

FILED<sup>3</sup>

MAR 03 2011

MEMORANDUM

Missouri Public  
Service Commission

TO: Steven C. Reed, Secretary

DATE: March 2, 2011

RE: Authorization to File Order of Rulemaking with the Office of Secretary of State

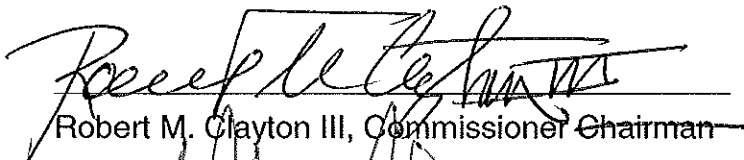
FILE NO: EX-2010-0254

The undersigned Commissioners hereby authorizes the Secretary of the Missouri Public Service Commission to file the following Order of Rulemaking with the Office of the Secretary of State, to wit:

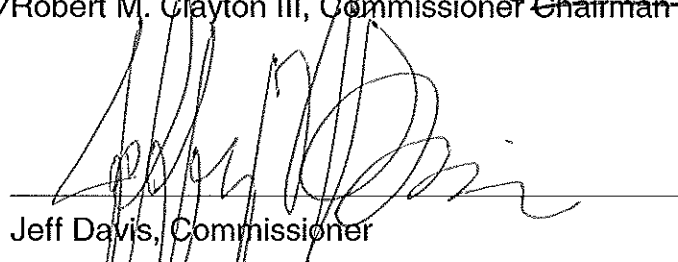
**4 CSR 240-22.060 – Amendment**



Kevin D. Gunn, Chairman



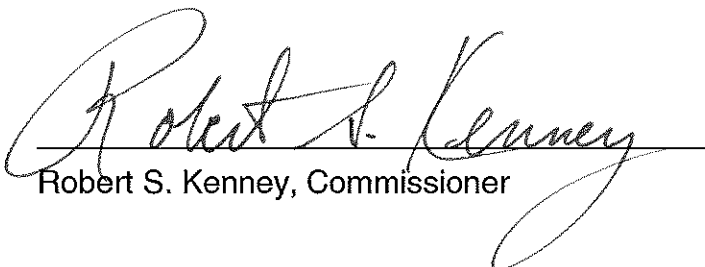
Robert M. Clayton III, Commissioner Chairman



Jeff Davis, Commissioner



Terry M. Jarrett, Commissioner



Robert S. Kenney, Commissioner

# Robin Carnahan

Secretary of State  
Administrative Rules Division

## RULE TRANSMITTAL

Administrative Rules Stamp

Rule Number 4 CSR 240-22.060

Use a "SEPARATE" rule transmittal sheet for EACH individual rulemaking.

Name of person to call with questions about this rule:

Content Morris Woodruff Phone 573-751-2849 FAX 573-526-6010

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Data Entry same

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Interagency mailing address Public Service Commission, 9<sup>th</sup> Fl, Gov.Ofc Bldg, JC, MO

### TYPE OF RULEMAKING ACTION TO BE TAKEN

☐ Emergency rulemaking, include effective date

☐ Proposed Rulemaking

☐ Withdrawal ☐ Rule Action Notice ☐ In Addition ☐ Rule Under Consideration

☒ Order of Rulemaking

Effective Date for the Order \_\_\_\_\_

☒ Statutory 30 days OR Specific date \_\_\_\_\_

Does the Order of Rulemaking contain changes to the rule text? ☐ NO

☒ YES—LIST THE SECTIONS WITH CHANGES, including any deleted rule text:

Sections (2)(A), (3), (3)(A), (3)(A)3, (3)(A)6, (3)(C)2, (4)(B), (4)(B)3, (4)(B)6, (4)(C), (4)(C)1.B, (4)(C)1.C, (4)(C)2, and (6) have been amended.

