Review of Union Electric Company d/b/a AmerenUE
Electric Utility Resource Planning
Compliance Filing
Case No. EO-2006-0240

Prepared by
Missouri Office of the Public Counsel

Ryan Kind
Lewis R. Mills, Jr.

_____ Denotes Highly Confidential Information

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PREFACE OF THE OFFICE OF THE PUBLIC COUNSEL

This report is filed by the Office of the Public Counsel (Public Counsel or OPC) pursuant to 4 CSR 240-22.080(6), which provides that Public Counsel may file a report that identifies deficiencies in a utility's compliance with the provisions of Chapter 22, and any other deficiencies that cause the utility's resource acquisition strategy to fail to meet the fundamental objectives of the planning process as set forth at 4 CSR 240-22.010(2).

Rule 4 CSR 240-22.080(8) requires Public Counsel to work with Union Electric Company d/b/a AmerenUE (UE or the Company) in an attempt to reach an agreement, within forty-five days of the date that this report was filed, on a plan to remedy deficiencies. Should Public Counsel and UE be unable to reach such an agreement, Public Counsel recommends that the Commission find, pursuant to 4 CSR 240-22.080(13), that UE's filing does not comply with the requirements of Chapter 22 and does not meet the fundamental objectives of the planning process as set forth at 4 CSR 240-22.010(2)(A)-(C).

This report is less comprehensive and much shorter than the reports that Public Counsel submitted in the mid 1990s shortly after the IPR rule went into effect. The abbreviated nature of this report should not be construed to reflect any changes in OPC's view that the formal IRP process is important to consumers. Instead, the abbreviated nature of this report is due to a reduction in the amount of resources that OPC has for IRP analysis and an increase in other Commission issues and activities that are currently taking place, not the least of which are the large number of rate cases currently being processed. In order to provide meaningful feedback on UE's IRP filing, we have focused our attention primarily on those areas where the greatest deficiencies occurred in UE's filing. Public Counsel has not attempted to address the load forecasting portion of UE's filing in this report. Therefore, no conclusions should be drawn regarding OPC's views of the degree to which UE's filing in the forecasting area complies with the provisions in Chapter 22.

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1. INTRODUCTION AND REVIEW OF PLAN SELECTION CRITERIA

1.1. Summary of Findings

Public Counsel has found several major categories of compliance deficiencies in the Utility Resource Filing (Integrated Resource Plan or IRP) that was filed by the Union Electric Company d/b/a AmerenUE (UE or the Company) to comply with the Commission's Electric Utility Resource Planning Rule (4 CSR 240-22). These major categories of deficiencies are:

- UE did not use minimization of the present worth of long-run utility costs as the primary selection criterion in choosing the preferred resource plan because it failed to include a low cost existing supply-side resource (the Joppa plant) in the existing supply-side resources that were common to all alternative plans;
- UE failed to consider and analyze demand-side efficiency and energy management measures on an equivalent basis with supply-side alternatives in the resource planning process as required by in 22.010 (2)(A);
- In the probably environmental cost area, UE has generally ignored the requirements in Chapter 22 for utility decision-makers to make subjective estimates of the likelihood of future mitigation levels for identified emissions; and
- Failure to create adequate implementation plans, procedures for monitoring critical uncertain factors and reporting changes to proper managers/officers who have authority to implement contingency plans.

In addition to these major categories of deficiencies, UE's resource planning process is characterized by a lack of transparency, especially in the demand-side management (DSM) and risk analysis areas. In the DSM area, the Company appears to have engaged in a process that was intended to arrive at conclusions that are consistent with UE's "philosophy" of avoiding aggressive DSM energy efficiency programs that could lead to significant lost revenues for the Company. The lack of transparency appears to result from the Ameren Corporation's (Ameren HoldCo's) desire to avoid documenting certain analysis and strategies and from the Ameren HoldCo holding company structure that owns and controls UE. Based on the UE IRP filing and prior experience, major decisions for UE are made at the Ameren HoldCo level and there do not appear to be any decision-makers at UE that are independent of the Ameren HoldCo.

1.2. UE's Failure to Use Minimization of the Present Worth of Long-run Utility Costs as the Primary Plan Selection Criteria

1.2.1. Planning Objectives Specified in the Electric Utility Resource Planning Rule

Section (B) of 4 CSR 240-22.010 states that:

the utility shall - . . .

(B) Use minimization of the present worth of long-run utility costs as the primary selection criterion in choosing the preferred resource plan;

In its order of rule making for the Electric Utility Resource Planning rule, the Commission responded to comments from several parties that questioned using the minimization of the present worth of long-run utility costs as the primary selection criterion in choosing the preferred resource plan by stating that:

> The commission . . . still holds to the proposition that cost-minimization should be of primary importance in resource plan selection.

The Commission reiterated this view in its October 17, 1995 Order Concerning Compliance in Case No. EO-94-360 where it stated:

> The rule states in no uncertain terms that the utility shall use minimization of the present worth of long-run utility costs as the primary selection criterion in choosing the preferred resource plan.

1.2.2. Planning Objectives Utilized By UE

UE's filing does not explicitly state that the Company has used minimization of the present worth of long-run utility costs as the primary selection criterion in choosing the preferred resource plan. The closest that UE's filing comes to making this statement is the statement in the first paragraph of page 172 in Volume 3 that:

> "The PVRR [Present Value Revenue Requirement] is a central measure of portfolio performance and a critical driver of the resource selection process in the Plan Selection and Implementation."

The most glaring example of UE' failure to use minimization of the present worth of long-run utility costs as the primary selection criterion in choosing the preferred resource plan was the Company's decision to not include, in the existing supply-side resources that are included in each of the alternative resource plans, the 405 MWs of low cost capacity and associated energy from the Electric Energy Inc. (EEInc) coal-fired Joppa plant to which UE is entitled pursuant to the EEInc Bylaws. If UE had complied with the rule's requirement to use minimization of the present worth of long-run utility costs as the primary selection criterion in choosing the preferred resource plan, then the existing supply-side resources (Callaway, Rush Island, Labadie, Sioux, etc) that are included in each of the alternative resource plans would have included the low cost output associated with 405 MWs of Joppa Plant capacity.

