

**Review of Union Electric Company  
Electric Utility Resource Planning  
Compliance Filing  
Case No. EO-2007-0409**

Prepared by  
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**Denotes Highly Confidential Information that has been redacted**

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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).

4 CSR 240-22.080(8) requires Public Counsel to work with Union Electric Company (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 that UE's resource acquisition strategy does not meet the fundamental objectives of the planning process as set forth in 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 IRP 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 the finite resources that OPC has for IRP analysis and other Commission issues and activities that are currently taking place, not the least of which are the large number of rate cases that have been processed recently at the Commission. 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.

## Public Counsel's List of Deficiencies

**1. 4 CSR 240-22.010(2) – UE was unable to analyze demand-side and supply-side resources on an equivalent basis due to its lack of experience in implementing large-scale DSM programs in its service territory.** While UE should be commended for finally performing a serious and mostly credible analysis of DSM programs for the first time in this IRP filing, its analysis was limited by the lack of experience that it has in implementing large-scale DSM programs in its service territory. Due to this lack of experience, there is an increased amount of uncertainty in the level of load impacts and customer and trade ally participation that can be achieved in the DSM area. This means that UE's experience with supply-side investments and supply-side operations have allowed the Company to model most supply-side resources with a higher degree of precision than it was able to do for demand-side resources.

On page 5 of UE's Executive Summary, the Company states:

In addition, our analysis indicates that demand is expected to grow by 2,000 megawatts by 2025 without any concerted effort to promote energy efficiency. Our models show that savings could be realized both in generating capacity and total energy used with the aggressive implementation of energy efficiency initiatives, **delaying the need to build more power plants.** (Emphasis added)

It makes sense for UE to have a much more definitive estimate of the amount of load reductions that are achievable from demand-side programs prior to committing to the timing and size of a new base load plant.

This deficiency should be remedied by UE performing additional IRP analysis which incorporates the information that is gained from beginning large-scale DSM implementation **prior** to committing to any major supply-side investments. Performing this additional IRP analysis would be consistent with the commitment verbalized repeatedly by UE during the stakeholder process that it would definitely do another IRP prior to committing to build a nuclear plant. This commitment was verbalized most recently by UE Vice President Steve Kidwell at the January 22, 2008 IRP stakeholder meeting where he commented on the decision to proceed with construction of a nuclear plant by saying "there's no way we are going to make a decision like that without another IRP."

According to UE's IRP filing, it may make a decision to go forward with a new nuclear plant as early as 2010 so the new IRP analysis should be completed by then instead of waiting until UE makes its next scheduled IRP filing on April 5, 2011. If the new IRP analysis is not performed prior to making a commitment to build a new nuclear plant then it will not be possible for UE to fulfill the commitment expressed by UE President Tom Voss at our February 1, 2007 IRP stakeholder workshop to "get the most out of conservation, renewables, and demand response before building another base load plant."

**2. 4 CSR 240-22.040(1), (6), and (7) - Failure to analyze transmission upgrades that could alleviate the transmission outlet capacity constraints that limit the bulk power sales that UE can make from its Audrain gas-fired generating facility.** The subjects of transmission and distribution were addressed at the April 13, 2007 stakeholder meeting at Ameren's offices in St. Louis. At that meeting, Public Counsel representative Ryan Kind raised the issue of the transmission constraints that limit the amount of capacity that can be sold from the Audrain generating facility. Ameren employee Rick Voytas acknowledged that transmission upgrades to increase the outlet capability of the Audrain plant represented an opportunity and said he will have someone look at the economics of transmission upgrades to free up the outlet restrictions which are constraining capacity sales from Audrain by about 80 MWs. Mr. Voytas also stated that Ameren would consider including an item in its supply-side implementation plan for Ameren to get in the MISO queue to determine the upgrade costs that MISO would allocate to UE. Despite this issue being raised at a stakeholder meeting and Mr. Voytas making a commitment to address it, there is no mention of study results, plans to perform a study, or plans to proceed with the process required to upgrade transmission facilities related to the outlet constraints at the Audrain plant in UE's filing. OPC is concerned by the need for our office to point out this type of opportunity to Ameren officials and even more concerned by their failure to follow through on their commitment to analyze the economics of this opportunity once it has been pointed out to them.

**3. 4 CSR 240-22.050 (3) and (7) – UE failed to analyze street lighting retrofits as an end use measure and as a Demand-Side program.** Ameren's recent DSM analysis that was performed for its Illinois utilities (by the same consultant, ICF, that performed UE's DSM analysis) looked at street lighting retrofits and found it to be cost-effective.