Small Business Regulatory  
Fairness Board (DED) Stamp

JCAR Stamp

JOINT COMMITTEE ON

MAR 08 2011

ADMINISTRATIVE RULES



**Commissioners**

**KEVIN GUNN**  
Chairman

**ROBERT M. CLAYTON III**

**JEFF DAVIS**

**TERRY M. JARRETT**

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***Missouri Public Service Commission***

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**STEVEN C. REED**  
Secretary/General Counsel

**KEVIN A. THOMPSON**  
Chief Staff Counsel

Robin Carnahan  
Secretary of State  
Administrative Rules Division  
600 West Main Street  
Jefferson City, Missouri 65101

Re: 4 CSR 240-22.060 Integrated Resource Analysis

Dear Secretary Carnahan,

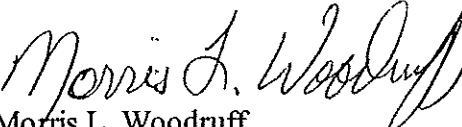
**CERTIFICATION OF ADMINISTRATIVE RULE**

I do hereby certify that the attached is an accurate and complete copy of the order of rulemaking lawfully submitted by the Missouri Public Service Commission.

Statutory Authority: sections 386.040, 386.250, 386.610 and 393.140, RSMo 2000

If there are any questions regarding the content of this order of rulemaking, please contact:

Morris L. Woodruff, Chief Regulatory Law Judge  
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Morris L. Woodruff  
Chief Regulatory Law Judge

**Title 4 – DEPARTMENT OF ECONOMIC DEVELOPMENT  
Division 240 – Public Service Commission  
Chapter 22 – Electric Utility Resource Planning**

**ORDER OF RULEMAKING**

By the authority vested in the Public Service Commission under sections 386.040, 386.250, 386.610, and 393.140, RSMo 2000, the Commission amends a rule as follows:

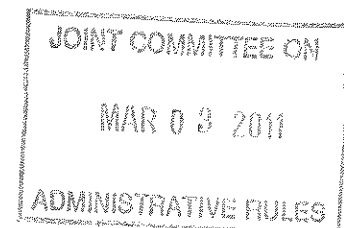
**4 CSR 240-22.060 is amended.**

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on December 1, 2010 (35 MoReg 1761). The sections with changes are reprinted here. The proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

**SUMMARY OF COMMENTS:** The public comment period ended January 3, 2011, and a public hearing on the proposed rule was held January 6, 2011. Timely written comments were received from the staff of the Missouri Public Service Commission (Staff), the Office of the Public Counsel, The Empire District Electric Company (Empire), Kansas City Power & Light Company and KCP&L Greater Missouri Operations Company (KCPL), Union Electric Company d/b/a Ameren Missouri, the Missouri Department of Natural Resources (DNR), Dogwood Energy, LLC, Renew Missouri and Great Rivers Environmental Law Center (Renew Missouri), and from Public Service Commissioner Jeff Davis. In addition, Staff, Public Counsel, Empire, KCPL, Renew Missouri, DNR, Dogwood, KCPL, and Ameren Missouri offered comments at the hearing. The comments proposed various modifications to the amendment.

**Comments relating to the entire package of changes to Chapter 22:** The proposed amendment to this rule is part of a larger package of nine rules that comprise the proposed Chapter 22 of the Commission's rules that establish the requirements for resource planning by investor-owned electric utilities in Missouri. Some of the submitted comments relate to the overall package in general. The Commission will address those comments first, and then will address the comments that relate specifically to this rule of Chapter 22.

**COMMENT 1 - The Rules Should Be Less Prescriptive:** Ameren Missouri, Empire, and KCPL, the electric utilities that will need to comply with Chapter 22, suggest that the entire Chapter 22 should be less prescriptive. By that, they mean the Chapter 22 rules should focus more on the end result, the preferred resource plan, and allow the electric utilities more leeway to determine how to



arrive at that result. As an alternative to the rules the Commission has proposed, they offer a set of rules prepared by the Missouri Energy Development Association (MEDA), an electric, natural gas and water utility trade organization.

**RESPONSE:** The MEDA rules, a copy of which was attached to the comments filed by both Ameren Missouri and KCPL, has the virtue of being much shorter than the Commission's rule, but that brevity comes with a cost. As Staff explained in its testimony, it and other interested stakeholders cannot properly evaluate a utility's resource plan unless they know what went into development of the plan. A preferred resource plan may look entirely reasonable when presented by the utility, but unless the reviewer knows the assumptions and processes that were used to determine the plan; the review is of little value.