1.2.3. Background Information Regarding the EEInc Joppa Plant and UE's Entitlement to 40 % of Its Output

UE's 40% share of the EEInc Joppa plant has been an important part of UE's generation portfolio for decades. UE's ownership interest in EEInc and the provision of power from the EEInc Joppa plant to UE's Missouri retail customers began about 50 years ago. EEInc's 2004 FERC Form 1 describes the Power Supply Agreement (PSA) under which UE served its Missouri retail customers for decades as follows:

> The Company's principal source of operating revenue is sales of electricity from Joppa Steam Electric Station (Joppa Station) to the Company's three electric utility shareholders, Ameren Energy Resources Company (40%), Kentucky Utilities Company (20%) and Union Electric Company (40%) (Sponsoring Companies) and to the United States (US) Department of Energy (DOE). Sales to the Sponsoring Companies are

governed by the Power Supply Agreement. Sales to the DOE are made under the Modification 15 Power Contract (Mod 15). The Power Supply Agreement and Mod 15 continue in force through December 31, 2005, unless canceled, as provided under their terms.

The Power Supply Agreement and Mod 15, and the rates established therein for the sale of electricity to the Sponsoring Companies and DOE, have been accepted by the FERC. In general, the Power Supply Agreement provides that the Company will sell the remaining power capacity to the Sponsoring Companies. Mod 15 requires the Company to make available to the DOE a specified percentage of Joppa Station's capacity until the termination date of December 31, 2005.

Under the Power Supply Agreement and Mod 15, the Sponsoring Companies and the DOE are required to make monthly payments for power which will enable the Company to recover all of Joppa Station's cost-of-service, which includes operating expenses, taxes, and interest plus generate a prescribed rate of return on equity capital of 15% net of federal income tax.

The DOE was committed to 0% and 10% of Joppa Station's capacity for 2004 and 2003, respectively. For 2005, the DOE's commitment will be 0% of Joppa Station's capacity.

The obligations of each of the Sponsoring Companies and the DOE are absolute and unconditional and shall not be discharged or affected by the failure, impossibility or impracticability of the Company to generate or deliver electricity.[1]

As the above narrative from EEInc's FERC Form 1 indicates, UE's ratepayers have been paying their full share of the cost of service for the power they have been receiving from the Joppa plant under the PSA. In addition to paying the full cost of service, UE's ratepayers have borne the risk that UE may be obligated to make payments under the PSA regardless of whether EEInc was able to generate and deliver energy from the Joppa Plant to UE's Missouri customers.

A steady stream of financial support running from UE's ratepayers to EEInc has occurred over the last 50 years. That financial support has included the following:

1. Full payment of UE's share of all capital costs, on a front-loaded basis over the life of the plant, through the point of full amortization (even if the payments were levelized rather than front-loaded during the amortization period, now that the investment is fully amortized the effect is still "front-loaded" in that full payment was made before the plant's useful life has ended);
2. Payment for pollution control and other modernization investments which extend the life of the plant (ratepayers should not be paying for life extensions and then not receiving the benefits thereof);
3. Cost responsibility for surplus capacity whether or not UE's ratepayers needed that capacity; and
4. Responsibility for certain financial obligations extended by UE to EEInc. See the Commission approval, issued on June 24, 1977 in Case No. EF-77-197, of a request by UE, for the approval of the financial responsibility necessary to permit

[1] EEInc FERC Form 1 for the year ending December 31, 2004, pp. 123.1, 123.2.

> EEInc to proceed with improvements to the Joppa plant. In this decision, the MPSC stated that UE was "assured of a continuous source of economical power" in return for the guaranty of EEInc's financial obligations. Application of Union Electric Company for authority to "guaranty" certain financial obligations of Electric Energy, Inc., 1977 Mo. PSC LEXIS 23, 21 Mo.P.S.C. (N.S.) 425, 427 (1977).

In UE's Electric Utility Resource Plan filings to the Commission in the 1990s, UE indicated that the capacity and energy to which its 40% share of EEInc entitles it would continue to be available to serve the loads of its Missouri customers well past when the current EEInc power purchase contract expires in 2005. UE's June 1995 Energy Resource Plan indicated that capacity from the Joppa plant would be available for the entire 20 planning period (1995 – 2014) and that additional energy from the Joppa plant may be available in 2007. [2] This same 1995 Energy Resource Plan indicated that the continued purchase of 405 MW from EEInc through 2014 (the end of the planning period) was part of UE's "Preferred Resource Plan."[3] One of UE's last Resource Plan submissions in Missouri prior to the Commission's May 20, 1999 order[4] granting variances (temporary suspension of filing requirements) from the rule for Missouri electric utilities was a document entitled "Risk and Uncertainly Analysis Briefing – October 1997." This document indicated that UE's share of the Joppa plant continued to be part of its resource plan for the planning period ending in 2014.[5]

UE's and Ameren's intentions to divert UE's 40% share of the low cost output from the Joppa plant from serving its captive customers to benefiting the shareholders of UE and Ameren beginning in 2006 became clear during 2004 in Case No. EO-2004-0108. In that case, UE's Vice President of Corporate Planning, Craig Nelson (Mr. Nelson is also a Vice-President of Ameren Services Company and Central Illinois Public Service Company), essentially stated in both his written[6] and oral testimony that UE would not continue to receive cost-based power from EEInc once the current PPA between UE and EEInc expires on December 31, 2005. In his oral testimony in that case, he stated that he did not believe that UE would continue to purchase power from EEInc because he had discussed the issue with the Chairman of the EEInc Board of Directors, R. Alan Kelley, and "he's not interested in selling at the lower of cost or market."[7] According to Ameren HoldCo's 2004 annual report to the SEC, in addition to being the Board Chairman at EEInc and a Senior Vice-President at UE, Mr. Kelley also holds a number of other important positions at Ameren affiliates.[8]

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[2] UE's June 1995 Energy Resource Plan, p. 36, Table 4-3.

