maintains affordable and reliable service to our customers. Such considerations will include the CEIP, recent changes to tax incentives for renewable generation (ITC/PTC), as well as other relevant factors.

7. Are there drawbacks to Missouri taking advantage of the Clean Energy Incentive Program? If yes, please explain.

Yes, as currently structured there are drawbacks to the Clean Energy Incentive Program (CEIP) that could increase costs to all Missouri customers since the CEIP is not set up as a pure incentive program. If Missouri participates in the CEIP, it will be required to set aside allowances designated for affected sources and make them available to new renewable generation and to low income community energy efficiency programs implemented during the specified period. Unless structured in a correct manner, there is no guarantee that these state allowances set aside to participate in the CEIP to obtain additional federal allowances would go back to affected sources in the state. Thus, there will be fewer allowances allocated to affected sources which will tighten the targets and increase the cost of compliance for Missouri customers of existing affected sources. If structured differently in a state plan, the CEIP could incent early action without raising the cost of compliance.

8. Are there drawbacks to setting aside allowances for renewable energy or energy efficiency projects other than the Clean Energy Incentive Program? If yes, please explain.

Yes, as discussed above, allowances that are set aside and not freely allocated to the owners of affected units will raise the cost of compliance. The Clean Power Plan targets in Missouri are significantly more stringent that in the proposed rule, and would require additional investments in renewable energy and energy efficiency to comply. However, the amount of cost effective new renewable energy or energy efficiency programs are best determined through the robust analysis conducted in the integrated planning processes already available in Missouri and not through administratively set targets that make compliance targets more stringent and more costly for Missouri customers.

9. Are there drawbacks to auctioning allowances? If yes, please explain.

Yes, there are drawbacks to auctioning allowances. The main drawback is cost. Under the auction approach the customers of affected units must pay for every ton of carbon emitted from generation used to serve their needs as opposed to an allocation approach that allows a certain amount of emissions set below historical levels in the final Clean Power Plan to be emitted for free. Depending on the disposition of the proceeds of the auction, these same customers may not benefit in the same proportion as their costs would increase. In addition, there are administrative costs associated with running an auction.

10. Is there a trading approach that will mitigate any anticipated reliability concerns or capacity constraints (i.e., is there a specific combination of states, RTOs, trading ready etc.)?

Trading is not a panacea for reliability concerns, but a robust trading program can lower the cost of compliance and provides an alternative to other compliance activities, like retiring units, that can create reliability problems. However, a trading regime should be designed in a way that maximizes the availability of allowances or credits for purchase by the owners of affected generation units in order to provide a reliable alternative to plant closures. Given the restrictions on trading in the final Clean Power Plan this may or may not be the case. EPA may be assuming the existence of a more liquid trading market than may actually exist, particularly at the start of the interim compliance program. Trading does not provide an alternative to plant closures if there are no allowances to buy.

11. Is there a trading approach that will minimize the estimated cost of compliance?

The more robust a trading program that is available for any state to comply with the Clean Power Plan, the more flexibility it provides for compliance and hence lowers the cost of compliance. Thus, the EPA should allow for trading between all states, regardless of whether they adopt a mass-based or rate-based approach and whether they are subject to a state or federal plan. A conversion formula should be available to allow for trading of allowances and ERCs across all states.

12. Could another state's approach to CPP compliance (rate vs. mass, allocation approaches, trading approaches, new source complement, etc.) affect your utility's

compliance with the CPP in Missouri? If yes, please explain.

Yes, if states adopt approaches that limit trading that could increase the cost of compliance in Missouri. Further, the timing and amount of unit retirements in neighboring states could impact reliability in Missouri such that planned retirements in Missouri would need to be delayed to avoid creating reliability concerns. This would require Missouri to find other means to comply with the CPP. These other means would be more costly, otherwise they would have been part of the preferred compliance plan.

13. Could another state's approach to CPP compliance affect your utility's compliance with the Renewable Energy Standard in Missouri? (For example choosing to bundle Emission Rate Credits with Renewable Energy Credits.) If yes, please explain.

Yes. The method of compliance with the CPP used by neighboring states could change power flows which can impact the preferred location of renewable energy by raising interconnection costs (i.e, require more network upgrades to interconnect the renewable resource).

14. To what extent will your utility's existing renewable resources or RECs and existing energy efficiency programs contribute to compliance with the CPP in Missouri? In other states? Please explain.

Ameren Missouri's existing renewable resources and energy efficiency programs will contribute to compliance with the CPP in Missouri by continuing to displace the need for generation from affected sources under the CPP.

15. Will statutory or regulatory changes be needed to facilitate Missouri's compliance with the CPP? Please explain.

It is difficult to assess whether statutory or regulatory changes are needed to facilitate compliance with the CPP until Missouri has an initial state plan developed in September 2016.

16. Does your utility anticipate any changes or impacts to its long-term planning or IRP related to the submission of transmission plans or reliability checks, and specifically as those changes relate to work with the RTOs or AECI?

MISO analysis is still in progress and as such it is too early to say how it may affect Ameren Missouri's compliance plans.

17. Does MISO have any Attachment Y concerns that could cause a delay in implementing a state CPP compliance plan?

MISO is best positioned to answer this question.

18. Does SPP envision a situation where there could be potential reliability conflicts between the CPP and North American Electric Reliability Corporation standards which will compel delays in scheduled generator retirements?

    N/A

19. Does AECI envision a situation where there could be potential reliability conflicts between the CPP and North American Electric Reliability Corporation standards which will compel delays in scheduled generator retirements?

    N/A

20. Does your utility expect adequate coordination between MISO, SPP, and AECI in order to facilitate CPP compliance? What is your utility doing to communicate with these entities regarding CPP compliance? Please explain.

    Yes, Ameren Missouri expects the various RTOs to coordinate in order to try to reduce the likelihood of a reliability issue with regards to compliance with the final Clean Power Plan. Ameren Missouri is actively engaged in providing MISO comments on its CPP analysis as well as providing MISO suggestions on its study approach.

21. What steps are MISO, SPP, and/or AECI taking to ensure adequate coordination with each other and their members regarding CPP compliance? Please explain.

    N/A

22. What transmission and/or distribution upgrade or building needs does your utility anticipate as a result of the CPP (e.g., new lines, upgrades to transformers or substations, AMI)?

    MISO is currently performing studies to aid them in determining what transmission upgrades will be needed for state plans to be able to comply with the Clean Power Plan. Ameren will continue to work with MISO to understand the transmission impacts of these studies.

23. MISO and Platts recently estimated (http://www.platts.com/latest-news/electric-power/houston/misos-expected-cost-to-comply-with-us-cpp-varies-21631026) that changes in several factors, including the price of natural gas (between $2.30 to 6.30/MMBtu), could lead to large ranges in the potential cost of compliance with the CPP. How does your utility plan to mitigate the risk of compliance cost overruns due to natural gas market uncertainties?

    Ameren Missouri currently models natural gas price uncertainty in its IRP process. It plans to continue to include this uncertainty as it develops its Clean Power Plan compliance plan.