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MISSOURI PUBLIC SERVICE COMMISSION

File No. ER-2014-0258

AMENDED REBUTTAL TESTIMONY

OF

MATT MICHELS

ON

BEHALF OF

UNION ELECTRIC COMPANY
d/b/a Ameren Missouri

****Public Version****

St. Louis, Missouri
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TABLE OF CONTENTS

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OF

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I. INTRODUCTION

Q. Please state your name and business address.

A. Matt Michels, One Ameren Plaza, 1901 Chouteau Avenue, St. Louis, Missouri 63103.

Q. By whom and in what capacity are you employed?

A. I am employed by Union Electric Company d/b/a Ameren Missouri ("Ameren Missouri" or "Company") as Senior Manager of Corporate Analysis.

Q. Please describe your professional background and qualifications.

A. I joined Ameren Services Company in 2005 as a Consulting Engineer in Corporate Planning. My responsibilities included coordination and monitoring of projects implemented in conjunction with the integration of processes and systems following the acquisition by Ameren Corporation of Illinois Power Company ("Illinois Power") in October 2004. I was subsequently involved in the integration of combustion turbine facilities acquired by Ameren Missouri in 2006. In September 2008, I was promoted to Managing Supervisor of Resource Planning with responsibility for long-range resource planning, including Ameren Missouri's Integrated Resource Plan ("IRP") filings and associated analysis. In February 2013, I was promoted to Corporate Analysis Manager. In February 2014, my position and duties were transferred to Ameren Missouri, where I now have the title of Senior Manager, Corporate Analysis. My current responsibilities include long-range

resource planning, environmental compliance planning, fuel budgeting and other resource related analysis.

I earned a Bachelor of Science degree in Electrical Engineering from the University of Illinois at Urbana-Champaign in May 1990. I have been employed by Ameren or Illinois Power since June 1990 in various positions related to resource and business planning. During most of that time, my responsibilities have included the development, use and oversight of various planning models used for purposes such as production costing, acquisition evaluation, corporate restructuring, financial forecasting and resource planning. I have previously testified before this Commission in proceedings involving resource planning, renewable energy standards compliance, and energy efficiency cost recovery.

Q. What is the purpose of your rebuttal testimony in this proceeding?

A. The purpose of my rebuttal testimony is to 1) address the testimony of Sierra Club witness Dr. Ezra Hausman with respect to Ameren Missouri's IRP and the Company's decision to upgrade the electrostatic precipitators ("ESPs") for Units 1 and 2 at the Labadie Energy Center ("Labadie") to comply with the U.S. Environmental Protection Agency's ("EPA") Mercury and Air Toxics Standards ("MATS") rule, 2) address the rate proposal put forth by Noranda Aluminum, Inc. ("Noranda") and the supporting testimony of Noranda witnesses Maurice Brubaker and James Dauphinais regarding the reasonableness of Noranda's seven-year rate proposal, and 3) suggest an alternative that is consistent with the regulatory compact under which we operate in the state of Missouri.

Q. Please summarize the conclusions of your rebuttal testimony with respect to the issues raised by Dr. Hausman.

A. Contrary to the assertions of Dr. Hausman, Ameren Missouri's decision to invest in upgrades to the Labadie ESPs to comply with the requirements of MATS is consistent with the analysis presented in the Company's IRP filed on October 1, 2014, and is consistent with the objective of resource planning to ensure safe, reliable and efficient service at just and reasonable rates in a manner that serves the public interest. In that IRP analysis, Ameren Missouri has appropriately considered the risks and associated costs of complying with environmental regulations, including the regulation of carbon dioxide emissions. Including full consideration of these risks and costs, continued operation of Labadie with the recently completed ESP upgrades, along with future investments in environmental controls, provides significant economic benefit to Ameren Missouri's customers while reducing emissions and mitigating other environmental impacts.

Q. Please summarize the testimony of Dr. Hausman regarding Ameren Missouri's IRP as it relates to pollution controls for Labadie.

A. Dr. Hausman alleges the recently completed ESP upgrades for Labadie are not supported by an economic evaluation of the alternative of retiring the units in part because, he alleges, a comparison with such an option is not sufficiently supported by Ameren Missouri's IRP. Dr. Hausman argues this based on:

- Ameren Missouri's preferred resource plan not reflecting strict compliance with EPA's <u>proposed</u> regulations for carbon dioxide emissions from existing power plants, also known as the Clean Power Plan ("CPP")[1]

[1] Dr. Hausman Direct, p. 4, l. 5-7.

- Ameren Missouri's assumptions regarding future greenhouse gas regulation. Specifically, the Company's assumption regarding the probability of an explicit price on carbon dioxide emissions.[2]
- Ameren Missouri's assumptions with respect to analysis of the possible retirement of Labadie. Specifically, Dr. Hausman alleges the evaluation of Labadie retirement in the IRP does not account for the avoidance of significant costs for environmental compliance.[3]

Q. Can you respond briefly to these main points?

A. Yes.

- **Ameren Missouri has sufficiently evaluated the potential impacts of the EPA's proposed regulation of carbon dioxide emissions** – Ameren Missouri has included in its recent IRP filing an analysis of the potential impact of compliance with the EPA's proposed CPP on Ameren Missouri's preferred resource plan. That analysis reflects compliance with the requirements of the proposed rule with continued operation of all four Labadie units throughout the 20-year planning horizon evaluated in the IRP (i.e., through 2034).
- **Ameren Missouri has appropriately accounted for regulation of carbon dioxide emissions in its IRP analysis** – Ameren Missouri performed its IRP analysis under a range of scenarios for future regulation of carbon dioxide emissions. Some scenarios reflect implementation of an explicit price on carbon dioxide emissions, but most reflect implementation of regulations that

[2] Dr. Hausman Direct, p. 8, l. 2-4.
[3] *Ibid*., p. 10, l. 13-15.

alter the mix of resources in the electric energy market, including varying levels of retirements of coal-fired generators, without implementation of an explicit price on carbon dioxide emissions. This is the very kind of "indirect cost" regulation of carbon dioxide emissions to which Dr. Hausman refers in his direct testimony.[4]

- **Ameren Missouri's analysis of retirement of Labadie supports its continued operation with investments in pollution controls** – Ameren Missouri's analysis of the retirement of Labadie accounts for the potential to avoid the vast majority of expected environmental compliance costs for the plant and shows that continued operation of the plant, including all costs of environmental compliance, saves customers over $3 billion.

I will expand on each of these points in greater detail.

II. AMEREN MISSOURI HAS SUFFICIENTLY EVALUATED THE POTENTIAL IMPACTS OF THE EPA'S PROPOSED REGULATION OF CARBON DIOXIDE EMISSIONS

Q. Please describe the analysis of the CPP included in Ameren Missouri's 2014 IRP.

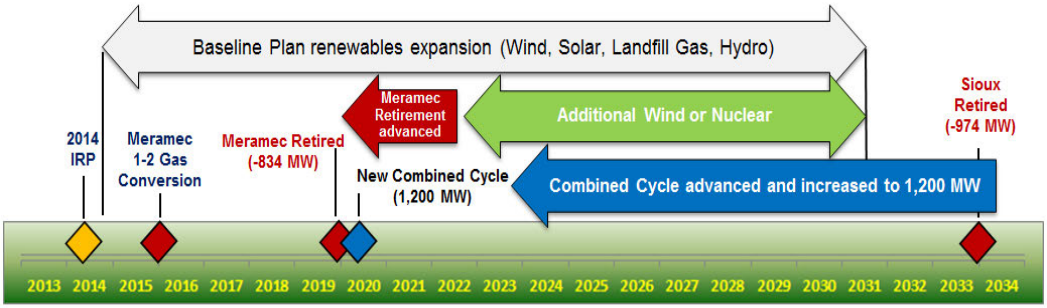
A. The EPA announced the proposed CPP on June 2, 2014. At that time, Ameren Missouri was well down the path on its analysis for its 2014 IRP. As the proposed rule was reviewed by the Company, a parallel analysis was undertaken to identify a feasible approach to compliance with the proposed rule and evaluate its potential impacts. The Company identified a compliance approach that includes, relative to the Company's preferred resource plan, the advancement of the retirement of Meramec by three years (from

[4] Dr. Hausman Direct, p. 7, l. 8-9.

late 2022 to late 2019), advancement and a doubling in size of new combined cycle generation (from early 2034 to early 2020 and from 600 megawatts ("MW") to 1200 MW), and the deployment of additional renewable resources (150 MW of wind generation on top of the 478 MW of wind and other renewable generation already included in the preferred resource plan). Ameren Missouri presented information to the Commission on compliance with EPA's proposed Clean Power Plan in August 2014 (File No. EW-2012-0065).