[3] UE's June 1995 Energy Resource Plan, p. 54, Table 6-7.

[4] MPSC "Order Granting Variance" in Case No. EO-99-544.

[5] Union Electric Risk & Uncertainty Analysis Briefing, Resource Planning, October 1997, p. 2, Table entitled "Optimized Expansion Plans for Various Sensitivities."

[6] Surrebuttal Testimony of Craig D. Nelson on behalf of Union Electric Company in MPSC Case No. EO-2004-0108, March 1, 2004, pp. 24, 25.

[7] MPSC Case No. EO-2004-0108, Transcript p. 495, lines 22-25.

[8] AmerenEnergy Development Company – Director and Vice President, AmerenEnergy Generating Company – Director and President, AmerenEnergy Resources Company - Vice President, AmerenEnergy Medina Valley Cogen, (No. 2) L.L.C. – Manager and Senior Vice-

Craig Nelson acknowledged, in his oral testimony in Case No. EO-2004-0108,that the then current EEInc Bylaws contain provisions that entitle UE to 40% of the output from the EEInc Joppa plant.[9] UE witness Nelson also stated that the EEInc board has the right to alter UE's entitlement and sell the power to some other entity if 75% of the EEInc Board agrees to do so.[10] The Federal Energy Regulatory Commission's (FERC's) approval of the Joint Application for Approval of the Disposition of Jurisdictional Facilities Under Section 203 of the Federal Power Act in FERC Docket No. EC04-81-000 enabled the combined ownership shares of Ameren affiliates in EEInc to increase from 60% to 80%. KU still owns the remaining 20%. Public Counsel does not know whether the EEInc Board has acted to alter UE's entitlement. However, since UE still owns a 40% share of EEInc, UE's entitlement could not have been altered without the acquiescence of UE's representatives on the EEInc Board.

In his oral testimony in Case No. EO-2004-0108, Craig Nelson described some of the affiliate considerations that were leading UE to not take advantage of its entitlement to 40% of the low cost Joppa output for its Missouri retail customers after 2005. He stated that if the EEInc Board has a choice between selling power from the Joppa plant at cost or selling it to another entity at whatever the market would bear, then the EEInc Board has an obligation to its shareholders to select the option that would maximize the profit on the sale of power.[11] This statement by Mr. Nelson ignores UE's obligations under the IRP rules to select a preferred plan that minimizes PVRR subject to risk and rate impact considerations (and any other considerations that are explicitly identified by the Company).

1.2.4. Implications of UE's Failure to Use Minimization of PVRR in Determining Which Existing Resources to Include in Plans

UE's failure to include its share of the output from the EEInc Joppa Plant as an existing resource in all of its alternative resource plans greatly decreased the validity and usefulness of the various steps in the IRP process that follow the step where existing resources are identified. These subsequent steps include (1) the development of a portfolio of supply and demand-side resources (both existing and new) for alternative resource plans, (2) assessing the performance of each alternative plan in integrated and risk analysis (3) the selection of a preferred resource plan, and (4) the development of an implementation plan and contingency plans. One obvious example of UE's IRP analysis results that may not have been valid if the Company had properly included its share of the output from the EEInc Joppa Plant as an existing resource in all of its alternative resource

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President, AmerenEnergy Medina Valley Cogen, (No. 4) L.L.C. – Manager and Senior Vice-President, AmerenEnergy Medina Valley Cogen, L.L.C. – Manager and Senior Vice-President, AmerenEnergy Medina Valley Operations, L.L.C – Manager and Senior Vice-President, AmerenEnergy Resources Generating Company – Director and President, Ameren Services Co. - Senior Vice-President, Central Illinois Light Company - Senior Vice-President, Coffeen and Western Railroad Company – Director, Illinois Materials Supply Co. - Vice-President, and Missouri Central Railroad Company – Director.

[9] MPSC Case No. EO-2004-0108, Transcript p. 1575, line 24 - p. 1576, line 9.

[10] MPSC Case No. EO-2004-0108, Transcript p. 1576, lines 9-11.

[11] MPSC Case No. EO-2004-0108, Transcript p. 1578, lines 6-15.

plans is the first place ranking of the alternative plan which included 1,350 MWs of gas CTGs. This may have no longer been the plan with the lowest PVRR if the capacity and energy from UE's share of the Joppa plant output were included in the analysis since the 1,350 MWs of capacity additions would have added to the excess capacity associated with this resource option.

1.3. Deficiencies With Respect to the Planning and Analytical Methodologies Prescribed by the Planning Rule

Due to the interrelated nature of the resource planning process, a resource plan tends to be only as good as the weakest link in the more specialized areas of analysis. The accuracy of this analogy is, of course, dependent on how crucial the weakest link is. For example, deficiencies in a utility's plan with respect to the analysis of the options available for base load generating capacity will probably not be crucial if the utility has no need for base load capacity over the next 20 years. On the other hand, if a utility's load forecast is way off, it may not recognize the need for acquiring base load capacity in time to acquire it when needed and be forced to rely on more costly options to cover its shortfall in generating capacity. Some compliance deficiencies have cumulative impacts in that they lessen the value of analysis performed in other related areas of the compliance filing. The failure to include UE's share of the Joppa plant output in the analysis and energy efficiency portion of UE's DSM analysis are examples of this; the Joppa error and the DSM analysis deficiencies both limited the value of the analysis performed to comply with the integrated and risk analysis sections of the rule.

