Exhibit No.:	
Issue(s):	ECRM; Meramec Plant Retirement; Coal-Fired Power Plant Maintenance
Witness:	Mark C. Birk
Sponsoring Party:	Union Electric Company
Type of Exhibit:	Rebuttal Testimony
Case No.:	ER-2010-0036
Date Testimony Prepared:	February 11, 2010

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. ER-2010-0036

REBUTTAL TESTIMONY

OF

MARK C. BIRK

ON

BEHALF OF

UNION ELECTRIC COMPANY
d/b/a AmerenUE

St. Louis, Missouri
February, 2010

REBUTTAL TESTIMONY

OF

MARK C. BIRK

CASE NO. ER-2010-0036

Q. Please state your name and business address.

A. My name is Mark C. Birk. My business address is One Ameren Plaza, 1901 Chouteau Avenue, St. Louis, MO 63103.

Q. Are you the same Mark C. Birk who filed direct testimony in this case on July 24, 2009?

A. Yes, I am**.**

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to address four topics. First, I will address the Staff's (Staff witness Lena Mantle) proposed changes to the "environmental rate base" developed for AmerenUE's proposed Environmental Cost Recovery Mechanism (ECRM). I will demonstrate that the environmental rate base developed by AmerenUE fully complies with the Commission's ECRM rules, and will further demonstrate that the Staff's belief that the environmental rate base is understated mistakenly relies on a report prepared for the Illinois Commerce Commission, which has nothing to do with the environmental rate base on AmerenUE's books. Second, I will address Missouri Industrial Energy Consumer's (MIEC) witness Maurice Brubaker's contention that an ECRM is not now needed by AmerenUE, and will demonstrate than an ECRM is needed to provide AmerenUE a reasonable opportunity to earn a fair return on equity (ROE). I will also address Mr. Brubaker's suggestion of an alternative to the ECRM to provide cost recovery for the scrubbers that will go into service at the

Sioux Plant within the next year. Third, I will respond to MEIC witness James T. Selecky's recommended change in the life of the Meramec Plant by five years for depreciation purposes, and will demonstrate that Mr. Selecky's arbitrary extension of the life estimate for the Meramec Plant is unreasonable. Finally, I will address the Staff's (Roberta Grissum) and MIEC's (Greg Meyer) "normalization" of AmerenUE coal-fired power plant maintenance expense, and will demonstrate that normalization is inappropriate given ongoing and expected coal power plant maintenance needs during the time rates to be set in this case will be in effect.

Q. Please summarize your conclusions.

A.

- The Company has developed the environmental rate base that will be used in calculating ECRM adjustments in accordance with the Commission's ECRM rules, that is, that includes all major items whose primary purpose is environmental compliance.

- The Missouri Legislature recognized that an ECRM is an important tool to provide more timely recovery of environmental compliance costs that the Company must incur, including capital investments in major projects whose primary purpose is environmental compliance, which produce no revenues for the Company. An ECRM will promote rate stability and better financial health for AmerenUE. While the alternative "construction accounting" mechanism proposed by Mr. Brubaker would largely address the short-term financial and cash flow issues relating to the Sioux Scrubber, which will be placed in service within the next year, in the long term an ECRM is critical to AmerenUE's ability to have a reasonable opportunity to earn a fair ROE and to otherwise recover its environmental compliance costs.

- MIEC witness Selecky's argument that the retirement date estimated for the Meramec Plant by Black and Veatch should be extended by five years based upon his comparison to other AmerenUE coal-fired plants is arbitrary and inappropriate because it fails to take into account significant differences between the Meramec Plant and AmerenUE's other coal-fired plants.

- Both the Staff's and MIEC's attempts to aggressively "normalize" coal-fired power plant maintenance expenses are inappropriate because they fail to recognize that the Company is incurring, and will incur over the next several years, a level of power plant maintenance expense that is consistent with or even higher than the test year level included in the Company's revenue requirement.

I. Environmental Rate Base

Q. What is an "environmental rate base"?

A. The Commission's ECRM rules require that the utility identify "major capital projects whose primary purpose is to permit the electric utility to comply with any federal, state, or local environmental law, regulation or rule." 4 CSR 240-20.091(1)(D).2. The rules also provide representative examples of the kinds of major capital projects that must be identified: "electrostatic precipitators, fabric filters, nitrous oxide emissions control equipment, and flue gas desulfurization equipment" [scrubbers]. *Id.* According to the rule, the costs for these major items "shall be those identified on the electric utility's books and records . . .." *Id.*

Q. What is the purpose of developing an environmental rate base?

A. With an ECRM, the utility can recover the return, taxes, and depreciation associated with in-service investments used to comply with environmental laws and regulations. This return, depreciation, and taxes essentially comprise the revenue requirement associated with those investments. In adopting the ECRM rules, the Commission believed that it should recognize the fact that while *additional* return, taxes, and depreciation would result from new environmental investments added after an ECRM is established, the return, taxes, and depreciation on environmental investments already on the utility's books when the ECRM is established would decline over time as the existing environmental investments depreciated. In other words, there would be an increase in the total revenue requirement associated with new environmental investments, but a decrease in the total revenue requirement associated with depreciating the existing environmental investments. Consequently, the Commission required the establishment of an existing environmental rate base so this increase/decrease could be netted and tracked through the ECRM.