The retirements of the Sioux, Rush Island and Labadie Energy Centers were unaffected and were therefore consistent with the retirement dates presented in the direct testimony of Ameren Missouri witness Larry Loos. As Ameren Missouri has publicly stated, the changes to Ameren Missouri's preferred resource plan to comply with the proposed rule would cost customers an additional $4 billion between 2020 and 2034.[5] The results of this analysis were included in Ameren Missouri's 2014 IRP. The changes to Ameren Missouri's preferred resource plan to comply with the CPP were summarized in the IRP filing in a graphic representation,[6] reproduced below.

Figure 1 – Changes to Preferred Plan for CPP Compliance



[5] Stated in Ameren's formal comments to EPA on the Clean Power Plan and in various public meetings.
[6] Ameren Missouri 2014 IRP (File No. EO-2015-0084), Ch. 10, p. 18.

In spite of the significant reductions in carbon dioxide emissions targeted by the proposed rule, the changes with respect to Ameren Missouri's coal-fired energy centers do not appear to be dramatic.

Q. How can this be explained?

A. Ameren Missouri has been working for many years to reduce its emissions in a cost-effective manner. Our preferred resource plan represents a continuation of this approach. As stated in our 2014 IRP filing, Ameren Missouri has developed its preferred resource plan to achieve the following objectives:[7]

- Transition Ameren Missouri's resource mix to a cleaner, more fuel diverse portfolio in a responsible fashion over the next 20 years;
- Manage the transition of our generation fleet, and plan for eventual closure of aging coal-fired resources at the end of their useful lives in a way that is beneficial to customers, shareholders, the environment, and our communities; and
- Create and maintain flexibility – financial, economic, technological, regulatory, environmental, etc. – to be able to effectively adapt to changing conditions.

Because of this, Ameren Missouri is well-positioned to achieve the kinds of reductions in carbon dioxide emissions targeted by the EPA, but at a significantly lower cost to customers, while continuing to operate its most efficient and lowest cost coal-fired units for the benefit of customers. This includes Labadie.

[7] Ameren Missouri 2014 IRP (File No. EO-2015-0084), Ch. 1, p. 2.

III. AMEREN MISSOURI HAS APPROPRIATELY ACCOUNTED FOR REGULATION OF CARBON DIOXIDE EMISSIONS IN ITS IRP ANALYSIS

Q. At page 8, lines 1 through 4, of his direct testimony, Dr. Hausman asserts that Ameren Missouri has not adequately accounted for the cost of carbon dioxide emissions in its IRP analysis simply because the Company has ascribed a 15% probability to an explicit price on carbon dioxide emissions. Is this a fair characterization of Ameren Missouri's IRP analysis?

A. It is not a fair characterization at all. The fact that Ameren Missouri has assigned a 15% probability to GHG regulation that includes an explicit price on carbon dioxide emissions does not mean it has assumed an 85% probability that there will be no regulation of carbon dioxide emissions. To the contrary, Ameren Missouri has assumed an 85% probability that there will indeed be regulation of carbon dioxide emissions through indirect means. Ameren Missouri has accounted for regulation of carbon dioxide emissions through a range of scenarios, most of which represent an indirect approach to regulation with no explicit price on carbon dioxide. These scenarios were applied in the evaluation of all resource options and alternative resource plans in Ameren Missouri's 2014 IRP, as well as to the analysis of compliance with the proposed CPP. The Company describes its evaluation of carbon dioxide, or greenhouse gas ("GHG"), regulation in Chapter 2 of its IRP filing:

> Through this process we considered the structures [by which] a future GHG policy could be implemented which included the following:
>
> - Legislative
> - Regulatory
> - International Treaty
>
> We identified three general mechanisms by which GHG policy could be implemented through any of the above structures. Each implementation path could seek to achieve GHG reductions through any, or a combination of, three mechanisms:

- Policies to mandate and/or promote low/no carbon resources
- Specified limits on GHG emissions (emission rates or mass emission)
- Implementation of an explicit price on GHG emissions

This framework provided a vehicle for discussion with our internal experts to identify the probable ranges of coal retirements and carbon prices that define our scenarios.[8]

Two of the three mechanisms listed above are indirect methods of imposing costs on carbon dioxide emissions – 1) mandates to promote low/no carbon resources, and 2) specified limits on GHG emissions, either through a rate or a mass emission limit. Because the EPA has proposed a regulation that essentially represents a combination of these two mechanisms, and not through a carbon tax or cap-and-trade program, it seems Ameren Missouri's assessment of a much higher probability of no explicit price on carbon dioxide emissions is consistent with observed reality.

Q. Does Dr. Hausman suggest that regulation of carbon dioxide emissions must necessarily involve an explicit price on those emissions?

A. No. Dr. Hausman describes both "direct" and "indirect" approaches to imposing a cost on carbon dioxide emissions, indicating that direct mechanisms include the imposition of a carbon tax or a tradable allowance system, and indirect mechanisms include the imposition of preferences for low-carbon resources and curtailed operations or shutdown of existing coal-fired plants. In describing the direct mechanisms he cites, Dr. Hausman admits neither are currently part of the EPA's proposal.[9]

[8] Ameren Missouri 2014 IRP (File No. EO-2015-0084) Ch. 2, p. 19.
[9] Dr. Hausman Direct, p. 7, l. 4-9.

Q. What is the difference between what Dr. Hausman describes and the approach Ameren Missouri has taken in its IRP with respect to consideration of GHG regulation?

A. There appears to be little or no difference. Everything Dr. Hausman states in his description of GHG regulation is entirely consistent with the approach and considerations accounted for in the development of Ameren Missouri's GHG regulation scenarios in its IRP, which I just described.

Q. Dr. Hausman cites a report by Synapse Energy Economics ("Synapse") on carbon dioxide price forecasts and includes the report as Schedule EDH-2 to his direct testimony in this case. Are you familiar with this report?

A. Yes. It is the report on which Ameren Missouri relied to develop its carbon dioxide price forecasts for its IRP analysis.

Q. Dr. Hausman alleges that Ameren Missouri has misapplied the carbon dioxide price forecasts produced by Synapse. Does he express concern with the carbon dioxide prices used by Ameren Missouri from that report?