1.4. UE's Failure to Give Equivalent Consideration to Demand-Side and Supply-Side Resources

UE has articulated a "philosophy" about the design and implementation of energy efficiency programs that has changed very little over the last decade. On page 6-7 of its June 1995 "Demand-Side Management Analysis" UE stated :

> The Company's general philosophy regarding DSM is to implement pilot programs that use incentives based on education, information and financing **instead of rebates**. Rebates tend to add a layer of costs to programs that utilities across the nation are finding to be unnecessary. A preponderance of DSM experience is showing that large rebate programs result in rate pressure and rate class cross-subsidization. If education, information, and financing can achieve DSM impact at a lower cost than rebates, then all parties will benefit. Union Electric plans to test potentially cost-effective programs through pilot programs, starting first with incentives that focus on education, information and financing. Rebates will be considered only after the lower cost options have proven ineffective. (emphasis added)

In the fourth and fifth paragraphs on page 1 of its October 1997 "Demand-Side Management Briefing" UE stated:

> Most residential customers assign a low value to energy efficiency. For small commercial customers, their limited time is better invested in tending to their business operations. Larger customers can handle their own energy needs or they can turn to the many energy service companies ready to serve them. Industrial customers value production over energy efficiency.

> Recognizing the relatively low market interest in energy conservation and anticipating retail competition in the generation business, we are rethinking how DSM can work in a competitive environment. Our vision is to offer all markets the energy information and education that they need to make energy efficiency decisions. The intent is to provide energy efficiency services at cost to customers.

The same attitude and "philosophy" that UE expressed about energy efficiency programs ten years ago is still evident today in (1) the public and private statements that Ameren officials make about energy efficiency and (2) in the December 2005 IRP filing that UE made in this case. Ameren HoldCo officials recently expressed their views about energy efficiency programs in Illinois Sustainability Energy Plan Initiative meetings at the Illinois Commerce Commission (ICC). Michael Moehn, Rick Voytas, and Bob Mill gave a presentation[12] related to this initiative at the May 11, 2005 meeting of the ICC Energy Policy Committee meeting that included the following points:

> Our long term vision of energy efficiency – Depend on customers to make informed decisions on energy efficiency options, i.e., appliances, lighting, home construction, windows, insulation.
>
> **Rebates and freebies** not as effective in promoting education and behavioral change. (emphasis added)

Greg Lovett and Rick Voytas gave a presentation[13] related to this initiative at the April 20, 2005 meeting of the ICC Energy Efficiency Working Group meeting that included the following "guiding principle" about energy efficiency programs:

> "Price is powerful information." Providing customers with market based options is **preferable to command and control approaches**. (emphasis added)
>
> Should programs be designed more to **inform and educate consumers** & retailers **rather than** to subsidize one group of consumers, i.e., **rebates**, at the expense of another group? (emphasis added)

Ameren HoldCo's reference in the above presentation to "command and control approaches" appears to be a derisive way to reference energy efficiency programs that include rebates.

UE's failure to consider demand-side efficiency measures on an equivalent basis in its December 2005 IPR filing was ** [redacted] **

[12] http://www.icc.illinois.gov/docs/en/050512ecEnergyEPCAmeren.pdf

[13] http://www.icc.illinois.gov/docs/en/050421ecEnergyRespWGAmeren.pdf

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Despite the Ameren HoldCo and UE longstanding opposition to energy efficiency programs that include rebates, the consultants that UE hired to do their DSM work came up with a package of energy efficiency programs with rebates that the consultants and UE characterize as "best practice" DSM programs. UE modeled these efficiency programs in a very limited manner (the implementation period only lasts for three years of the twenty year planning horizon) in its integrated and risk analysis. It should not be assumed, however, that UE's DSM implementation plan has any resemblance to the programs that were modeling in the IRP analysis. UE makes this very clear on the first page of its Demand-Side Briefing Document where it states in the second paragraph that **"AmerenUE does not intend to offer giveaways in the form of rebates and 'freebies' to achieve instant results."** (emphasis added) Thus, it is safe to assume that UE has no intention of implementing any of the energy efficiency programs that it has modeled since all of them include some "form or rebates and 'freebies.'" Further confirmation that UE has no intention of implementing the energy efficiency programs that it modeled comes from reviewing what UE purports to be a DSM implementation plan. This "so called" DSM implementation plan contains no actual programs and does not come close to meeting the requirements in the IRP rule for the Company to include an implementation plan in its filing.

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2. LOAD ANALYSIS AND FORECASTING (NOT ADDRESSED)

(4 CSR 240-22.030)

This area is not addressed in Public Counsel's report (see report preface).

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3. SUPPLY-SIDE RESOURCE ANALYSIS

(4 CSR 240-22.040)

3.1. Summary of Findings

UE has failed to comply with the IRP rule because it did not perform the analysis required for probable environmental costs. The Company appears to have used a greenhouse gas scenario instead of developing probable environmental cost estimates for screening each resource as required by the rule.

3.2. Resource Identification

4 CSR 240-22.040(1) The analysis of supply side resources shall begin with the identification of a variety of potential supply-side resource options which the utility can reasonably expect to develop and implement solely through its own resources or for which it will be a major participant. These options include new plants using existing generation technologies; new plants using new generation technologies; life extension and refurbishment at existing generating plants; enhancement of the emission controls at existing or new generating plants; purchased power from utility sources, cogenerators or independent power producers; efficiency improvements which reduce the utility's own use of energy; and upgrading of the transmission and distribution systems to reduce power and energy losses. The utility shall collect generic cost and performance information for each of these potential resource options.

UE included some renewable resources in its supply side screening but, for unspecified reasons, instead of using cost data for the most cost effective wind installations within the region, UE chose to limit its analysis to the costs of installing and operating wind turbines in Missouri, even though it is widely known that some of the states surrounding Missouri have proven wind characteristics that are superior to Missouri. This is one of the factors that limited the performance of alternative plans containing wind in integrated and risk analysis.

3.3. Probable Environmental Costs

4 CSR 240-22.040(2)(B) The probable environmental costs of each supply-side resource option shall be quantified by estimating the cost to the utility to comply with additional environmental laws or regulations that may be imposed at some point within the planning horizon.

1. The utility shall identify a list of environmental pollutants for which, in the judgment of utility decision makers, additional laws or regulations may be imposed at some point within the planning horizon which would result in compliance costs that could have a significant impact on utility rates.

2. For each pollutant identified pursuant to paragraph (2)(B)1., the utility shall specify at least two (2) levels of mitigation that are more stringent than existing requirements which are judged to have a nonzero probability of being imposed at some point within the planning horizon.