An analogy can be made to a weather forecast offered by the weather bureau. The forecaster may offer an opinion that it will rain tomorrow, but unless the reviewer knows the basis of that forecast, the reviewer has little more to go on than trust. Staff, other interested stakeholders, and the Commission need to be able to base their evaluation of the plans submitted by the utilities on more than just trust.

Furthermore, while the electric utilities would prefer a less-prescriptive rule, they will be able to comply with the rules the Commission has proposed. At the public hearing, Ameren Missouri commented: "We have concerns about how much the process can get in the way of getting to a good result. But in the end we will do it." Also in the public hearing, in response to Commissioner Jarrett's questions about the experience in other states, Empire commented: "... we're able to do a total company IRP. And since the Missouri rule is the more onerous ... what we do in Missouri, as far as the IRP, in those other jurisdictions. And we are all on the same three-year filing cycle in all three states, which makes it nice for us."

The rules the Commission has proposed strike a proper balance between the utilities' interest in freedom of action and the Commission's need to know the basis for their proposed plans. The Commission will not adopt the rules proposed by MEDA.

**COMMENT 2 - Linkage with the MEEIA Rules:** Renew Missouri and the Department of Natural Resources are concerned about the interrelationship of these rules with the rules the Commission has proposed to implement the Missouri Energy Efficiency Investment Act of 2009, section 393.1075, RSMo (MEEIA). In particular, they cite a provision in the MEEIA rules that directs electric utilities to assemble comprehensive demand-side portfolios that are subject to approval and cost recovery under the MEEIA. Before that is done, the MEEIA rules require that the utility's demand-side programs or program plans are either included in the electric utility's preferred resource plan or have been analyzed through the integration analysis process required by Chapter 22 to determine the impact of the demand-side programs or program plans on the net present value of revenue requirements of the electric utility. Renew Missouri and DNR worry that the integration analysis under Chapter 22 would introduce

elements into the demand-side portfolios that would be inconsistent with the requirements of the MEEIA rules. Their solution to this problem is to suggest that the definitions and requirements of these Chapter 22 rules be made as consistent as possible with the definitions and requirements of the MEEIA rules.

**RESPONSE:** The Commission is mindful of the concerns expressed by Renew Missouri and DNR, but it is unwilling to make the Chapter 22 rules subservient to the MEEIA rules in the manner they propose. The goal of MEEIA is to achieve all cost-effective demand-side savings. The fundamental objective of these rules is to provide the public with energy services that are safe, reliable, and efficient at just and reasonable rates. To accomplish that fundamental objective, these rules require the utility to consider and analyze demand-side resources and supply-side resources on an equivalent basis.

This rule requires the utility to model both demand-side and supply-side resources and complete risk analysis on demand-side and supply-side resource implementation. If a demand-side program is part of the utility's preferred resource plan, many of the requirements necessary for the Commission to approve MEEIA demand-side programs will be met through the requirements of this rule. The utility will use the integration model of its most recent preferred plan to screen demand-side programs that are not part of the utility's preferred plan to show that it is cost-effective as one of the requirements to acquire Commission approval of a demand-side program.

**COMMENT 3 - Preapproval of Large Projects:** The electric utilities, through the MEDA rules, advocate for the option of requesting preapproval of large investments as part of a utility's Chapter 22 compliance filing. Ameren Missouri asserts that preapproval is a way for the utility to seek determination of ratemaking treatment on a major project before the project begins. It also points out that the Missouri Energy Efficiency Investment Act (MEEIA) provides for preapproval of demand side resources. Ameren Missouri claims that it is a logical extension to provide a preapproval option for large supply-side investments, if preapproval is requested by the utility.

Staff and Public Counsel oppose an option for preapproval of large projects. They argue that utilities already have authority to request additional regulatory certainty by requesting a regulatory plan or some other form of preapproval. The utilities have utilized both of these approaches in the past, and it is unnecessary and inappropriate to include a preapproval process in the Chapter 22 rules.

Dogwood suggests the Commission open a new separate rulemaking process to consider proposals to develop a procedure by which electric utilities may seek preapproval from the Commission for certain large projects.

**RESPONSE:** The Commission agrees with its Staff and Public Counsel that there are other more appropriate alternatives for preapproval and will not include a provision for preapproval of large investments in its Chapter 22 rules. The

Commission is open to further discussion on the preapproval question, but will not undertake a rulemaking on the subject at this time.