A. No.

Q. What then is the nature of Dr. Hausman's assertion Ameren Missouri has misapplied the Synapse forecasts?

A. Dr. Hausman, having explained both direct and indirect mechanisms of regulation and having admitted the EPA's proposal is based not on direct but rather on indirect mechanisms, inexplicably finds fault with Ameren Missouri's assumption that there

is a 15% probability of the imposition of a direct carbon dioxide emission regulation mechanism with an explicit price on emissions.[10]

Q. Does Dr. Hausman provide any rationale for his dissatisfaction with Ameren Missouri's assumption that indirect methods of carbon dioxide regulation are much more likely than direct methods?

A. No. In fact, it appears that Dr. Hausman either does not recognize, or does not acknowledge, that Ameren Missouri has made such assumptions about indirect regulation of carbon dioxide emissions. This appears to be the result of a misreading or misunderstanding on his part with respect to Ameren Missouri's IRP assumptions as opposed to a willful mischaracterization.

IV. AMEREN MISSOURI'S ANALYSIS OF RETIREMENT OF LABADIE SUPPORTS ITS CONTINUED OPERATION WITH INVESTMENTS IN POLLUTION CONTROLS

Q. Please describe the analysis included in Ameren Missouri's 2014 IRP of the retirement of Labadie.

A. Ameren Missouri included in its alternative resource plans two plans that reflect retirement of Labadie at the end of 2023. Both plans include additional combined cycle gas generators to ensure sufficient capacity to meet load and planning reserve margin requirements in the Midcontinent Independent System Operator, Inc. ("MISO") market. One plan (Plan O) included 169 MW of new nuclear generating capacity; the other (Plan M) did not. Plan M also includes implementation of energy efficiency and demand response programs at the maximum achievable potential ("MAP") level, whereas Plan O includes implementation of energy efficiency and demand response programs at the realistic

[10] Dr. Hausman Direct, p. 8, l. 15-17.

achievable potential ("RAP") level. One of the other alternative resource plans evaluated in the IRP (plan G) includes MAP Demand-Side Management ("DSM") (energy efficiency and demand response) and continued operation of Labadie along with new combined cycle gas generation and no new nuclear generation. Plans M and G, therefore, differ only in that Plan M reflects Labadie retired and replaced, and Plan G reflects continued operation of the plant.[11] Based on the differences in costs between these two plans, the effect of retiring Labadie on customer cost, in terms of present value of revenue requirements, is approximately $3.6 billion. That is, investing in environmental controls, along with other investments and operating costs, to allow the plant to continue operating costs customers $3.6 billion.[12]

Q. Dr. Hausman suggests this analysis is inadequate to justify the investment Ameren Missouri has made in ESP upgrades at Labadie. On what basis does he assert Ameren Missouri's analysis falls short?

A. Dr. Hausman claims: 1) the IRP analysis fails to address the potential net present value benefit specifically of shutting down Labadie, 2) the analysis only looks at retirement at the end of 2023 and therefore fails to avoid numerous capital costs, and 3) the analysis only applies a 15% probability to an explicit price on carbon dioxide emissions.[13]

Q. Please respond briefly to these assertions.

A. First, Ameren Missouri's IRP analysis of Labadie specifically accounts for all the costs and benefits associated with retirement of Labadie. Second, analysis of retirement at the end of 2023 includes avoidance of the majority of expected investments in

[11] 2014 Ameren Missouri IRP (File No. EO-2015-0084), Ch. 9, p. 15-16.
[12] *Ibid*., Ch. 9, p. 29, Figure 9.13.
[13] Dr. Hausman Direct, p. 10, l. 13-15.

environmental controls. Third, with respect to the probability of an explicit carbon dioxide price, Ameren Missouri has assumed a much higher probability for indirect costs for compliance with GHG regulations than for direct costs for compliance in the form of a carbon tax or cap-and-trade regime, as I've explained earlier in my rebuttal testimony.

Q. What costs and benefits has Ameren Missouri accounted for in its analysis of Labadie retirement in the IRP?

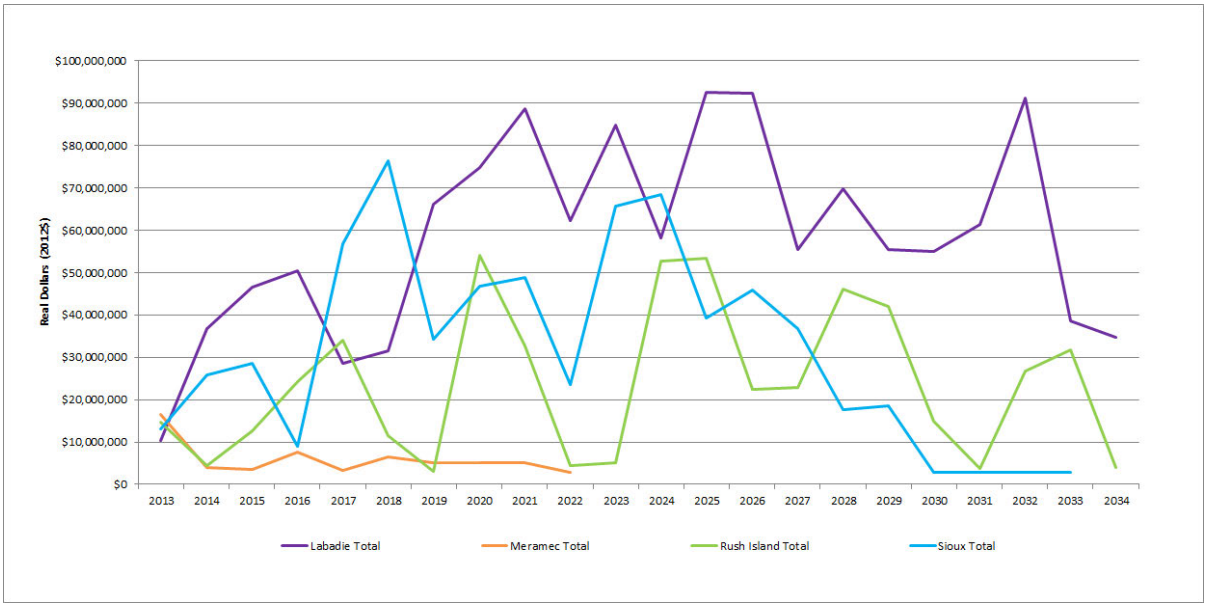
A. The costs accounted for in our retirement analysis include capital and operating costs for new combined cycle gas generation to ensure the Company has sufficient resources to meet load and reserve margin requirements, costs for investment in transmission system upgrades to ensure system reliability with those units removed from the grid, and opportunity costs in the form of lost margins from sales of energy. The benefits accounted for include avoided capital and operating costs for environmental compliance, avoided capital investment for plant equipment replacement and refurbishment, and avoided operations and maintenance ("O&M") costs for the plant. A comparison of the non-environmental plant capital expenditures and O&M expenses for Plan G (Labadie continues operating) and Plan M (Labadie retired at 12/31/2023) are provided in Schedule MRM-R1.

Q. At page 11, lines 11 through 14 of his direct testimony, Dr. Hausman mentions the potential for increasing costs to maintain the reliability of the Labadie units as they age. Has Ameren Missouri accounted for the potential need for increasing levels of capital investment?

A. Yes. Our IRP assumptions reflect increasing levels of annual non-environmental capital investment that reach a sustained level of roughly $60-80 million (in

2012 dollars). The chart below, reproduced from Chapter 4 of Ameren Missouri's 2014 IRP filing, shows this increase and sustained level of investment.[14]

Figure 2 – Future Non-Environmental Capital Expenditures (2012$)



Q. At page 10, lines 13 through 15 of his direct testimony, Dr. Hausman suggests the analysis of Labadie retirement in the IRP fails to account for environmental retrofit investment costs that can be avoided. How did the IRP account for the potential to avoid such investments?