3. For each mitigation level identified pursuant to paragraph (2)(B)2., the utility shall specify a subjective probability that represents utility decision makers' judgment of the likelihood that additional laws or regulations requiring that level of mitigation will be imposed at some point within the planning horizon. The utility, based on these probabilities, shall calculate an expected mitigation level for each identified pollutant.

UE did not request a waiver from this portion of the rule but it basically ignored the rule's requirements for the calculation of probable environmental cost (PEC). There are two conceptually distinct phases of the supply-side analysis required by the IRP rule which involve the use of probable environmental costs.

Phase 1. Assessment of individual pollutants possibly affected

The first phase can be thought of as including *4 CSR 240-22.040(2)(B)(1)&(2)* above; it consists of the identification of pollutants possibly affected by future regulation and the specification of at least two levels of mitigation

This is one of the areas where UE's filing could have been much better organized. Page 14 of Document No. 2 (Filing Requirements) refers the reader to section 6.10 of Volume No. 3 and to Volume 9. OPC DR No. 556 asked UE to specify where the information could be found that satisfies the requirement in 22.040(2)(B)1 and UE's response referred to Appendix 1 in Document No. 4. Most of the required information seemed to be there.

OPC DR Nos. 557 and 558 asked UE to specify where the information could be found that satisfies the requirement in 22.040(2)(B)2 and UE's response again referred to Appendix 1 in Document 4. In this case, the information was not there and OPC believes it was not included anywhere in the UE IRP filing and that UE is not in compliance with this provision of the rule.

Phase 2. Incorporation of the probable environmental cost estimates into the resource cost estimates

4 CSR 240-22.040(2)(B)(3) also requires the electric utility to "specify a subjective probability that represents utility decision makers' judgment of the likelihood that additional laws or regulations requiring that level of mitigation will be imposed at some point within the planning horizon." *4 CSR 240-22.040(2(B)(4)* requires the electric utility to develop a set of resource cost estimates taking into account the expected value of the mitigation costs (PEC). UE has not complied with these provisions in the rule.

4. DEMAND-SIDE RESOURCE ANALYSIS

(4 CSR 240-22.050)

4.1. Summary of Findings

UE failed to comply with many of the requirements associated with demand-side resources. UE's failures began with the measure screening process and continued through to the later phases where DSM programs are included in alternative resource plans and a viable DSM implementation plan is supposed to be created.

4.2. Rule Compliance Deficiencies

This section of the report comments on aspects of the demand-side resource analysis section of UE's compliance filing where Public Counsel has identified rule deficiencies in compliance with specific provisions of the DSM portion of the rule. The areas of deficiencies described below include: identification and screening of end-use measures, demand-side program development, and demand-side program screening.

4.2.1. End-use Measure Identification and Screening Deficiencies

(1) Identification of End-Use Measures. The analysis of demand-side resources shall begin with the development of a menu of energy efficiency and energy management measures that provides broad coverage of -

(A) All major customer classes, including at least residential, commercial, industrial and interruptible;

(B) All significant decision makers, including at least those who choose building design features and thermal integrity levels, equipment and appliance efficiency levels, and utilization levels of the energy-using capital stock;

(C) All major end uses, including at least lighting, refrigeration, space cooling, space heating, water heating and motive power; and

(D) Renewable energy sources and energy technologies that substitute for electricity at the point of use.

. . .

(3) Cost-Effectiveness Screening of End-Use Measures. The utility shall evaluate the cost-effectiveness of each end-use measure identified pursuant to section (1) using the probable environmental benefits test. All costs and benefits shall be expressed in nominal dollars.

. . .

(4) The utility shall estimate the technical potential of each end-use measure that passes the screening test

The Company submitted a 12 year old end use measure analysis and made no effort to show how that outdated analysis is relevant or useful to its 2005 IRP filing.

4.2.2. Demand-Side Program Development Deficiencies

(6) The utility shall develop a set of potential demand-side programs that are designed to deliver an appropriate selection of end-use measures to each market segment. The demand-side program planning and design process shall include at least the following activities and elements:

(A) Identify market segments that are numerous and diverse enough to provide relatively complete coverage of the classes and decision makers identified in subsections (1)(A) and (B), and that

are specifically defined to reflect the primary market imperfections that are common to the members of the market segment;

(B) Analyze the interactions between end-use measures (for example, more efficient lighting reduces the savings related to efficiency gains in cooling equipment because efficient lighting reduces intrinsic heat gain);

(C) Assemble menus of end-use measures that are appropriate to the shared characteristics of each market segment and cost-effective as measured by the screening test; and

(D) Design a marketing plan and delivery process to present the menu of end-use measures to the members of each market segment and to persuade decision makers to implement as many of these measures as may be appropriate to their situation.

UE has not followed the process set forth above in 22.050(6) but has instead utilized what is describes as a "best practices" approach. OPC DR No. 562 asked UE to specify the portion of its filing where the information required by this section of the rule could be found. UE's response to this DR referred to the first four paragraphs on page 3 of Document No. 6. These four paragraphs do not contain information that satisfies the requirements in the rule but instead contain UE's "justifications" for not doing the required analysis. These "justifications" would be appropriate for a waiver request but not for a document that UE asserts to fully comply with the rule. UE has not requested a waiver from any provision of the rule including this one so it is not in compliance with this provision.

4.2.3. Demand-Side Program Cost-Effectiveness Screening

(7) Cost-Effectiveness Screening of Demand-Side Programs. The utility shall evaluate the cost-effectiveness of each potential demand-side program developed pursuant to section (6) using the total resource cost test. The utility cost test shall also be performed for purposes of comparison. All costs and benefits shall be expressed in nominal dollars. The following procedure shall be used to perform these tests:

. . .

(F) Potential demand-side programs that pass the total resource cost test shall be considered as candidate resource options and must be included in at least one (1) alternative resource plan developed pursuant to 4 CSR 240-22.060(3).