**COMMENT 4 - Illegal Infringement on the Right to Manage the Utility:** Ameren Missouri contends the proposed rules go beyond the Commission's statutory authority by intruding on the day-to-day management prerogatives of the utility.

**RESPONSE:** The Commission certainly is not interested in managing the utility companies, and these rules do not attempt to do so. Rather, the rules are designed to ensure that the electric utilities implement an effective and thorough integrated resource planning process to ensure that their ratepayers continue to receive safe and reliable service at just and reasonable rates.

**COMMENT 5 - Acknowledgment:** The Department of Natural Resources urges the Commission to modify the Chapter 22 rules to authorize the Commission to "acknowledge" the reasonableness of the electric utility's resource acquisition strategy. DNR believes this acknowledgment would increase the Commission's authority over integrated resource planning by making the process more meaningful and consistent with the utility's business plan. The electric utilities, through the MEDA rules, make a similar suggestion. Ameren Missouri contends, "acknowledgment is a way to give value to all the work of the parties involved by acknowledging that the plan is reasonable at the time it was developed."

Staff is opposed to acknowledgment of the reasonableness of the electric utility's resource acquisition strategy in these rules. Staff points out that currently the Commission's decision whether to allow the cost of a resource to be recovered in rates occurs after the resource is "fully operational and used for service," and the utility has requested that it be added to the utility's rate base. A resource can be added to the rate base, and its cost recovered, if the investment was prudent, reasonable, and of benefit to Missouri retail ratepayers (a finding that has historically been made in Missouri after the resource has been constructed and after it is fully operational and used for service). Further, Staff is greatly concerned that stakeholders lack the resources to review and conduct prudence/reasonableness/benefit-to-Missouri-retail-ratepayers level analysis of all the resources necessary early in the planning stages if an acknowledgment determination is being made by the Commission.

**RESPONSE:** The Commission does not wish to move down the path toward preapproval of projects as part of the resource planning process. However, it is important to emphasize the importance of that planning process by giving the Commission authority to acknowledge that the officially adopted resource acquisition strategy, or any element of that strategy, is reasonable at a particular date. The Commission will adopt modified language that defines acknowledgment in a manner that will make it clear that acknowledgment is not preapproval and will not bind a future commission in any future case. In addition, the Commission will adopt other elements of DNR's proposal for implementation

of an acknowledgment option, except for the inclusion of a definition for “substantive concern.” The specific changes that will be made to the proposed rules are described in detail in comments relating to the specific rule provisions.

**Comments relating to this particular rule of Chapter 22:**

**COMMENT 6 – Changes to Subsection .060(2)(A):** Public Counsel suggested several wording changes to this subsection that it believes would clarify the meaning of the rule.

**RESPONSE AND EXPLANATION OF CHANGE:** The Commission agrees with Public Counsel and will incorporate the suggested edits.

**COMMENT 7 - Question About Subsection .060(2)(B):** KCPL indicates it is unsure of the intended meaning of this subsection’s use of the term “levelized,” indicating its understanding that the term means “a simple average and not discounted.”

**RESPONSE:** The Commission does not agree with KCPL that “levelized” means a simple average, because proposed 4 CSR 240-22.020(28) defines levelized costs to mean the dollar amount of a fixed annual payment for which a stream of those payments over a specified period of time is equal to a specified present value based on a specified rate of interest. Therefore, the Commission will not modify this subsection.

**COMMENT 8 - Changes to Section .060(3):** Public Counsel suggests that the phrase “and variation in the timing or resource acquisition” be added to this section to stress the importance of the timing of acquisition in alternative resource plans to help determine an optimal plan. Public Counsel proposes a similar change to subsection .060(3)(A) for the same reason.

**RESPONSE AND EXPLANATION OF CHANGE:** The Commission agrees with Public Counsel and believes this change will require the utility to think outside the box when developing its list of alternative resource plans. The Commission will change this section as Public Counsel suggests.

**COMMENT 9 - Changes to Subsections .060(3)(A)1:** This subsection requires a utility’s resource plan to minimally comply with “legal mandates for demand-side resources, renewable energy resources, and other mandated energy resources.” KCPL contends this subsection is unnecessary as compliance with legal mandates is a given.