A. Ameren Missouri evaluated the assumptions for pollution control investments needed to continue operating the Labadie units through 2034 and identified those investments that could be avoided if the units were retired in 2023. The table below shows the environmental capital expenditures for the two cases, as reflected in our assumptions for IRP analysis.[15] As the table shows, the Labadie retirement case reflects the avoidance of $807 million, or nearly two-thirds of the total estimated environmental capital investment. The

[14] 2014 Ameren Missouri IRP (File No. EO-2015-0084) Ch. 4, p. 18.
[15] Actual costs may vary from IRP assumptions due to changes in scope and more detailed cost estimation.

avoided capital expenditures are those for the installation of flue gas desulfurization ("FGD") equipment, cooling towers and landfill cells for disposal of ash.

Table 1 – Environmental Capital Expenditures ($millions)

	Plan G - Labadie Continues Operating	Plan M - Labadie Retired 12/31/23	Avoided w/ Early Retirement
ESP Unit 1	79	79	-
ESP Unit 2	82	82	-
ESP Units 3-4	45	45	-
Activated Carbon Injection	20	20	-
Water Management	69	69	-
Ash Handling and Disposal	206	135	71
FGD (Scrubber)	552	-	552
Cooling Tower	185	-	185
Total Environmental Capex	1,237	430	807

Q. Even though the IRP analysis has accounted for the vast majority of avoidable environmental retrofit costs, isn't there still some opportunity to avoid environmental costs for 2016 through 2023 by retiring the units in 2016?

A. Only to a limited degree. I mentioned previously our evaluation of Labadie retirement included costs for investments in new combined cycle gas generation to replace the capacity of the coal units and transmission system upgrades necessary to ensure reliable grid operation in the absence of those units. These projects would take some time to complete, likely measured in years, not months, due to the time needed for siting, permitting, engineering, contracting, construction and testing. Until such projects were completed, it would likely be necessary to continue operating the units to support grid reliability. The units would still be subject to the same environmental regulations and likely would also

require compliance measures to be implemented. The earlier compliance is necessary, the less likely it is such costs can be avoided.

Q. Can an upper limit of avoided costs be estimated for retirement of Labadie in 2016?

A. Yes. One only need to suppose Labadie can be retired in early 2016 and add up costs between that date and the 12/31/2023 retirement date used in the IRP analysis. The Company would then avoid an additional $430 million in environmental capital expenditures, $291 million in non-environmental capital expenditures, and $671 million of O&M expense. The sum of these costs is $1.392 billion.

Q. What can be concluded about the economics of retiring Labadie in 2016 based on this theoretical estimate of additional avoidable costs?

A. To draw a conclusion, let us assume Labadie generates no margin at all by producing electric energy from 2016 through 2023. This is not realistic, but for purposes of this answer let us assume it is. Further assume Ameren Missouri made the decision to retire Labadie in 2016 such that expenditures for the ESP upgrades could be fully avoided. By retiring Labadie in 2016, the Company would save roughly $1.4 billion in capital and O&M expenditures from 2016 to 2023, as I previously described. Because retirement in 2023 was determined to save $3.6 billion, customers would still realize a net benefit from continued operation of the plant of $2.2 billion (the $3.6 billion in net savings minus the $1.4 billion in costs).

Q. Dr. Hausman suggests Ameren Missouri may have been "working against an artificial deadline for installation of the Labadie unit 1 and 2 ESPs."[16] Does Dr. Hausman draw any inferences related to his conjecture?

A. It's not clear that he does, although he may be implying that the work could have been performed later and with the benefit of knowledge of the proposed CPP.

Q. The ESP upgrades have been completed in advance of the effective date for MATS compliance for Labadie of April 16, 2016, including a one-year extension granted by the Missouri Department of Natural Resources ("MDNR"). Would it have been practical to delay the upgrades?

A. No, for three reasons. First, the EPA's proposed CPP is at this time only a proposed regulation that is expected, according to the EPA, to be finalized during the summer of 2015. Once finalized, this regulation will almost certainly be subject to legal challenges that could take years to resolve. Delaying decisions to comply with regulations that are final and in effect simply because another regulation has been proposed would not be appropriate or prudent. This is even truer because of the kind of flexibility Ameren Missouri has incorporated into its long-range planning. The depth of our existing generating fleet and our track record for finding innovative ways to comply with environmental regulations in a cost-effective manner ensures the Company has a number of options for complying with a wide range of potential GHG regulations that could become effective.

Second, as was made clear in the communication between Ameren Missouri and MDNR,[17] the Company was pursuing upgrades of the EPSs at all four Labadie units – Units 1 and 2 in 2014 and Units 3 and 4 in 2015. This was a primary driver for Ameren

[16] Dr. Hausman Direct, p. 9, l. 12-13.
[17] Letters between Ameren Missouri and MDNR included in EDH direct testimony as Schedule EDH-3.

Missouri's request to extend the MATS compliance date to April 16, 2016. Only after completing upgrades on Units 1 and 2 and conducting performance testing was the Company able to conclude the ESP upgrade for Unit 3 could be deferred. The ESP upgrade for Unit 4 is still scheduled for completion in early 2016. Staging the upgrades has preserved for Ameren Missouri the flexibility to make such further determinations regarding investments for compliance, but the ability to defer these investments could not have been known in advance with any degree of certainty. Therefore, the alternative implied by Dr. Hausman -- that the Company could have waited to learn the specifics of EPA's proposed CPP regulation-- is a false choice.

Finally, as I mentioned previously, retirement of Labadie in the near term could require significant upgrades to the transmission grid to ensure reliability, as well as the addition of new generating capacity. Such projects would take years to complete, and MISO would likely require the continued operation of the units until they are complete. In the meantime, Labadie would still have to comply with any environmental regulations that are in effect, including MATS. Therefore, the investments at issue would still have to have been made.

Q. You have indicated it isn't realistic to assume Labadie would be expected to generate no margin from 2016 to 2023. What evidence can you provide to support this claim?

A. Recent history provides clear evidence that Labadie should be expected to generate significant margins even in challenging market conditions. In 2013, Labadie generated roughly $90 million more in net MISO market revenue than it incurred in fuel

costs.[18] This was at a time when gas prices had dropped to very low levels and resulted in significantly depressed market prices for power. Based on the power price scenarios developed for our IRP analysis, which account for future expectations for load growth, natural gas prices, and environmental regulation, we have every reason to believe that power prices are likely to rise in the coming years. Therefore, the assumption that Labadie would generate no margin from 2016 to 2023 in the foregoing high level analysis is highly conservative.

Q. Dr. Hausman states that while Ameren Missouri has accounted for costs of compliance with numerous environmental regulations, as has been presented in Ameren Missouri's IRP, the Company has not included explicit costs for compliance with GHG regulations.[19] How do you respond?

A. The EPA's proposed CPP does not seek to regulate the emissions of individual sources like other regulations under the Clean Air Act. Instead, the CPP seeks to reduce the "carbon intensity" of utility generation fleets, which is a measure of the emissions of carbon dioxide per unit of electrical output in megawatt-hours ("MWh"). The measures eligible for complying with the proposed regulation include many that go beyond the boundaries of the affected generators and include customer energy efficiency programs and renewable resources. As a result, we cannot simply estimate costs at a power plant level to comply with the regulations. In fact, Dr. Hausman acknowledges in the very same portion of his direct testimony that, "the opportunities for capital investment in controlling CO_2 emissions from existing power plants are quite limited, in general comprising only small improvements in turbine efficiency to increase the amount of energy produced per unit of

[18] The comparable amount for 2014 through November is $163 million.
[19] Dr. Hausman Direct, p. 6, l. 14-18.

fuel burned."[20] This is why the Company conducted additional analysis for compliance with the CPP that involves all eligible measures specified in the proposed regulation, as I described previously.