Q. Please describe how the environmental rate base was developed for AmerenUE.

A. We started with the Commission's rule, quoted above, and convened a cross-functional team with members from AmerenUE's Generation, Transmission and Distribution, Environmental and Corporate Planning Departments so that the existing investments on AmerenUE's books that fell within the Commission's rule could be identified. Once we identified those items, the Property Accounting Department pulled property records for those investments and a spreadsheet was developed to document the investments and their book value. That spreadsheet, provided to the parties as part of AmerenUE witness Gary S. Weiss's workpapers supporting his July 24, 2009 direct testimony, is attached hereto as Schedule MCB-ER4. The total book value of all of this "environmental rate base" is $563.3 million, as shown on Schedule MCB-ER4. As required by the Commission's ECRM rule minimum filing requirements, we also listed, by Federal Energy Regulatory Commission (FERC) account, all of these items as being included in the costs to be tracked in the ECRM. Those minimum filing requirements are attached to my July 24, 2009 direct testimony as Schedule MCB-E2. Listed below are a few other representative investments and the basis for their inclusion in the environmental rate base:

- SO3 Injection – required to enhance precipitator performance and achieve opacity requirements;
- Low NOx Burners/OFA & CTG Combustion Systems – required to achieve permit requirements associated with NOx emissions;
- Cooling Towers – required to meet water quality standards.

Q. What is your objection to the Staff's Cost of Service Report regarding the environmental rate base?

A. In the Staff's Report, the Staff states that it "has not yet been able to calculate the correct base environmental revenue requirement, but believes that it is closer to $1.29 billion than the $0.56 billion . . ." determined by AmerenUE.

Q. Do you know how the Staff developed its "belief"?

A. I believe so, yes. In Data Request No. 299, Staff inquired about an Illinois Commerce Commission (ICC) report that listed what the report calls "environmental protection facilities."[1]

Q. Can this report be relied upon to develop an environmental rate base under the Commission's ECRM rules?

A. No, it cannot. The ICC report contains information on items that are not required by environmental laws and regulations, it in some cases contains estimates rather than actual booked environmental compliance costs, and it was developed for the ICC for a purpose that is totally different than developing an environmental rate base for major capital items that were installed for the primary purpose of complying with environmental laws and regulations. Consequently, there are a host of items included in the numbers the Staff used to develop its "belief" that the number was "closer to $1.29 billion" that do not fit within the kind of capital costs on which an environmental rate base is to be developed under the ECRM rules. For example, the ICC report contains over $100 million in coal car costs, landscaping costs, and hundreds of millions of dollars in estimates, which would not be properly included in the Company's environmental rate base under the Commission's rules. The report is simply the wrong source of data for establishing the Company's environmental rate base. The Company's calculation is the appropriate calculation to use for this purpose.

[1] Ameren Services Company, which provides corporate support services to AmerenUE, routinely prepared the report for both AmerenUE's Illinois utility affiliates, and (formerly) for AmerenUE.

II. Response to Mr. Brubaker

Q. What are Mr. Brubaker's principal objections to the proposed ECRM?

A. As I read Mr. Brubaker's testimony, his principal objections are as follows: (a) as a general proposition, he opposes the use of riders such as an ECRM; (b) he implies (but does not go so far as to state outright) that higher revenues or lower costs could offset higher revenue requirements associated with rising environmental costs and investments such that an ECRM would not be needed to provide AmerenUE a reasonable opportunity to earn a fair ROE; (c) he states that accumulated deferred income taxes should be included in the environmental rate base calculation;[2] and (d) he indicates that if an ECRM is adopted the changes to environmental costs tracked in the ECRM should be applied on a dollar basis by rate class, and not on a per-kilowatt hour basis given that a large portion of the tracked costs is driven by capital investments.[3]

Q. Please address Mr. Brubaker's first objection.

A. While we agree that the Commission is not required to approve an ECRM request, we also believe the Commission should recognize that the Missouri Legislature obviously believed an ECRM was an appropriate mechanism to allow more full and timely cost recovery for environmental expenses and investments which utilities make to comply with the law, which produce no revenues (and in fact can reduce revenues), and which increase expenses and investment needs. In my view, Mr. Brubaker is essentially objecting to the Legislature's authorization of an ECRM mechanism, which is consistent with what I understand to be his client's (MIEC) position, in MIEC's pending challenge to the Commission's ECRM rules in the Cole County Circuit Court. Mr. Brubaker would probably contend that he isn't entirely opposed

[2] AmerenUE witness Gary S. Weiss addresses this issue in his rebuttal testimony.
[3] As addressed in the rebuttal testimony of Mr. Weiss, the Staff made a similar suggestion, with which the Company agrees.

to an ECRM, but that he doesn't believe one is justified in this case. Regardless, Mr. Brubaker's lengthy discussion of traditional ratemaking and single-issue mechanisms such as an ECRM in my view reflects a substantial bias against the ECRM mechanism, without regard for how lack of an ECRM affects utility finances, including cash flows and earnings, and without regard to the legitimacy of these non-revenue producing costs the Company incurs in order to comply with environmental laws.

Q. Please elaborate on AmerenUE's need for an ECRM at this time.

A. As described in my direct testimony, the purpose of an ECRM is to allow recovery of environmental costs (capital or Operating and Maintenance (O&M)), in a more timely manner than traditional rate cases. Expenditures meeting the criteria would include projects required to comply with air quality, water quality, solid waste, and other environmental projects. Rate increases associated with changes in the environmental revenue requirement from the base level set in a rate case are capped at 2.5% per year. Benefits of the ECRM include rate stability for customers, and better financial health and borrowing ability for AmerenUE, which ultimately results in lower rates. Indeed, an ECRM is almost certainly absolutely necessary to provide AmerenUE with any reasonable opportunity to even approach earning its allowed ROE given that the Sioux scrubbers will be in service within the next year, whereas another rate case could not practically be concluded until at least mid-2011. What that means is that under the traditional ratemaking process (without an ECRM), the Company would lose forever the return, taxes, and depreciation associated with the Sioux scrubber for a period of at least five to six

months. That loss would run into the tens of millions of dollars, and demonstrates that an ECRM is indeed needed to provide AmerenUE a reasonable opportunity to earn a fair ROE.[4]

Q. In Mr. Brubaker's testimony he indicates that "riders should be limited to cost items which are large in magnitude, difficult to predict and which are volatile." How do you respond?