Public Counsel believes UE's consultant failed to properly screen the ** [redacted] **

** [redacted] **

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5. INTEGRATED RESOURCE ANALYSIS

(4 CSR 240-22.060)

5.1. Summary of Findings

UE designed a set of alternative resource plans to help it evaluate the cost, rate, and risk implications of various resource strategies. Public Counsel believes the range of plans did not have enough differentiation based on varying levels of renewable resources and varying levels and duration of DSM programs.

5.2. Existing Resources Not Properly Reflected in all of the Plans That Were Developed

The introduction section of this report describes how UE's failure to continue to include capacity and energy from the EEInc Joppa plant as an existing supply-side resource was a flaw that was common to all of the alternative resource plans that UE analyzed in its IRP report. As previously discussed, this flaw created deficiencies in subsequent stages of UE's analysis because it assembled resource plans that included supply and demand-side additions to existing resources that were below the level that should have been used as the starting point for assembling plans due to UE's exclusion of the share of the Joppa plant output to which it is entitled.

5.3. Insufficient Level of Wind Modeled in Alternative Plans that Included Wind

At the bottom of page 173 in Document No. 3, UE made several observations about alternative plans containing demand Response and renewable (wind) resources. Regarding alternative plans with wind, the Company notes that "including…renewable resources does not change the order of portfolios" and "wind increases revenue requirements $80 to $90 million." It would, of course, have also been useful for UE to perform some similar analysis of the performance of alternative plans with wind resources under the greenhouse gas scenarios in order to assess the extent to which wind mitigates the risk of future greenhouse gas regulations in this area.

UE's analysis of wind was deficient because it did not assess the performance of alternative plans using the lowest cost wind resources available in the region and because UE did not model enough wind capacity (only 100 MWs of capacity was modeled) to be able to accurately assess the value of adding wind to its generation portfolio of 10,000 MWs of supply resources. UE would need to model at least 300 to 500 MWs of wind to have a valid assessment of the value of wind under base case conditions and under the greenhouse gas scenarios.

5.4. Insufficient Duration of DSM Efficiency Programs Modeled in Alternative Plans that Included DSM

At the bottom of page 173 in Document No. 3, UE made several observations about alternative plans containing Demand Response (OPC assumes this reference to Demand Response was intended to be a reference to all DSM resources since both demand

response and energy efficiency resources are referenced in the chart that precedes the observations) and renewable resources. Regarding alternative plans with DSM, the Company notes that "including demand-response… resources does not change the order of portfolios" and "demand response placeholder lowers revenue requirements $100 to $150 million." It would, of course, have also been useful for UE to perform some similar analysis of the performance of alternative plans with DSM resources under the greenhouse gas scenarios in order to assess the extent to which DSM mitigates the risk of future greenhouse gas regulations.

UE's analysis of DSM was deficient because it did not assess the performance of alternative plans using all of the DSM efficiency programs that may have been cost effective ** [redacted] ** and because UE did not model DSM energy efficiency programs for a sufficient period of time (only 3 years of DSM energy efficiency program implementation was modeled during the 20 year planning horizon) to be able to accurately assess the full long-term value of adding DSM efficiency programs under base case conditions and under the greenhouse gas scenarios.

5.5. DSM Efficiency Programs and DSM Demand Response Programs Were Not Modeled Separately in Alternative Plans that Included DSM

OPC does not dispute the value of modeling both DSM Efficiency Programs and DSM Demand Response Programs together in alternative plans. However, especially given UE's "philosophy" (see discussion in the introduction section of this report) regarding incentive-based energy efficiency programs and UE's statement that it "does not intend to offer giveaways in the form of rebates and 'freebies' to achieve instant results," the Company's modeling should have been more in depth in this area so it could discover the foregone benefits associated with its stated intentions regarding the type of DSM programs that it will not implement. Modeling efficiency and demand response programs separately would also provide valuable information about the risk mitigation benefits of the different types of programs and the impact on average rates and PVRR of the different types of programs.

5.6. Failure to Construct Alternative Plans Containing Both DSM and Renewable Resources

UE's failure to create at least on alternative plan with both DSM and renewable resources limited the ability to obtain information from the modeling process about a combination of resources that would be expected to perform well in a greenhouse gas scenario.

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6. RISK ANALYSIS

(4 CSR 240-22.070)

This section of the report discusses UE's compliance with Section 22.070 of the Integrated Resource Planning (IRP) rule, which requires utilities to identify the critical uncertain factors that affect the performance of resource plans, and to assess the risks associated with those uncertainties. The risk analysis is then used to inform the selection of the preferred resource plan. Section 22.070 also requires utilities to specify and officially adopt a resource acquisition strategy, consisting of a preferred resource plan, an implementation plan, and a set of contingency options.

6.1. Critical Uncertainty Assessment

(2) Before developing a detailed decision tree representation of each resource plan, the utility shall conduct a preliminary sensitivity analysis to identify the uncertain factors that are critical to the performance of the resource plan. This analysis shall assess at least the following uncertain factors:

(A) The range of future load growth represented by the low-case and high-case load forecasts;
(B) Future interest rate levels and other credit market conditions that can affect the utility's cost of capital;
(C) Future changes in environmental laws, regulations or standards;
(D) Relative real fuel prices;
(E) Siting and permitting costs and schedules for new generation and generation-related transmission facilities;
(F) Construction costs and schedules for new generation and transmission facilities;
(G) Purchased power availability, terms and cost;
(H) Sulfur dioxide emission allowance prices;
(I) Fixed operation and maintenance costs for existing generation facilities;
(J) Equivalent or full- and partial-forced-outage rates for new and existing generation facilities;
(K) Future load impacts of demand-side programs; and
(L) Utility marketing and delivery costs for demand-side programs.

Document No. 2 (Filing Requirements) of UE's IRP report refers the reader to Sections 4 and 8 of Document No. 3 and Section 5 of Document No. 9 for information that complies with this requirement. OPC is unable, however, to locate sections of UE's filing where all of the above uncertain factors have been assessed.