Q. What have you concluded with respect to Dr. Hausman's recommendation to disallow recovery of depreciation expense associated with the investment by Ameren Missouri in ESP upgrades at Labadie?

A. Dr. Hausman's recommendation is without merit and should be disregarded by the Commission. Ameren Missouri has appropriately considered the costs, risks and benefits of continued operation of the Labadie units and has effectively planned for and implemented these measures to comply with the MATS rule while maintaining flexibility to manage further environmental compliance investments.

V. NORANDA'S LONG-TERM RETAIL PRICE PROPOSAL

Q. Please summarize your conclusions with respect to the pricing proposal made by Noranda and supported by Mr. Brubaker.

A. Adopting Noranda's seven-year fixed price proposal would 1) cost Ameren Missouri's other customers over $400 million while offering no benefits in return, and 2) be in direct contradiction with the regulatory compact. In response to Noranda's proposal, Ameren Missouri is proposing an alternative pricing solution that immediately benefits Noranda, provides the opportunity for Noranda to explore options for beneficial longer-term power supply arrangements, and provides Ameren Missouri's other customers' long-term benefits in exchange for subsidizing Noranda's discounted rate, while avoiding major issues with the regulatory compact raised by a retail pricing structure.

[20] Dr. Hausman Direct, p. 7, l. 1-4.

Q. Please briefly describe your understanding of what Noranda is proposing.

A. Noranda proposes an initial rate of $32.50/MWh with an annual escalation of 1% for a term of seven years.[21] In addition, Noranda would not be subject to fuel adjustment clause ("FAC") rate adjustments under its proposal. Noranda's proposal would result in a year seven rate of just $34.50/MWh. For comparison purposes, Noranda's current rate is $42.35/MWh, including the current FAC rate of $4.40/MWh.

Q. What concerns are raised by the exclusion of FAC charges in Noranda's proposal?

A. All Ameren Missouri retail customers are subject to FAC charges. These charges represent adjustments to customer rates for fuel and purchased power related expenses that represent a large portion of Ameren Missouri's cost of service. Exempting one retail customer from such charges while including them for all other customers raises issues as to whether the rate proposed by Noranda is unduly preferential and is a significant reason why Noranda's proposal cannot be adopted by the Commission in this case.

Q. How does Noranda's proposed rate compare with the cost to serve the smelter?

A. Ameren Missouri witness William Davis includes in his rebuttal testimony a comparison of Noranda's proposed rate to the expected cost to serve the smelter. His analysis shows that Noranda's proposal results in rates that are far below the cost to serve the smelter and far below the rate proposed for Noranda in this case.

Q. Has Noranda proposed adjustments to the rates for other customer classes to offset the subsidy it seeks?

[21] Brubaker Direct, p. 39, l. 9-12.

A. Yes. Mr. Brubaker has proposed that an equal percentage increase be applied to the test year base rate revenues of the other major customer classes.[22] Mr. Brubaker estimates that the resultant shift of rate revenue responsibility, including base rate adjustments and FAC revenues, to be $41.4 million based on current rates.[23]

Q. Does Mr. Brubaker make any attempt to estimate the future additional cost to other customers under the terms of Noranda's proposal?

A. No.

VI. NORANDA'S HISTORICAL COMPARISON IS USELESS FOR ASSESSING THE REASONABLENESS OF ITS PROPOSAL

Q. Does Mr. Brubaker offer any evidence that other customers are better off for the full duration of the seven-year term under Noranda's proposal than if the smelter is closed?

A. No. Mr. Brubaker makes a comparison of revenue loss under Noranda's proposal to revenue loss if the smelter is closed based only on historical information provided by his colleague, Mr. Dauphinais.

Q. Is this a useful comparison for assessing the reasonableness of Noranda's proposal?

A. Not at all. Noranda is proposing a fixed rate with fixed escalation for a period of seven years. There is virtually no chance that the conditions over the next seven years will be the same as those characterized by the historical information relied upon by Mr. Brubaker and Mr. Dauphais. In making a historical comparison, all Mr. Brubaker has done is to estimate what the difference in revenue loss *would have been* if Noranda's proposal had been

[22] Brubaker Direct, p. 41, l. 16-22.
[23] *Ibid*., p. 42 l. 19-21.

in place during the historical period Mr. Dauphinais used relative to what the revenue loss *would have been* if the smelter had been shuttered during that same period.[24]

Q. Mr. Dauphinais supports the use of historical information to assess the reasonableness of Noranda's proposal in part by suggesting that it is "consistent with the NBEC[25] historical market price normalization method that Ameren Missouri, Staff, and MIEC all agree on for the determination of Ameren Missouri's NBEC in this case..."[26] Is there anything wrong with this rationale?

A. The problem with this rationale is that it is entirely inconsistent with the nature of Noranda's proposal. Noranda is seeking rate treatment that represents a complete departure from regulatory tradition and would be, as described by Mr. Davis and Ameren Missouri witness John Reed, a violation of the regulatory compact between utilities and customers, while at the same time seeking to shroud itself in that very same regulatory tradition to justify its proposal. In reality, Noranda's reliance on historical information, reflecting a low point in power market prices, is simply a means by which to generate a comparison that is favorable to Noranda without any regard for the actual terms Noranda is proposing.

Q. Noranda has previously acknowledged that the Commission cannot bind future Commissions by approving Noranda's rate proposal in this case, so future Commissions are free to assess the merits of a discounted rate for Noranda in future cases. Does this ameliorate the concerns regarding Noranda's proposed seven year term?

[24] Using the 36-month historical period used by Mr. Dauphinais before normalization for the polar vortex.
[25] Net Base Energy Cost.
[26] Dauphinais Direct, p. 19, l. 6-8.

A. It doesn't ameliorate those concerns in any significant way. Noranda's statement also is in direct contradiction with the reasons for which Noranda says it is seeking special rate treatment. Noranda is specifically seeking a stable, long-term rate for power in order to, in its opinion, ensure the long-term viability of the smelter. Noranda witness Dale Boyles defines a "sustainable power rate" in his direct testimony in this case. He cites three key elements to a sustainable power rate – 1) a low beginning power price, 2) the stability of the power price (i.e., escalation at or below the rate of inflation), and 3) a long contract term.[27] If what Noranda says is true regarding 1) its need for a discounted power price[28], and 2) the requirements of a price structure to support long-term viability, then the rate treatment Noranda gets in this case has to meet those requirements to ensure the smelter's viability. If, on the other hand, Noranda can live with the uncertainty of future Commission treatment, then its argument that it needs long-term relief and long-term rate stability is significantly undermined. Noranda can't have it both ways.

Q. You have made clear your view that evaluating a long-term rate proposal based on a comparison using historical information is inappropriate. Are there any issues with the history-based information provided by Mr. Dauphinais even if such a comparison were appropriate?

A. There are three key shortcomings with his history-based analysis. First, the historical time period used by Mr. Dauphinais (36 months) does not match the length of the period for which Noranda is seeking to fix its rate (seven years). Second, and related to the first point, the normalization he undertakes to exclude the so-called "polar vortex" is inappropriate because it is likely that other "anomalies," perhaps of greater magnitude, will

[27] Boyles Direct, p. 17, l. 17 - p. 18, l. 21.
[28] Company witness Robert S. Mudge calls this need into significant question in his rebuttal testimony.

occur during the seven-year period for which Noranda seeks to fix its rate. Third, the price reduction Mr. Dauphinais estimates would result from a loss of Noranda's load in MISO is based on erroneous analysis.