A. Capital investments such as scrubbers, selective catalytic reduction equipment (SCRs), precipitators, cooling towers, etc. are undeniably large in magnitude as these projects typically run into the hundreds of millions of dollars per plant. Because of the ever-changing nature of environmental regulations such as the vacatur of the Clean Air Interstate Rule (CAIR) and the Clean Air Mercury Rule (CAMR), along with the reinstatement of CAIR and the high likelihood of new and more stringent CAMR rules, plus expected climate legislation, we strongly believe that future environmental costs will be very hard to predict, will be large, and will be very volatile. While our current Environmental Compliance Plan (ECP) does not call for additional scrubbers beyond those being constructed for the Sioux Plant, we have an alternative plan (specifically addressed in the ECP) which contemplates that more stringent CAIR and CAMR rules may very well necessitate additional scrubbers over the next several years, at least at the Labadie and Rush Island Plants. Moreover, an ECRM is appropriate regardless of whether environmental costs are "volatile." Unlike the fuel adjustment clause (FAC) rules, which list volatility as one of the factors the Commission may take into account when examining FAC requests, the ECRM rules make no mention of volatility and instead focus on things like the magnitude of the costs and the utility's ability to manage the costs. As my direct testimony and

[4] As a simple example, using an 8.5% weighted average cost of capital, a marginal 38% tax rate, depreciation of the scrubber over 30 years, and a December 31, 2010 in-service date, the loss would be approximately $51 million, assuming new rates could become effective by July 1, 2011.

the above-discussion shows, these are large costs and because the costs are required by law, the utility has limited or no ability to avoid them.

Q. Please comment on the alternative to an ECRM as discussed by Mr. Brubaker in his testimony.

A. As noted above, Mr. Brubaker opposes the ECRM in two ways, first by generally objecting to riders and second by arguing that AmerenUE doesn't really need an ECRM, even though higher environmental compliance costs are not offset by any associated higher revenues. This is unlike some other investments that are driven by additional customers or generation additions that produce incremental revenue. Mr. Brubaker also takes another approach in opposing AmerenUE's requested ECRM, that is, he argues there are other ways to address the earnings and cash flow concerns I noted earlier relating to the lag between the in-service date for the Sioux scrubber (when the accrual of an Allowance for Funds Used During Construction (AFUDC) normally stops) and the effective date of new rates from another rate case (when the scrubber is included in rate base). While we generally understand Mr. Brubaker's "construction accounting" alternative, we believe that the ECRM is a better long-term regulatory method for recovery of O&M and capital expenditures associated with mandated environmental requirements. The ECRM is a tool the Legislature has given the Commission to address just the circumstances faced by AmerenUE, which is why we have asked to use that tool. We understand that after the Sioux scrubber goes into service there may be a lull in the requirement to fund significant environmental capital projects and that Mr. Brubaker's alternative could largely address the financial and earnings impact associated with the Sioux scrubber capital investment. However, Mr. Brubaker's alternative would not address the longer-term issues associated with rising and uncertain environmental expenditures at AmerenUE.

Q. What is your understanding of Mr. Brubaker's alternative?

A. As I understand it, AmerenUE would be allowed to continue to accrue AFUDC on the Sioux scrubber, and would be allowed to defer depreciation expense between the in-service date of the scrubber and the effective date of new rates in another general rate case. This would provide AmerenUE some carrying costs associated with the Sioux scrubber investment during this period, and would prevent loss of the depreciation that would otherwise accrue during this period. AmerenUE's cash flows would be negatively impacted during this period, but eventually AmerenUE would receive the cash as well. As I understand it, the Commission has previously used essentially the same mechanism to address this kind of lag when the Callaway (AmerenUE), Wolf Creek, Iatan I (KCP&L), and Sibley and Jeffrey (now KCP&L-GMO) units were put into service; the same mechanism is also being used relating to the air investments at Iatan I and will be used relating to the Iatan II unit as well.

III. Meramec Plant Life-Depreciation

Q. Please explain the issue that has been raised regarding the life of the Meramec Plant for depreciation purposes.

A. MIEC witness James Selecky proposes to modify the life of the Meramec Plant that was estimated by AmerenUE witness Larry W. Loos of Black and Veatch, if the Commission uses life span treatment for purposes of setting depreciation rates for the Company's coal-fired power plants. Mr. Loos's estimates are discussed in his July 24, 2009 direct testimony, and detailed in the Report attached thereto. AmerenUE witness John Wiedmayer addresses the appropriateness of using the life span approach in his July 24, 2009 direct testimony, and also in his rebuttal testimony filed concurrently with my rebuttal testimony.