**4. 4 CSR 240-22.050 (7)(A)1 – UE did not use a methodology to estimate demand-side program impacts that is based upon the best available information from in-house research, vendors, consultants, industry research groups, national laboratories and other credible sources.** The load impacts of DSM programs that UE modeled in its integrated analysis should have been time-differentiated based on the specific load altering characteristics of each program instead of just modifying customer segment load shapes by taking the estimated demand and energy impacts of each program and applying them to the base load shape through an algorithm contained in the MIDAS software.

**5. 4 CSR 240-22.050 (6) – UE's program design and estimated impacts from its Industrial Demand Response programs are flawed and unrealistic.** The program impacts shown for these programs (Industrial Interruptible Credit and the Commercial and Industrial Demand Credit programs) in 22.050 Appendix A show both programs starting at the full level of kW impact (47,500 kW and 38,000 kW respectively) in the first year of the program and these impact levels staying constant for the entire duration of the planning horizon. The assumptions that (1) the programs will achieve the full level of impact in year one and (2) greater impacts could not be achievable over time as the market price of capacity rises and as capacity and ancillary services markets develop

further are unrealistic. In addition, the total amount of impacts that UE can get from these programs seems very low for a utility as large as UE.

The impact assumptions for these programs appear to be based on UE's internal estimates rather than an assessment of what UE's DSM consultant believed would be achievable based on the consultants experience and review of best practices. During the stakeholder process OPC representative Ryan Kind requested an assessment from UE's DSM consultant of the proposed demand response programs based on his knowledge of best practices but there was never a satisfactory response to this request.

**6. 4 CSR 240-22.060(2) and 4 CSR 240-22.010(2)(A) and (2)(C) - Failure to specify plan selection considerations/criteria and related performance measures necessary to be reasonably certain that the preferred plan that is ultimately chosen will result in the least cost plan subject to risk and other considerations.** 4 CSR 240-22.060(2) lists a minimum of 5 performance measures that must be used to assess the performance of alternative resource plans. UE ultimately chose to utilize only the minimum set of specified performance measures although at the October 25, 2007 stakeholder workshop on integration analysis, UE indicated a much broader set of performance measures would be used to assess alternative resource plans. This broader set of performance measures included the following financial metrics: \*\*

\*\* The IRP rule contemplated including financial impacts in the resource planning process since 4 CSR 240-22.060(4)(A) explicitly requires that the utility model the alternative resource plans in sufficient detail to provide comparative estimates of a minimum set of financial metrics and 4 CSR 240-22.060(6)(C)7 requires plots of these financial metrics to be provided for each alternative resource plan. When one looks at the impacts in these plots that any major supply-side resource acquisition has on UE's credit metrics, it's difficult to see how UE could have overlooked including its financial condition and the performance measures that illustrate this condition as important items to consider in its resource planning process.

Statements made by UE President Tom Voss in a June 9, 2008 article in the St. Louis Post Dispatch (See Attachment A) revealed that UE does consider these financial considerations as vital to its ability to finance the 1600 MW nuclear plan included in the resource plan that UE has identified as its preferred plan. In that article, Mr. Voss asserts that:

[\$9 billion is] too much to borrow, especially with jittery credit markets.  
So unless AmerenUE can pay for the plant as it goes — by charging customers during construction — it won't get built.

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We just couldn't do it.

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The risk would be too great. We don't think people would lend us the money. We don't think our board of directors would approve it. And we don't think our stockholders would think it's prudent.

It was very disappointing to see this assessment made in the press by UE's President, especially when the Company's IRP filing indicates that consideration of financial metrics was not important enough for UE to choose to include these metrics in the performance measures that were used to assess alternative resource plans. Without looking at vitally important implications (including maintaining credit quality and the ability to raise capital) of pursuing different alternative resource plans, an IRP filing cannot satisfy the fundamental objective of the resource planning process which is:

to provide the public with energy services that are safe, reliable and efficient, at just and reasonable rates, in a manner that serves the public interest. (4 CSR 240-22.010(2))

Related to this fundamental objective is the requirement in 4 CSR 240-22.010(2)(C) for utilities to:

Explicitly identify and, where possible, quantitatively analyze **any other considerations which are critical to meeting the fundamental objective of the resource planning process, but which may constrain or limit the minimization of the present worth of expected utility costs.** The utility shall document the process and rationale used by decision makers to assess the tradeoffs and determine the appropriate balance between minimization of expected utility costs and these other considerations in selecting the preferred resource plan and developing contingency options.[Emphasis added]

It should be noted that Empire's most recent IRP filing (Case No. EO-2008-0069) stated that one of the other considerations that it has identified which is critical to meeting the fundamental objective of the resource planning process is:

To achieve and/or maintain investment grade ratings on its debt; thus providing the corporate financial stability and minimizing the financing costs included in the rates paid by Empire's customers. (September 2007 IRP filing, Volume 1, page 4)

By not including in its IRP filing a consideration that UE claims (in its statements to the press) is essential to pursuing its preferred plan, UE has provided an incomplete filing and missed an opportunity to address this other important consideration. UE does identify market interest rates as an "independent" critical uncertain factor in its analysis but this uncertainty is not driven by UE resource planning decisions (such as investing in a nuclear plant) but is instead an uncertainty that is part of UE's operating environment and

represents the risk faced by all similarly situated investors that are dependent on financial markets for raising capital.