6.2. Implementation Plan

(9) The utility shall develop an implementation plan that specifies the major tasks and schedules necessary to implement the preferred resource plan over the implementation period. The implementation plan shall contain -

(A) A schedule and description of ongoing and planned research activities to update and improve the quality of data used in load analysis and forecasting;
(B) A schedule and description of ongoing and planned demand-side programs, program evaluations and research activities;
(C) A schedule and description of all supply-side resource acquisition and construction activities; and

(D) Identification of critical paths and major milestones for each resource acquisition project, including decision points for committing to major expenditures.

UE's analysis shows it would be cost effective to implement DSM programs but the Company failed to create and implementation plan that includes a schedule for implementing the programs. Also, the Company has plans for construction projects at its major generating units to install emission control equipment but there is no schedule in the implementation plan section of Document No. 3.

6.3. Specification of the Ranges or Combinations of Outcomes for the Critical Uncertain Factors

(C) A specification of the ranges or combinations of outcomes for the critical uncertain factors that define the limits within which the preferred resource plan is judged to be appropriate, and an explanation of how these limits were determined;

Page 49 of Document No. 2 states that the information required can be found in Section 8 of Document No. 3 and Section 5 of Document No. 9 but Public Counsel is unable to locate all of the information necessary to comply with this provision of the rule in those two sections. Even if the information did exist in those two sections, the IRP filing would be very poorly organized if it was necessary to look in separate sections in separate volumes to find the required information.

6.4. A Set of Contingency Options

(D) A set of contingency options that are judged to be appropriate responses to extreme outcomes of the critical uncertain factors, and an explanation of why these options are judged to be appropriate responses to the specified outcomes;

This is yet another area where UE just states on page 49 of Document No. 2 that the information required can be found somewhere within the 10 pages of a section (Section 8) of Document No. 3. Once again, Public Counsel must state that it is unable to locate all of the information necessary to comply with this provision of the rule in the referenced section.

6.5. Process for Monitoring the Critical Uncertain Factors and Reporting to Managers/Officers

(E) A process for monitoring the critical uncertain factors on a continuous basis and reporting significant changes in a timely fashion to those managers or officers who have the authority to direct the implementation of contingency options when the specified limits for uncertain factors are exceeded.

Page 49 of Document No. 2 includes about a half page of information that UE has provided in an attempt to comply with this provision of the rule. It states that a number of groups or departments within the Ameren HoldCo structure will be monitoring critical uncertain factors and reporting to the "Resource Planning Committee." Public Counsel has doubts as to whether this committee actually exists. OPC DR No 570 (See Attachment 1) asked UE to identify the member of this committee and UE was unable to identify a single member. UE's response to this DR included an organization chart where nearly all the boxes were encircled by a dashed line to indicate that the boxes (departments and divisions of the Ameren HoldCo) were either part of, or encircled by the "Resource Planning Committee." As a result, OPC is still wondering which specific

individuals at UE have the authority to direct the implementation of contingency options when the specified limits for uncertain factors are exceeded.

7. FILING SCHEDULE AND REQUIREMENTS

(4 CSR 240-22.080)

This section of the report discusses UE's compliance with Section 22.080 of the Integrated Resource Planning (IRP) rule, which requires utilities to specify the resource acquisition strategy that has been officially approved by the company and requires the company to make available all work papers and other supporting information related to the filed resource acquisition strategy available to staff, public counsel and intervenors for use in their review of the filings required by Chapter 22.

7.1. Verification That the Resource Acquisition Strategy Has Been Approved

(D) A narrative description and summary of the reports and information referred to in subsection (1)(C). The narrative shall specifically show that the resource acquisition strategy contained in the filing has been officially approved by the utility, and that the methods used and the procedures followed by the utility in formulating the resource acquisition strategy comply with the provisions of this chapter of rules;

OPC DR No. 553 asked UE to "provide documentation of the UE Board of Directors approval (see UE's reference to Board of Directors approval on page 2 of Document No. 2) of "the Company's resource acquisition strategy, consisting of its preferred resource plan and implementation plan." UE's response indicated that the Ameren HoldCo approved the plan at its October 14, 2005 meeting.

The paragraph under 22.080 (1)(D) on page 2 in Document No. 2 includes the statement that "the Company's resource acquisition strategy, consisting of its preferred resource plan and implementation plan, was approved by its Board of Directors and reviewed by its Executive Council." OPC DR No 554 asked UE to "identify the members of the UE Executive Council and provide a copy of all presentation made to, and documents reviewed by, the UE Executive Council in association with the Executive Council's review of the Company's resource acquisition strategy." UE's response stated that "there is no UE Executive Council" and that the Executive Council referred to was the Ameren HoldCo Executive Council. Thus it appears that UE has never approved of the resource acquisition strategy as required by the rule.

7.2. Work papers and Other Documents Must Be Made Available to Intervenors

(7) All workpapers, documents, reports, data, computer model documentation, analysis, letters, memoranda, notes, test results, studies, recordings, transcriptions and any other supporting information relating to the filed resource acquisition strategy within the electric utility's or its contractors' possession, custody or control shall be preserved and made available in accordance with any protective order to the staff, public counsel and any intervenor for use in its review of the periodic filings required by this rule. Each electric utility shall retain at least one (1) copy of the officially adopted resource acquisition strategy and all supporting information for at least ten (10) years.

UE has refused to make certain workpapers and other documentation available to OPC for use in our review of the IRP filing. The workpapers and documentation that UE has refused to provide include the electronic copies of the spreadsheets that the consultants used to screen DSM efficiency programs and a copy of the 1998 evaluation of the Green Key program that is referenced in its filing.

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CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing have been emailed to all parties this 19th day of May 2006.