Q. What are the bases of Mr. Selecky's proposal?

A. Mr. Selecky has two bases for his proposal. First, he looks at how old the units at AmerenUE's other coal-fired power plants (Labadie, Rush Island, and Sioux) will be when retired and notes that the youngest of those other units at retirement will be approximately five years older than the youngest unit at Meramec as of the estimated Meramec retirement date of 2022. He then jumps to the conclusion that the Meramec units should also last that long, i.e., five more years. Second, he supports this theoretical conclusion with a report prepared a few years ago by Burns & McDonnell for the purpose of preparing the Company's 2008 Integrated Resource Plan, which concluded that the Meramec Plant would likely be retired at the end of 2021 (Mr. Loos estimates retirement in 2022), but under certain scenarios might last longer (to 2025 or 2041).

Q. Please address Mr. Selecky's first argument.

A. Mr. Selecky's argument is overly simplistic and speculative, fails to account for significant differences between the units at the Meramec Plant and the Company's other coal-fired units, and fails to account for operational realities at the Meramec Plant.

Q. Please explain.

A. For one thing, boiler metallurgy has improved significantly since construction of Meramec Units 3 & 4, which means that longer service life for the units at Labadie, Rush Island, and Sioux at a higher sustained equivalent availability is to be expected. The longer lives of these units simply do not imply that the inferior Meramec units will last that long. Second, throughout most of their service life, the Meramec units have been cycled (i.e., generation output has been moved up and then down) much more frequently than the units at Labadie, Rush Island, and Sioux. Once the Callaway Plant came online in the mid-1980s, the Meramec Plant was

relegated to a cycling plant for approximately 15 years and this cycling has taken a significant toll on certain plant equipment. This type of cycling tends to cause more stress and fatigue on major components, such as boiler drums and turbine rotors. The units at our other plants have been used in a steadier baseload mode for their entire service lives, which has caused less stress and fatigue on their major components. Third, heat rates on Meramec Units 3 & 4 range from 10,400 – 11,800 Btu/kWh versus a range of 9,400 – 10,300 Btu/kWh for the units at Labadie, Rush Island, and Sioux. What this means is that Meramec is a less efficient plant and requires higher fuel and emissions costs to operate, which is one of the reasons it was in cycling service for an extended period of time. These higher heat rates also make justification of major component replacement and/or environmental capital expenditures for the Meramec units much more difficult, which is the key reason why it is estimated that the Meramec Plant will retire in 2022.

Q. With regard to Mr. Selecky's second argument, why do you believe that the Burns & McDonnell study fails to provide support for his 5-year life extension for depreciation purposes relating to Meramec Units 3 & 4?

A. The Burns & McDonnell study assumed that a second nuclear unit would go online at the Callaway Plant site in 2021 or 2025. The Company is no longer pursuing a second Callaway unit. The study also assumed that without a second Callaway unit, the Meramec Plant would operate in a base load mode rather than in a cycling fashion. O&M costs are materially lower when the units are operated in a cycling fashion, and those lower O&M costs were assumed in the study. However, without a Callaway Unit 2, O&M costs will be materially higher, which negatively impacts the already less-favorable economics of operating the higher-heat rate Meramec Plant. Moreover, potential environmental regulations were not factored into

the Burns & McDonnell study. Meramec's higher production cost coupled with the estimated retirement date for the plant would likely make it very difficult to justify the installation of major environmental equipment. This is because it simply wouldn't make sense to install scrubbers and selective catalytic reduction equipment on a plant that we only expect to have an additional 10-12 years of service life left. Doing so would be akin to installing a new catalytic converter on a 10-year-old car with the original engine and transmission.

For all of these reasons, the scenarios in the Burns & McDonnell study where the Meramec Plant might live until 2025 or even 2041 are not realistic, and were based on conditions that do not exist. Consequently, Mr. Selecky's argument to extend the Meramec Plant's life for depreciation purposes is not supported by the study.

IV. Coal-Fired Power Plant Maintenance Expense

Q. Please explain the "normalization" adjustment proposed by the Staff, and the similar adjustment proposed by MIEC, regarding maintenance expenses for the Company's coal-fired generating plants.

A. The Staff's Cost of Service Report simply states that because the test year level of coal-fired plant maintenance expense was significantly higher than in recent years, "the Staff does not believe the test year expense is reflective of the expected ongoing expense level." Staff therefore "normalizes" the expense level to reflect a three-year average of actual expenses for the 36 months ending March 31, 2009 (the end of the test year in this case). MIEC makes a similar argument, but normalizes the expense using just one 12-month period with almost the lowest expense level observed in the past several years, the 12-month period ending March 31, 2008. I would note that the period selected by Mr. Meyer will be approximately 27-months old by the time rates set in this case will become effective.

Q. Why is the test year level of expense more reflective of current and expected coal plant maintenance expenses than these "normalized" amounts?

A. In approximately 2003, the Company determined that it could likely maintain a high level of equivalent availability at its coal-fired units while also extending the interval between major planned outages from an historic 18-24 month interval to intervals of three to four years, depending on the unit (the cyclone units at the Sioux Plant require more frequent planned outages). As the Company continued to study the issue, it determined that it could extend those intervals even further like most of the industry was doing, to approximately six years between planned outages. Lengthening these outage cycles allowed us to maintain a high level of equivalent availability on the fossil units while absorbing a significant portion of the material and labor cost increases we were seeing associated with overhaul work throughout the last five years. The maintenance expenses at issue are driven to a great extent by O&M incurred in connection with planned outages.