Q. What kind of historical period should be used to support the reasonableness of a seven-year fixed price structure?

A. I want to be clear that, as I have stated previously, it is not appropriate to use ***any*** historical period as the basis for evaluating the reasonableness of a forward looking, long-term fixed-price contract. Long-term power deals, which are analogous to the long-term rate arrangement Noranda seeks, must be tested against future expectations of the market. However, if history is going to be used as a test of reasonableness, it would be more appropriate to use a period of time that matches the term of the proposed contract or pricing structure. Using a more consistent period of time -- in this instance seven years -- at least reflects the kinds of fluctuations that can occur over the same amount of time in the future.

Q. What about normalizing the historical period for anomalies?

A. Such normalization may be appropriate, but only for setting a short-term baseline against which ongoing true-up adjustments can be made. For example, the method of basing future wholesale power prices for off-system sales revenue, as part of NBEC in a rate case, on recent historic pricing information is appropriate because the FAC mechanism provides for true-up adjustments to the extent actual experience deviates from history before base rates can be reset and rebased in subsequent rate cases. But again, Noranda is seeking a fixed price, fixed escalation structure with a term of seven years that does *not* include any such true-up mechanism. The Commission agrees with this analysis, as is clear from its Order in File No. EC-2014-0224: "Such normalization is not appropriate because while the

extreme cold associated with a polar vortex may not reoccur frequently, other, not necessarily weather-related, anomalies will occur and have an impact on prices."[29]

Q. What would the result of Mr. Dauphinais' calculation of ANEC[30] and MISO administrative charges be if it were adjusted to reflect seven years of historical price information with no normalization?

A. The total for ANEC based on seven years of history with no normalization would be $4.74/MWh[31] higher than that estimated by Mr. Dauphinais, so the total of ANEC and MISO administrative charges would be $32.77/MWh[32] if ARR revenue and market price reductions resulting from the absence of Noranda's load are included. If ARR revenue and market price reductions are excluded, the total of ANEC and MISO administrative charges would be $34.13.[33] Both values – with and without ARR revenue and market price reduction – are higher than the initial rate proposed by Noranda.

Q. You state that Mr. Dauphinais' method for determining the impact on wholesale prices of a loss of Noranda's load in MISO is erroneous. Please explain.

A. Mr. Dauphinais describes in Appendix C to his direct testimony the method he used to estimate such an impact on market prices for power. In short, Mr. Dauphinais has performed a linear regression analysis of hourly load and price changes across the entire MISO footprint. That is, he has correlated hourly changes in price to hourly changes in load across all of MISO and used that to estimate the impact on market prices of the loss of Noranda's load at the smelter. In doing so, he supposes that hourly changes in load and

[29] Commission Order in File No. EC-2014-0224, par. 41.
[30] Actual Net Energy Cost.
[31] $31.33 for seven years of history compared to $26.59 for three years of history (with normalization for the polar vortex) used by Mr. Dauphinais.
[32] Mr. Dauphinais' value of $28.03 plus $4.74.
[33] Mr. Dauphinais' value of $29.39 plus $4.74.

price, regardless of the location of the load, are reflective of the impact of a reduction in load across virtually all hours at a specific location.[34] It is this basic supposition that is erroneous. The regression analysis Mr. Dauphinais performed ignores the fact that the hourly fluctuations in MISO's load would exist with or without Noranda and also that the hourly fluctuations in price are primarily a function of these hourly changes in load, including the location of such changes, which would exist whether or not the smelter remains on the system. For example, street lights in Davenport, Iowa, will still turn on in the early evening hours in the winter, and this change in load will require a corresponding change in generation as would numerous other changes in load in MISO. The marginal price of the additional generation needed to serve this increment of load will depend on the marginal unit called upon to serve the load, which may be characterized by the same price regardless of whether Noranda is consuming electricity or not.

Q. Is there an appropriate way to determine the impact on wholesale prices of a specified reduction in load?

A. Yes. A detailed production cost model that includes the capability to represent transmission system interconnections and constraints can be used to develop estimated locational marginal prices ("LMP's") for a specific location. The kinds of production cost models typically used for fuel budgeting, such as Prosym or RealTime, are not capable of such analysis. Only a production cost model that includes robust modeling of local transmission constraints and congestion, such as Ventyx's Promod model, could provide reasonably accurate results for such an analysis. Performing simulations with such a model, both with and without the specified load, would yield a reasonable estimate for the

[34] Noranda's load is served at a specific location and is relatively constant through all hours.

change in price at that location for a period, say a year. No witness in this case, including Mr. Dauphinais, has performed such an analysis. Without such an analysis, we must assume that any price differential, whether an increase or a decrease, is negligible.

VII. NORANDA'S PROPOSAL RESULTS IN A MASSIVE SHIFT IN COST AND RISK TO AMEREN MISSOURI'S 1.2 MILLION OTHER CUSTOMERS WITH NO BENEFITS IN RETURN

Q. Has Ameren Missouri estimated the cost impact of Noranda's proposal on Ameren Missouri's 1.2 million other customers?

A. Yes. Mr. Davis has estimated that, over the seven-year term proposed by Noranda, Ameren Missouri's other customers would pay over $400 million more than they would if Noranda were to continue to be served under cost of service based retail rates.

Q. Does Noranda's proposal provide any long-term benefit to Ameren Missouri's other customers in return for this subsidy?

A. No. In fact, Noranda's proposal makes it virtually impossible for other customers to realize long-term benefits because of the issues addressed by Mr. Davis in his rebuttal testimony. Specifically, Mr. Davis demonstrates that the subsidy to Noranda is unlikely to be eliminated following the 7-year term proposed by Noranda. In fact, Mr. Davis believes the subsidy to Noranda from Ameren Missouri's other customers is very likely to grow larger over time.

Q. You stated previously that the appropriate method for assessing the reasonableness of Noranda's proposal is to compare it to future expectations for power prices. Have you performed such a comparison?

A. Yes. To do so, I have updated the analysis I presented in testimony in File No. EC-2014-0224. In that analysis, I compared revenues from Noranda under its proposal

to revenues that would be realized through off-system sales in the absence of Noranda's load, as if the smelter had ceased operation.[35]

Q. What is the result of that updated comparison?

A. Revenue under Noranda's proposal would be approximately $272 million less than the revenue that would be realized by selling the same power into the market.

Q. You mentioned your concern regarding the prospect of rates for Noranda that are perpetually below the cost of service. Are there similar implications for rates that are below the expected future market price of power?

A. Yes. If Ameren Missouri continues to serve Noranda at rates that are below the expected market price for power, Ameren Missouri's other customers continue to bear the burden of an opportunity cost equal to the revenue differential that could be realized by selling the same power into the MISO market. If Noranda's rates are not allowed to increase to keep pace with the growth in the market price of power, that opportunity cost continues to grow.