The filing that UE has made in this case repeatedly touts its stakeholder process and the improvements that resulted from including stakeholders in the planning process. By ignoring the financial implications of alternative resource plans in this planning process, UE has limited the value of the analysis that it performed and the value that stakeholders could contribute by working together with the Company to attempt to resolve resource planning issues. Instead of using a stakeholder process like KCPL did in addressing financial issues associated with major resource acquisitions, UE has chosen a stand alone approach to resolving those issues outside of the resource planning process by telling the press that it cannot afford to invest in a nuclear plant unless the Missouri legislature passes a new law that would allow UE to recover CWIP from ratepayers.

It should also be noted that UE's statements to the press say that it would need to finance the entire cost of a 1600 MW plant. Perhaps if UE had included maintaining its credit ratings as a consideration that must be balanced against minimizing PVRR and other considerations, UE's preferred plan would only include 50% or 75% ownership of a 1600 MW nuclear plant and there would be no need for the Company to begin a media campaign for changing the Missouri law that prohibits CWIP. Likewise, there may have been no need for Mr. Voss to threaten that if the 1976 Missouri law prohibiting CWIP is not reversed, and "if AmerenUE is unable to build a new nuclear reactor" then:

The utility probably will build more natural gas-fired generating capacity in Illinois to supply Missouri customers. That means Missouri would lose the jobs and economic benefit of a multibillion-dollar project and rates could climb even more than they would if a nuclear plant is built.  
(Attachment A, page 3)

In order to remedy this major deficiency, UE will need to identify the same financial considerations and related performance measures in its IRP process that Mr. Voss has identified to the press and then perform a new integrated and risk analysis that reflects this consideration. This new analysis will likely lead to UE's choice of a new resource acquisition strategy and documentation of the trade-offs assessed by UE decision makers in choosing its preferred resource plan. Once this is accomplished there should be no need for UE to identify contingency plans in its statements to the press (e.g. building natural gas generating plants in Illinois) that are inconsistent with the IRP analysis and resource acquisition strategy included in the Company's IRP filing.

**7. 4 CSR 240-22.060(3) and 4 CSR 240-22.010(2)(A) - Failure to construct a wide range of alternative resource plans to be reasonably certain that the preferred plan that is ultimately chosen will result in the least cost plan subject to risk and other considerations.** UE's integrated analysis looked at adding a 1600 MW nuclear plant under assumptions that it would own either 100% of the plant or 75% of the plant. In light of UE's recent assertions in the press (see Attachments A and B) that it could not

build a nuclear plant without changing the Missouri law that prohibits charging ratepayers for construction work in progress (CWIP), UE should have also modeled alternative resource plans where it owned 50% of a 1600 MW nuclear plant. A high level of interest by other Missouri utilities to participate in a new UE nuclear plant already exists even though UE had not yet decided to build the plant. In fact, UE notes on page 278 of its 22.040 filing that:

Another type of cost mitigation could entail AmerenUE selling partial ownership in the unit to another party. As a joint owner, AmerenUE would still obtain all the advantages of economies of scale in both capital costs and operating costs, but in effect have a smaller unit with a proportionately smaller capital and operating cost at the same per unit (\$/KW) cost as the whole unit. The competitiveness of the US\_EPR ensures that there would be a ready market of potential joint owners willing to participate at cost or even potentially a margin above cost.

KCPL was able to work out arrangements with a group of utilities that became joint owners of almost approximately 50% of the Iatan II plant and there is no reason to believe that UE could not work out similar arrangements.

**8. 4 CSR 240-22.070(2) - Failure to identify all of the uncertain factors that are critical to the performance of the resource plan by performing the analysis required by this section of the rule for the independent uncertain factors and documentation of the analysis as required by 4 CSR 240-22.070(11).** UE's discussion on page 5 of its narrative for 4 CSR 240-22.070(2) states that it included just one additional independent uncertain factor "with and without Production Tax Credits" to its "Independent Uncertain Factor Sensitivity Analysis." However, recent statements by UE President Tom Voss in a June 9, 2008 article in the St. Louis Post Dispatch make it clear that UE considers its ability to recover the costs of Construction Work in Progress (CWIP) for the construction of a new nuclear facility to be a critical uncertain factor.