Consequently, during much of the backward-looking periods relied upon by the Staff and MIEC, the Company was taking fewer planned outages while it moved to these longer, approximately six-year planned outage intervals (six plus years at Labadie and Rush Island, four plus years at Meramec, and three plus years at Sioux). Thus, fewer major planned outages occurred than would normally be expected (two in 2005, two limited overhauls in 2006, and just one in 2007 with *no* major overhauls on any of the Labadie units during this time). In contrast, during the test year for this case (April 2008 to March 2009), two major overhauls occurred, one on Labadie Unit 1 (88 days) and the other on Sioux Unit 1 (66 days) and two mini overhauls were completed on Meramec Unit 4 and Rush Island Unit 2. All of these test year outages occurred before the global financial crisis arose in late 2008. Indeed, we did not perform any

major outages in 2009 due to severe liquidity/credit concerns which forced us to defer outages that had been planned (and that were needed to put the units on the longer planned outage cycles discussed above).

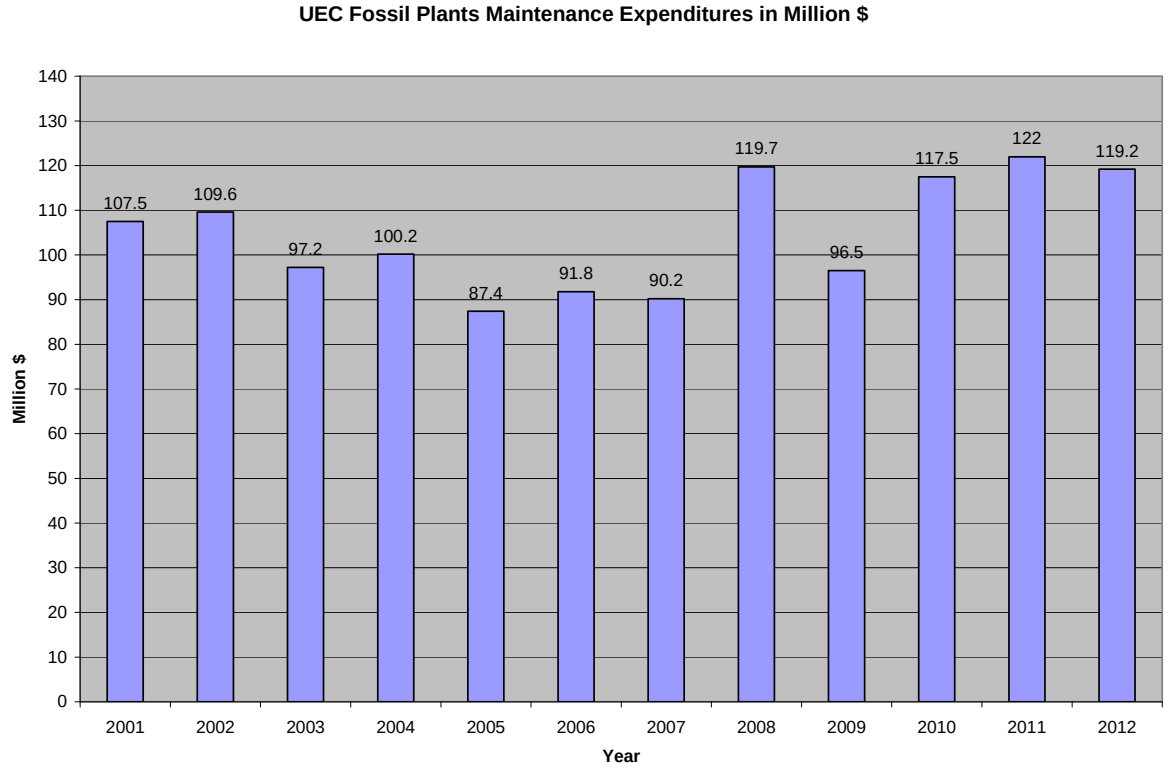
In 2010, our outage schedule has resumed. A major overhaul is already underway on Rush Island Unit 2 and a mini overhaul has been completed on Meramec Unit 2. We have also scheduled a mini overhaul (4 weeks) on Labadie Unit 2 later this spring where we will replace air heater baskets and coal burners, and perform boiler maintenance and high energy piping inspections for which most of the necessary materials have been ordered and/or delivered. There will be major overhauls (8 plus weeks each) on Sioux Units 1 and 2 late this year or early next year, depending upon scrubber tie-in timing, where significant turbine and boiler maintenance work will take place along with rewinds of the stator and field on the Unit 1 LP generator. Each of these Sioux outages is expected to cost approximately $8-$10 million based upon the preliminary scope, and these costs could increase if additional equipment problems are discovered upon inspection. Our current outage planning philosophy is:

- To build our outage schedule around turbine-generator inspection and maintenance requirements established by the Original Equipment Manufacturers (O.E.M.s).

- Maintain an O&M incremental outage target of approximately $30 million/year (in 2010 dollars) which includes expenses associated with major overhauls and mini-outages. Major turbine-generator work will be given the highest priority for resources.

- Boiler work and the balance of the plant work will be performed during major and mini overhauls with the remaining available resources.

Below is a chart showing our historical and estimated coal plant maintenance expenditures based upon our current outage plans:



As mentioned in my testimony above and illustrated by the above maintenance expense chart, 2005, 2006, and 2007 were not normal years from a maintenance cost standpoint as we extended major overhaul cycles and performed no major overhauls at Labadie. Consequently, the test year is clearly the proper level of expenditures that should be included in the Company's cost of service and no normalization should take place.

As noted earlier, from 2005 to 2008 we were extending the time between our planned outages, and during 2009 we deferred all outages due to the financial crisis. From 2002-2004, we were completing regular planned outages in accordance with the then-normal outage schedules (which we are now doing again since most of the units are now due for a planned outage to stay on the new, longer outage schedule). If one examines the average coal plant maintenance expenses in that prior normal period (2002-2004) and assumes just 3% inflation each year, the comparable 2010 maintenance expense figure would be approximately $119

million, which closely aligns with the test year expenditures ($119.7 million) and expected 2010 levels ($117.5 million).