GENERAL COUNSEL
Missouri Public Service Commission
200 Madison Street Suite 800
PO Box 360
Jefferson City MO 65102
GenCounsel@psc.mo.gov

STEVE DOTTHEIM
Missouri Public Service Commission
200 Madison Street Suite 800
PO Box 360
Jefferson City MO 65102
Steve.Dottheim@psc.mo.go

JAMES B LOWERY
111 South Ninth St., Suite 200
PO Box 918
Columbia MO 65202-0918
lowery@smithlewis.com
Attorney for AmerenUE

THOMAS M BYRNE
1901 Chouteau Avenue
PO Box 66149 (MC 1310)
St Louis MO 63166-6149
tbyrne@ameren.com
Attorney for AmerenUE

HENRY ROBERTSON
705 Olive Street
Suite 614
St Louis MO 63101
hrobertson@greatriverslaw.org
Attorney for: Association of Community Organization for Reform Now; Missouri Coalition for the Environment; Missouri Nuclear Weapons Education Fund and Sierra Club

STU CONRAD
3100 Broadway
Suite 1209
Kansas City MO 64111
stucon@fcplaw.com
Attorney for Noranda Aluminum, Inc.

SHELLEY WOODS
PO Box 899
Jefferson City MO 65102-0899
shelley.woods@ago.mo.gov
Attorney for MO Dept Natural Resources

LISA C LANGENECKERT
911 Washington Ave 7th Floor
St Louis MO 63101
llangeneckert@stolarlaw.com
Attorney for Missouri Energy Group

DIANA M VUYLSTEKE
211 N. Broadway
St. Louis, MO 63102
dmvuylsteke@bryancave.com
Attorney for Missouri Industrial Energy Consumers

/s/ Lewis R. Mills by Michael F. Dandino

By:_____

AmerenUE's Response to
OPC Data Request
MPSC Case No. EO-2006-0240
AmerenUE's Integrated Resource Plan (IRP)

Requested From: Ryan Kind

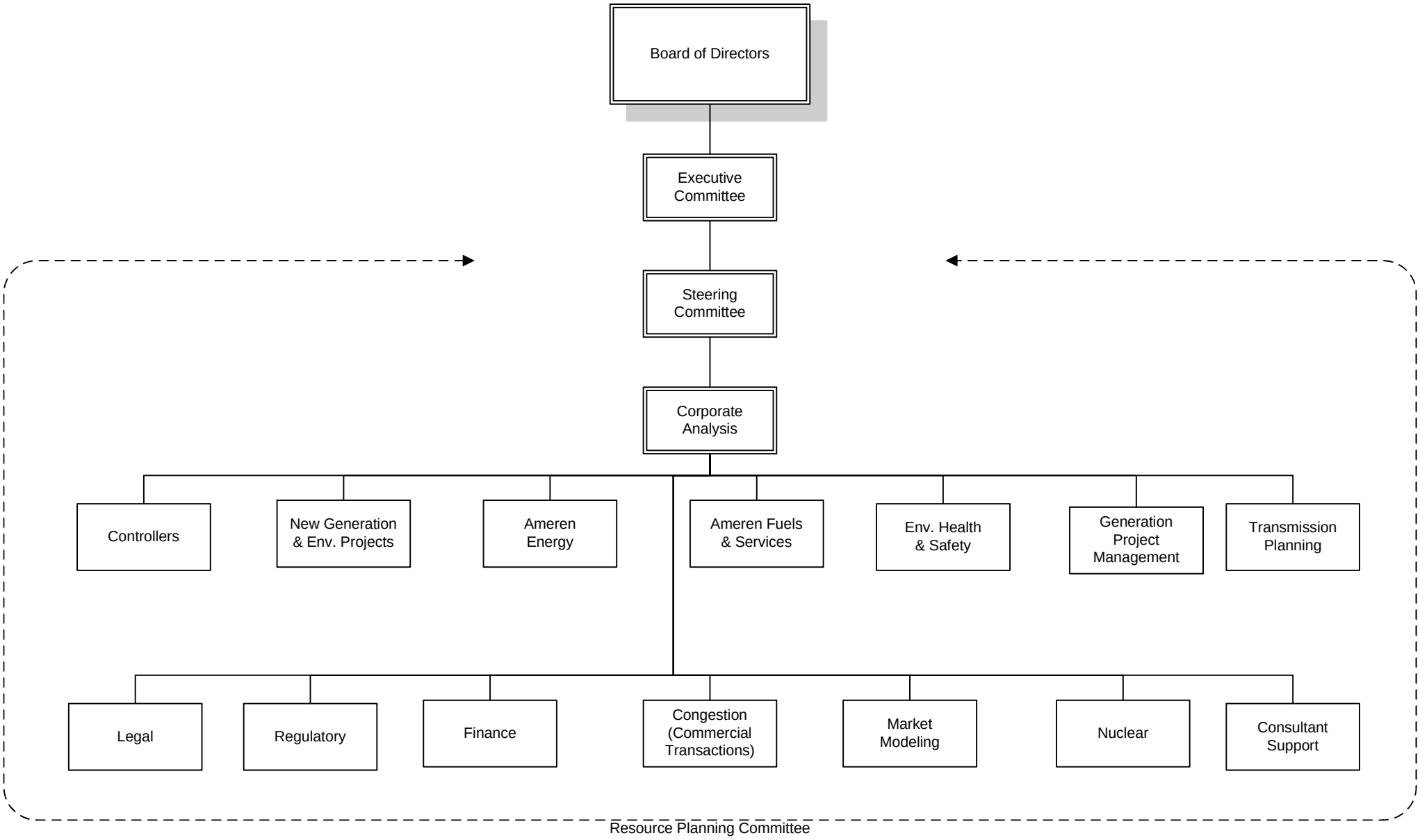
Data Request No. 570:

The fifth line from the bottom of page 49 of Document 2 refers to the "Resource Planning Committee." Please identify the current members of this committee and provide a copy of all documents distributed to members of this committee during the last two years.

Response:

See attached. No such documents exist.

Prepared By: Michael F. Whitmore
Title: Consulting Engineer – Corporate Analysis
Date: May 15, 2006


Board of Directors
Executive Committee
Steering Committee
Corporate Analysis
Controllers
New Generation & Env. Projects
Ameren Energy
Ameren Fuels & Services
Env. Health & Safety
Generation Project Management
Transmission Planning
Legal
Regulatory
Finance
Congestion (Commercial Transactions)
Market Modeling
Nuclear
Consultant Support
Resource Planning Committee