VIII. AMEREN MISSOURI'S PROPOSED ALTERNATIVE

Q. Is Ameren Missouri proposing an alternative pricing structure that addresses the issues you have identified?

A. Yes. While Ameren Missouri does not agree with the quantification of Noranda's benefit to Missouri's economy as presented by Noranda's witnesses in this case, and while Ameren Missouri also has significant doubts as to the claims Noranda's witnesses

[35] I have used the pricing assumptions used in the development of our recently filed IRP as a representation of future expectations for power prices. These prices represent the probability weighted average prices for the scenarios I described previously in the portion of my testimony responding to Dr. Hausman and include costs for energy and capacity. Because of the trade-offs between energy revenues and ancillary services revenue, we do not include assumptions for ancillary services revenue.

make regarding the current financial challenges faced by the smelter, we recognize the importance of Noranda to the economy of southeast Missouri and would like to find a path forward that would help the smelter survive for the long-term consistent with protecting the interests of our other customers. We also recognize the interest that this Commission has expressed in finding a compromise solution that will help ensure the viability of the smelter.[36]

Q. Why does Ameren Missouri believe that an alternative pricing proposal is necessary?

A. Accepting for a moment that Noranda is facing a liquidity crisis and that the only possible solution is a lower power rate starting sometime in 2015,[37] I reviewed Mr. Boyles' testimony regarding Noranda's need for a "sustainable power rate." He cites three criteria related to the price of electricity that he claims must be met in order for Noranda to be competitive in the aluminum industry. According to Mr. Boyles, Noranda's power price must be lower than Ameren Missouri's current (and future) LTS retail rate, there must be stability in the price of power and the price must be a long-term price arrangement rather than a short-term deal.[38] The reality is that none of those goals can be met as long as Noranda is a retail customer, yet we are here discussing this issue in front of the Commission again and almost immediately after the Commission rejected Noranda's very similar proposal just a few months ago.

[36] *Report and Order*, File No. EC-2014-0224, p. 27, footnote 87 (The Commission "encourages the parties to continue to pursue negotiations on a compromise position as it could be considered in Ameren Missouri's current rate case, File No. ER-2014-0258").
[37] And also ignoring the fact that Noranda and its largest shareholder Apollo put Noranda in its claimed predicament.
[38] Boyles Direct, p. 18.

Q. Are there other problems with Noranda's proposal?

A. Yes. As Messrs. Davis and Reed have explained, Noranda's proposal simply isn't consistent with or allowed by the regulatory compact, which requires that the foundation of setting retail rates is cost of service. Moreover, while I am not an attorney, it appears that Noranda's proposal also raises potential legal concerns, a problem the Commission itself recognized in its decision in Noranda's prior rate shift complaint.[39] As earlier noted, Noranda's proposal also fails to provide certainty for any extended period of time to anyone – Noranda, the Company, the other stakeholders or the Commission.

Q. If one accepted the notion of a financial need on Noranda's part and ignored how Noranda got into its claimed situation, is there a solution that satisfies the criteria laid-out by Mr. Boyles and that avoids these other problems?

A. Yes. The solution is for Noranda to be released from the contract it signed with Ameren Missouri to become a retail customer and for the certificate of convenience and necessity under which Ameren Missouri serves Noranda to be cancelled (or suspended), with Noranda instead taking power under a long-term wholesale power contract priced based upon market conditions expected over the term of such a contract. While Ameren Missouri has significant questions about both Noranda's claimed need for rate relief and about how any such need actually arose, Ameren Missouri is willing to enter into such a wholesale contract with market-based pricing and a term of five years beginning with the effective date of new retail rates established in this case, if certain conditions are satisfied.

[39] *Report and Order*, File No. EC-2014-0224, p. 23 (Where the Commission recognized the very heavy burden Noranda had to show that such a heavily-subsidized rate is not unduly or unreasonably preferential).

Q. Why does this approach work for Noranda's situation?

A. Noranda is a far different customer than any other customer in the state. The legislature recognized this when in 2003 it passed Section 91.026, RSMo, which is effectively a retail choice statute for Noranda. Mr. Davis discusses this statute in more detail in his rebuttal testimony. These differences also include the fact that Noranda has an exceptionally large load and an exceptionally high load factor.

Q. Why would this be better for Noranda than the proposal before the Commission to modify the LTS retail rate?

A. It isn't accurate to simply compare the two proposals on a dollar basis, because Noranda's proposal isn't workable or appropriate as a retail rate, as I noted earlier and as explained in detail by Messrs. Davis and Reed. However, a wholesale arrangement would provide Noranda with a rate that is lower than its current retail rate, in fact significantly lower than the retail rates assumed by Mr. Davis, and significantly lower than the cost-based retail rates assumed by Noranda witness Steven Schwartz, who assumed retail rates for Noranda starting at $**_____**/MWh in 2015 and rising to $**____** in 2021.[40] . Such a contract would also provide stability in that the price could be fixed throughout the five-year term or it could start at a lower rate with agreed-upon escalation, in either case leading to a known price over the five year term. Either way, Noranda would know the price, would not be subject to any increases in Ameren Missouri's retail rates and would not pay any of the FAC charges, which are, by their nature, volatile.

[40] Schwartz Direct, Exh. 6A.

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Q. Why do you say that Noranda's proposal for a subsidized retail rate fails to provide certainty to for any extended period of time to Noranda or other stakeholders?

A. As Noranda has admitted previously, any decision of the Commission in this case is subject to change every time Ameren Missouri files a rate case or at any time should another party file a rate complaint case. Under Noranda's proposal, even if the Commission were to grant Noranda the relief requested, the rate can only be good until the next Ameren Missouri rate case is filed and new rates take effect. Every time Ameren Missouri's rates are reviewed the Commission would be forced to hear all of the arguments about whether Noranda needs a rate subsidy based on updated facts, about what rate is allowed under the law and about how that rate will impact Ameren Missouri's other customers. The only way price certainty can be provided is to move Noranda off of retail rates and onto a wholesale contract.

Q. Can the Commission require Noranda to move to a wholesale contract?

A. Not while the current contract between Ameren Missouri and Noranda is in effect. Ameren Missouri is not asking the Commission to do so. However, Ameren Missouri is willing to enter into such a contract with Noranda in order to provide a solution that provides a very material level of rate relief for Noranda, over an extended period of time, and that avoids the significant problems inherent in ignoring cost of service and instead setting a retail rate because of claimed private economic circumstances of one company.

Q. What would happen at the end of this five-year period?

A. There are several of possibilities. Consistent with Noranda's statutory ability to shop for its power supplier, Noranda would be free to secure a subsequent deal for power

in the open market. Noranda could also use this window of time to pursue long-term relief at the Missouri General Assembly. As Ameren Missouri has long argued, the appropriateness of a long-term subsidy to Noranda is an issue that elected officials should determine, and if such a subsidy is granted, the burden should be borne by all state residents, not just Ameren Missouri's customers.[41] Noranda would also be able to use this five-year window of time to address issues with its capital structure (e.g., it's extremely high debt to equity ratio), and thereby mitigate some of the risks associated with its long-term power supply. Finally, it would be possible for Noranda and Ameren Missouri to agree to extend the wholesale contract, although determinations as to pricing could not be made at this time.[42]

Q. Why is this proposal contingent on the cancellation or suspension of the certificate of convenience and necessity authorizing and requiring Ameren Missouri to provide retail service to Noranda?

A. Simply put, Ameren Missouri's other customers cannot be expected to perpetually subsidize Noranda's rate in a "lower-of-cost-or market" pricing regime for Noranda. Ameren Missouri's proposal provides immediate and significant rate relief for Noranda and a five-year window in which Noranda can address its capital structure and secure a long-term power supply from whatever supplier it chooses. But it is mutually exclusive to Noranda being a retail customer with all the benefits and obligations that come with the regulatory compact between Ameren Missouri and its retail customers.

[41] The Commission said as much as well when Noranda last asked for a subsidy of this type. "Finally and importantly, a request for an economic development subsidy of this magnitude is more properly directed to the Missouri General Assembly." *Report and Order*, File No. EC-2014-0224, p. 28.

[42] Specific pricing would have to be agreed upon based on market conditions and other circumstances at the time the agreement is extended.