Thus, based on these historical (2002-2004) inflation adjusted outage expenditures, the current test year outage expenditures, and expected 2010 and future outage expenditures, the normal level of coal-fired plant maintenance expenditures should be very near or above the test year level of $119 million we seek to include in rates in this case, and that number does not include any potential future expenditures associated with maintenance of the scrubbers on both Sioux units, which will be in-service within one year from now.

Q. Please comment more specifically on MIEC's proposal.

A. For the reasons discussed earlier, the Staff's use of a three-year average for coal plant maintenance expense ($101,140,000) versus the test year amount ($118,967,000) substantially understates the expected level of this expense on a going-forward basis. MIEC's recommendation reflects a gross understatement of the expected level of expense for the same reasons, and others. MIEC recommends including just $91.1 million in the revenue requirement. That is very near the absolute lowest level of expense experienced by the Company in any calendar year in the past nine years and would not allow us to perform any major overhauls. As discussed above, for several of those years, the Company took fewer outages in order to elongate the intervals between planned outages, and also due to the outages that were deferred due to the global financial crisis. MIEC's recommendation would almost certainly result in a nearly $30 million gap between expenditures we will have to make for coal plant maintenance and the level that would be reflected in rates. MIEC's recommendation is a completely unreasonable "normalization" of coal plant maintenance costs which would lead to greater safety risks, significantly lower overall unit availability, and should be rejected.

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a AmerenUE's Tariffs to Increase its Annual Revenues for Electric Service.	)	Case No. ER-2010-0036
	)	Tracking No. YE-2010-0054
	)	Tracking No. YE-2010-0055

AFFIDAVIT OF MARK C. BIRK

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

Mark C. Birk, being first duly sworn on his oath, states:

1. My name is Mark C. Birk. I work in the City of St. Louis, Missouri, and I am employed by Union Electric Company d/b/a AmerenUE as Vice President, Power Operations.

2. Attached hereto and made a part hereof for all purposes is my Rebuttal Testimony on behalf of Union Electric Company d/b/a AmerenUE consisting of 18 pages and Schedules MCB-ER 4 through MCB-ER XX, 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.

Mark C. Birk

Subscribed and sworn to before me this 11th day of February, 2010.

Mary Hoyt
Notary Public

My commission expires: 4-1-2010

Mary Hoyt - Notary Public
Notary Seal, State of
Missouri - Jefferson County
Commission #06397820
My Commission Expires 4/1/2010

AmerenUE
Proposed Environmental Rate Base Summary
By Environmental Compliance Item
March 31, 2009

Environmental Compliance Item	Plant/Division	A Plant in-service at 03/31/2009	B Accumulated Depreciation at 03/31/2009	C Net Book Value (A - B)	D Major	E Depr Rate	F Annual Depreciation
CO Catalyst		**$ 720,000**	**$ 184,104**	**$ 535,896**			**13,968**
	Peno Creek CTG	$ 720,000	$ 184,104	$ 535,896	344	1.94%	13,968
Continuous Emission Monitors		**$ 11,172,852**	**$ 2,824,501**	**$ 8,348,351**			**354,020**
	Audrain CTG	$ 230,451	$ 1,455	$ 228,996	346	3.96%	9,126
	Goose Creek CTG	$ 207,627	$ 1,898	$ 205,730	346	3.96%	8,222
	Kinmundy	$ 648,282	$ 176,629	$ 471,653	344	1.94%	12,577
	Kinmundy	$ 16,081	$ 1,724	$ 14,357	346	3.96%	637
	Labadie	$ 2,017,670	$ 616,054	$ 1,401,617	312	2.29%	46,205
	Meramec	$ 1,805,191	$ 303,953	$ 1,501,237	312	6.91%	124,739
	Peno Creek CTG	$ 2,211,155	$ 546,099	$ 1,665,057	344	1.94%	42,896
	Pinckneyville	$ 437,267	$ 107,728	$ 329,540	344	1.94%	8,483
	Raccoon Creek CTG	$ 175,481	$ 715	$ 174,766	346	3.96%	6,949
	Rush Island	$ 1,577,572	$ 527,413	$ 1,050,159	312	2.08%	32,813
	Sioux	$ 1,396,720	$ 477,168	$ 919,552	312	3.77%	52,656
	Venice - Turbines	$ 449,354	$ 63,665	$ 385,688	344	1.94%	8,717
Cooling Towers		**$ 70,331,590**	**$ 35,867,244**	**$ 34,464,346**			**1,441,798**
	Callaway	$ 70,331,590	$ 35,867,244	$ 34,464,346	323	2.05%	1,441,798
Fish Barrier and Return System		**$ 5,435,989**	**$ 544,365**	**$ 4,891,624**			**112,903**
	Osage Project	$ 4,420,731	$ 33,706	$ 4,387,025	332	1.84%	81,341
	Sioux	$ 36,465	$ 24,235	$ 12,231	311	2.54%	926
	Sioux	$ 978,793	$ 486,424	$ 492,369	314	3.13%	30,636
Fuel, Chemical, and Oil Containment Dikes (1)		**$ 4,005,543**	**$ 2,126,977**	**$ 1,878,566**			**91,241**
	Callaway	$ 16,788	$ 9,510	$ 7,278	321	1.39%	233
	Fairgrounds CTG	$ 84,727	$ 61,622	$ 23,105	342	2.63%	2,228
	Howard Bend	$ 37,590	$ 38,607	$ (1,017)	342	2.63%	989
	Iowa Transmission Lines	$ 88,740	$ 58,828	$ 29,912	353	1.75%	1,553
	Kinmundy	$ 224,133	$ 27,251	$ 196,882	342	2.63%	5,895
	Kirksville	$ 63,582	$ 72,212	$ (8,630)	342	2.63%	1,672
	Labadie	$ 148,421	$ 56,016	$ 92,406	311	1.38%	2,048
	Labadie	$ 404,500	$ 243,010	$ 161,491	312	2.29%	9,263
	Labadie	$ 1,274	$ 1,095	$ 178	316	1.96%	25
	Meramec	$ 159,642	$ 28,059	$ 131,582	312	6.91%	11,031
	Meramec	$ 73,271	$ 21,329	$ 51,942	315	3.96%	2,902
	Meramec	$ 29,125	$ 15,383	$ 13,743	316	5.93%	1,727
	Meramec - Turbines	$ 155,620	$ 40,834	$ 114,787	342	2.63%	4,093
	Mexico	$ 21,372	$ 17,553	$ 3,819	342	2.63%	562
	MO Or Corp Distribution or St Louis	$ 64,920	$ 7,451	$ 57,469	362	1.82%	1,182
	MO Or Corp Distribution or St Louis	$ 111,425	$ 30,900	$ 80,525	390	2.51%	2,797
	MO Or Corp Distribution or St Louis	$ 23,130	$ 10,586	$ 12,544	394	4.49%	1,039
	Moberly	$ 18,643	$ 17,913	$ 730	342	2.63%	490
	Moreau	$ 47,651	$ 40,853	$ 6,798	342	2.63%	1,253
	Peno Creek CTG	$ 16,630	$ 4,157	$ 12,473	342	2.63%	437
	Pinckneyville	$ 100,716	$ 27,836	$ 72,880	342	2.63%	2,649
	Rush Island	$ 1,427,253	$ 1,185,810	$ 241,443	311	1.05%	14,986
	Rush Island	$ 55,955	$ 28,026	$ 27,929	312	2.08%	1,164
	Rush Island	$ 21,447	$ 13,586	$ 7,861	316	1.80%	386
	Sioux	$ 10,741	$ 8,544	$ 2,197	312	3.77%	405
	Sioux	$ 6,599	$ 3,286	$ 3,312	316	3.28%	216
	Sioux-Rush Island Transfer Facility	$ 86,657	$ 17,857	$ 68,800	312	6.91%	5,988
	Sioux-Rush Island Transfer Facility	$ 43,653	$ 7,477	$ 36,176	315	3.96%	1,729
	Taum Sauk	$ 1,031	$ 433	$ 598	335	2.46%	25
	Venice - Turbines	$ 447,680	$ 25,642	$ 422,038	342	2.63%	11,774
	Venice - Turbines	$ 12,627	$ 5,312	$ 7,315	346	3.96%	500
Gas Turbine Combustion System (2)		**$ 32,247,623**	**$ 13,851,908**	**$ 18,395,714**			**628,512**
	Audrain CTG	$ 9,480,000	$ 4,346,580	$ 5,133,420	344	1.94%	183,912

AmerenUE
Proposed Environmental Rate Base Summary
By Environmental Compliance Item
March 31, 2009