Q. Assuming Noranda ceases to take electric service from Ameren Missouri at the end of the five-year term, what are the implications of this provision for Ameren Missouri's other customers?

A. The short-term reduction in cost to Noranda would be borne by Ameren Missouri's 1.2 million other customers for the five-year term. At the end of the term, this power would be sold into the MISO market and the revenues would be included in customer rates as an offset to the cost of service. In addition, Ameren Missouri would no longer bear an obligation to serve Noranda and would therefore no longer need to acquire resources necessary to serve Noranda.

Q. Would Ameren Missouri's proposal affect how its Fuel Adjustment Clause works?

A. The mechanics of Ameren Missouri's FAC will remain the same. The implication of Ameren Missouri's proposal is that the revenues from sales to Noranda under the five-year term will be treated as off-system sales revenues. Because the smelter would be a wholesale customer under a fixed price contract, the FAC would no longer be charged to Noranda and revenue from the transaction would be treated like other wholesale revenue. As I mentioned previously, Noranda must be subject to FAC charges as a retail customer, just as all other retail customers are subject to these charges. Serving Noranda as a wholesale customer does not require the inclusion of such charges.

Q. Mr. Davis discusses in his rebuttal testimony the need to maintain rates that are not unduly discriminatory and are reasonably representative of the cost of serving a particular class of customer, in this case Noranda. Is there such a concern with Ameren Missouri's proposal?

A. No, because Noranda would no longer be served as a retail customer. The principles governing rate design for regulated retail customers would no longer apply to the service provided to Noranda. Ameren Missouri is willing to enter into a wholesale agreement reflecting the terms described above, recognizing it is not possible to enter into such a deal as a retail rate. The lodestar of setting retail rates is fully-embedded cost of service, but wholesale deals are priced, and must be priced, based upon the market price expected over the life of the contract at the time of the contract's inception. This makes sense because, under the retail scenario, the utility has an obligation to serve and rates are set based upon the costs to fulfill that obligation. In a wholesale contract, the utility's obligations are limited to those found within the terms of the contract. These are very different principles than apply to retail customers. Ameren Missouri's proposed alternative is the only proposal in this case that provides a means to allow Noranda to obtain a rate that is materially lower than the cost to serve them at retail while not violating the regulatory compact between Ameren Missouri and its other customers.

Q. You earlier mentioned that Ameren Missouri is willing to enter into such a contract subject to certain conditions. What is necessary to implement Ameren Missouri's proposal?

A. While I am not an attorney, I have been advised by counsel that the following would need to take place:

- Noranda and Ameren Missouri would have to agree to price and terms of a wholesale contract to be effective concurrent with the change in retail rates established in this case, so that retail billing units could be adjusted to reflect Noranda's transition to a wholesale customer. As indicated, Ameren Missouri

is willing to enter into such an agreement with market-based prices for a five-year term, subject to the other conditions described in my testimony;

- Noranda and Ameren Missouri would have to agree to terminate the current contract for service to Noranda to be effective concurrent with the change in retail rates established in this case;
- The Commission would have to cancel or suspend the certificate of convenience and necessity which established Ameren Missouri's retail service to Noranda in File No. EA-2005-0180;
- The Commission would have to approve the agreement between Noranda, Ameren Missouri;
- The Commission would have to specifically find that Ameren Missouri's decision to enter into the agreement was a prudent one; and
- The Commission would have to find that the wholesale contract between Noranda and Ameren Missouri would be treated like other wholesale contracts, as off-system sales subject to inclusion in Ameren Missouri's FAC.

Q. Presuming Noranda desires to accept this offer, how would the process work?

A. Noranda and Ameren Missouri would need to enter into a wholesale contract. Ultimately, a filing would need to be made in this case to implement the above steps and satisfy the necessary conditions, presumably through a Stipulation and Agreement. Obviously, the Commission would need to approve that Stipulation and Agreement and order the certificate cancellation or suspension, and make the necessary prudence and other determinations set forth above.

Q. Please summarize your conclusions with respect to Noranda's proposed pricing structure.

A. Noranda's proposal is not in the best interests of Ameren Missouri's other customers and results in a cost shift of over $400 million over the 7-year term of the proposal with no long-term benefits in return. The history-based evaluation of Noranda's proposal put forth by Mr. Brubaker and Mr. Dauphinais is essentially useless when it comes to assessing the reasonableness of Noranda's proposal and should be disregarded by the Commission. Mr. Boyles has defined the three criteria that Noranda's power price arrangement must meet in order to ensure the viability of the smelter – a low price, price stability, and a long contract term. Ameren Missouri has proposed an alternative that meets these criteria by 1) providing Noranda with significant and immediate rate relief under a wholesale agreement with low, stable prices, 2) providing Noranda an opportunity to secure a viable long-term power supply, and 3) providing Noranda with the opportunity to seek a long-term solution at the Missouri legislature, while also providing Ameren Missouri's other customers long-term benefits in exchange for the initial subsidization of Noranda's power rate.

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.

Comparison of O&M and Non-Environmental Capital Expenditures

	O&M Expense ($Millions)			Non-Environmental Capital Expenditures ($Millions)			
	Plan G - Labadie Continues Operating	Plan M - Labadie Retired 12/31/2023	Difference (Plan G - Plan M)		Plan G - Labadie Continues Operating	Plan M - Labadie Retired 12/31/2023	Difference (Plan G - Plan M)
2015	48	48	-	2015	37	37	-
2016	59	59	-	2016	48	48	-
2017	64	64	-	2017	52	52	-
2018	68	68	-	2018	29	29	-
2019	70	70	-	2019	29	29	-
2020	73	73	-	2020	60	60	-
2021	75	75	-	2021	66	16	50
2022	102	89	12	2022	77	12	65
2023	113	97	16	2023	53	8	45
2024	123	76	48	2024	71	-	71
2025	125	-	125	2025	48	-	48
2026	128	-	128	2026	74	-	74
2027	132	-	132	2027	73	-	73
2028	136	-	136	2028	43	-	43
2029	140	-	140	2029	53	-	53
2030	143	-	143	2030	41	-	41
2031	146	-	146	2031	40	-	40
2032	150	-	150	2032	44	-	44
2033	155	-	155	2033	64	-	64
2034	160	-	160	2034	27	-	27
2035	164	-	164	2035	23	-	23
2036	168	-	168	2036	39	-	39
2037	173	-	173	2037	24	-	24
2038	176	-	176	2038	24	-	24
2039	182	-	182	2039	18	-	18
2040	187	-	187	2040	14	-	14
2041	191	-	191	2041	11	-	11
2042	200	-	200	2042	7	-	7

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Increase Its Revenues for Electric Service.	)))	File No. ER-2014-0258

AFFIDAVIT OF MATT MICHELS

STATE OF MISSOURI)
) **ss**
CITY OF ST. LOUIS)

Matt Michels, being first duly sworn on his oath, states:

1. My name is Matt Michels. I work in the City of St. Louis, Missouri, and I am employed by Union Electric Company d/b/a Ameren Missouri as Senior Manager, Corporate Analyst.

2. Attached hereto and made a part hereof for all purposes is my Amended Rebuttal Testimony on behalf of Union Electric Company d/b/a Ameren Missouri consisting of 38 pages, and Schedule(s) MRM-R1, all of which have been prepared in written form for introduction into evidence in the above-referenced docket.

3. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct.

Matt Michels

Subscribed and sworn to before me this 27th day of January, 2015.

Becki J. Eaves
Notary Public

My commission expires:

BECKIE J. EAVES
Notary Public - Notary Seal
State of Missouri
Commissioned for St. Louis City
My Commission Expires: February 21, 2018
Commission Number: 14938572