Environmental Compliance Item	Plant/Division	A Plant in-service at 03/31/2009	B Accumulated Depreciation at 03/31/2009	C Net Book Value (A - B)	D Major	E Depr Rate	F Annual Depreciation
	Goose Creek CTG	$ 7,644,000	$ 4,386,127	$ 3,257,873	344	1.94%	148,294
	Kinmundy	$ 446,322	$ 44,532	$ 401,790	344	1.94%	8,659
	Meramec - Turbines	$ 50,103	$ 25,104	$ 24,999	344	1.94%	972
	Peno Creek CTG	$ 1,486,154	$ 380,007	$ 1,106,147	344	1.94%	28,831
	Pinckneyville	$ 618,748	$ 269,524	$ 349,224	341	2.41%	14,912
	Pinckneyville	$ 3,477,592	$ 870,679	$ 2,606,914	344	1.94%	67,465
	Raccoon Creek CTG	$ 4,932,000	$ 2,863,519	$ 2,068,481	344	1.94%	95,681
	Venice - Turbines	$ 4,112,703	$ 665,835	$ 3,446,867	344	1.94%	79,786
Low NOx Burners/OFA		**$ 72,677,727**	**$ 16,408,519**	**$ 56,269,209**			**3,338,238**
	Labadie	$ 20,459,182	$ 7,417,075	$ 13,042,107	312	2.29%	468,515
	Meramec	$ 35,520,336	$ 3,728,939	$ 31,791,397	312	6.91%	2,454,455
	Rush Island	$ 12,597,901	$ 4,489,994	$ 8,107,907	312	2.08%	262,036
	Rush Island	$ 61,378	$ 20,549	$ 40,829	315	1.69%	1,037
	Sioux	$ 4,031,376	$ 750,200	$ 3,281,176	312	3.77%	151,983
	Sioux	$ 7,554	$ 1,762	$ 5,793	315	2.81%	212
Osage Turbines With Dissolved O2 Injections (3)		**$ 15,148,651**	**$ 362,182**	**$ 14,786,469**			**662,313**
	Osage Project	$ 1,184,739	$ 138,219	$ 1,046,519	303	20.00%	236,948
	Osage Project	$ 13,826,841	$ 218,154	$ 13,608,687	333	3.05%	421,719
	Osage Project	$ 283	$ 3	$ 281	334	2.51%	7
	Osage Project	$ 136,789	$ 5,806	$ 130,983	335	2.66%	3,639
Precipitators		**$ 158,917,389**	**$ 99,646,648**	**$ 59,270,740**			**6,347,271**
	Labadie	$ 62,144,841	$ 41,437,097	$ 20,707,744	312	2.29%	1,423,117
	Meramec	$ 54,105,967	$ 27,207,983	$ 26,897,985	312	6.91%	3,738,722
	Meramec	$ 492,809	$ 69,222	$ 423,587	315	3.96%	19,515
	Rush Island	$ 24,856,462	$ 20,309,543	$ 4,546,920	312	2.08%	517,014
	Rush Island	$ 17,511	$ 6,000	$ 11,511	316	1.80%	315
	Sioux	$ 16,923,319	$ 10,587,480	$ 6,335,839	312	3.77%	638,009
	Sioux	$ 376,479	$ 29,325	$ 347,155	315	2.81%	10,579
Radwaste Facilities		**$ 131,757,177**	**$ 69,876,065**	**$ 61,876,222**			**2,473,866**
	Callaway	$ 70,479,348	$ 41,675,264	$ 28,804,084	321	1.39%	979,663
	Callaway	$ 55,369,681	$ 24,656,786	$ 30,708,005	322	2.56%	1,417,464
	Callaway	$ 5,841,409	$ 3,542,744	$ 2,298,665	324	1.28%	74,770
	Callaway	$ 66,740	$ 1,271	$ 65,468	325	2.95%	1,969
Rich Reagent Injection & Selective Catalytic Reduction		**$ 21,383,808**	**$ 1,144,558**	**$ 20,239,250**			**804,951**
	Sioux	$ 21,256,621	$ 1,136,204	$ 20,120,418	312	3.77%	801,375
	Sioux	$ 126,765	$ 8,339	$ 118,426	315	2.81%	3,562
	Sioux	$ 422	$ 16	$ 406	316	3.28%	14
SO3 Injection		**$ 20,638,155**	**$ 8,235,513**	**$ 12,402,642**			**510,081**
	Labadie	$ 11,437,855	$ 4,644,820	$ 6,793,035	312	2.29%	261,927
	Rush Island	$ 5,840,059	$ 2,689,802	$ 3,150,257	312	2.08%	121,473
	Sioux	$ 3,360,241	$ 900,891	$ 2,459,350	312	3.77%	126,681
Spent Fuel Racks		**$ 7,537,449**	**$ 1,299,248**	**$ 6,238,200**			**192,959**
	Callaway	$ 7,537,449	$ 1,299,248	$ 6,238,200	322	2.56%	192,959
Wastewater Systems (4)		**$ 11,357,605**	**$ 6,727,927**	**$ 4,629,678**			**226,692**
	Fairgrounds CTG	$ 148,207	$ 16,548	$ 131,658	341	2.41%	3,572
	Keokuk	$ 95,903	$ 25,396	$ 70,507	331	2.17%	2,081
	Kinmundy	$ 179,712	$ 16,882	$ 162,830	341	2.41%	4,331
	Labadie	$ 5,520,087	$ 3,288,089	$ 2,231,998	311	1.38%	76,177
	Labadie	$ 12,553	$ 3,806	$ 8,747	312	2.29%	287
	Meramec	$ 642,363	$ 448,277	$ 194,086	311	2.60%	16,701
	Meramec	$ 705,592	$ 365,826	$ 339,765	312	6.91%	48,756
	Meramec	$ 3,356	$ 3,356	$ -	314	3.23%	108
	Osage Project	$ 98,825	$ 12,662	$ 86,163	331	2.52%	2,490
	Peno Creek CTG	$ 6,216	$ 1,149	$ 5,067	341	2.41%	150
	Rush Island	$ 1,788,407	$ 1,284,640	$ 503,766	311	1.05%	18,778

AmerenUE
Proposed Environmental Rate Base Summary
By Environmental Compliance Item
March 31, 2009

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	Rush Island	$ 320,551	$ 174,315	$ 146,236	312	2.08%	6,667
	Sioux	$ 1,367,347	$ 894,894	$ 472,453	311	2.54%	34,731
	Sioux	$ 35,805	$ 32,352	$ 3,454	312	3.77%	1,350
	Sioux-Rush Island Transfer Facility	$ 23,109	$ 3,999	$ 19,109	311	2.60%	601
	Taum Sauk	$ 17,991	$ 3,336	$ 14,655	331	2.64%	475
	Venice - Turbines	$ 391,582	$ 152,399	$ 239,184	341	2.41%	9,437
Grand Total		**$ 563,331,558**	**$ 259,099,760**	**$ 304,226,908**			**$ 17,198,813**

Footnotes:
(1) Power plants only. Spill prevention at substation facilities is not included in the summary because spill prevention wall, berms, etc. could not be distinguished from those unrelated to spill prevention. A separate property-unit-code can be implemented going forward to track barriers specifically related to spill prevention.
(2) Includes entire combustion system.
(3) Includes 100% of cost to replace turbine runners for units 1,3,5, and 7; replacement projects were justified based on dissolved oxygen requirements for license renewal. Includes 30% of cost to replace runners for units 3 and 5; 30% represents the incremental costs of dissolved oxygen requirements under projects justified on the basis of increased generating capacity.
(4) Includes storm water removal and sewage treatment.