**RESPONSE:** The Commission does not agree with KCPL because the purpose of this subsection is to develop a “compliance benchmark resource plan for planning purposes.” The Commission will not change the subsection.



**COMMENT 10 - Changes to Subsections .060(3)(A)2, 3, and 4:** Public Counsel proposes to add the phrase “an optimal combination of” renewable energy resources, demand-side resources, and other energy resources in the various subsections. Public Counsel argues this change is necessary to stress the concept of optimization.

**RESPONSE AND EXPLANATION OF CHANGE:** The Commission will not add the phrase “an optimal combination of” in these subsections, because to do so would materially change the intent of these subsections from assessing the range of options to somehow predetermining the optimal combination of resources which cannot be known when formulating the alternative resource plan in .060(3). However, in subsection .060(3)(A)3, the Commission will change “technical potential” to “maximum achievable potential” to assess a more meaningful range of demand-side resources.

**COMMENT 11 - Aggressive Renewable Energy Resource Plan Case in Subsection .060(3)(A)2:** The Department of Natural Resources asks the Commission to remove the requirement that only renewable energy resources may be included in the resource plan, permit the utility to continue current commitments to demand-side resources, and require that baseload or intermediate energy requirements that result from load growth or resource retirements be met by renewable energy sources.

**RESPONSE:** The Commission will not modify this subsection as requested by DNR, because the utility’s current commitment to demand-side resources is accounted for in the utility load forecasts per 4 CSR 240-22.050(7). Further, this subsection as written is intended to assess the aggressive renewable resource plan for planning purposes.

**COMMENT 12, Changes to Subsection .060(3)(A)3:** Public Counsel asks the Commission to substitute the term maximum achievable potential for the term technical potential. Public Counsel suggests the assessment of maximum achievable potential is more meaningful for planning purposes than an assessment of technical potential. The Department of Natural Resources proposes a more extensive rewrite of this subsection to establish a yardstick by which utilities measure whether they have utilized sufficient demand-side resources to achieve all cost-effective demand-side savings consistent with 4 CSR 240-20.094(2), the MEEIA rules.

In its comments, Staff expressed support for adding a definition of maximum achievable potential to the rule, but does not support deleting the term technical potential from the rule.

**RESPONSE AND EXPLANATION OF CHANGE:** The Commission will not delete the term technical potential from its rule, but will add the definition of maximum achievable potential taken from its MEEIA rules in 4 CSR 240-22.020.

Defining the aggressive demand-side resource plan as the maximum achievable plan should also reduce DNR's perceived need to establish a "yard-stick".

**COMMENT 13 - Addition of "Demand-Side" Rate:** Public Counsel asks the Commission to add the word "demand-side" before "rate" at several points in the rule to improve clarity.

**RESPONSE AND EXPLANATION OF CHANGE:** The Commission will modify the rule as Public Counsel suggests.

**COMMENT 14 - Changes to Subsection .060(3)(A)6:** Staff and Public Counsel ask the Commission to change the word "staff" to "commission" to be consistent with 4 CSR 240-22.080(4) in recognition that it is the commission rather than staff that will be specifying a special contemporary issue.

**RESPONSE AND EXPLANATION OF CHANGE:** The Commission agrees with Public Counsel and its Staff and will modify the subsection accordingly.

**COMMENT 15 - Changes to Subsection .060(3)(C)2:** Public Counsel suggests the Commission add the words "and other retrofits" to the existing term "equipment" in describing additions to generation plants to meet environmental requirements.

**RESPONSE AND EXPLANATION OF CHANGE:** The Commission agrees with Public Counsel's suggestion and will modify the subsection accordingly.

**COMMENT 16 - Changes to Subsection .060(4)(B)3:** Public Counsel and KCPL both proposed changes to this subsection to modify the subsections reference to measuring capacity "at the customer's meter." KCPL suggests that phrase be changed to "capacity supplied to the transmission grid." At the hearing, Public Counsel changed its recommended language to that proposed by KCPL.

**RESPONSE AND EXPLANATION OF CHANGE:** The Commission agrees with the comment and will modify the subsection as KCPL suggests.

**COMMENT 17 - Changes to Subsection .060(4)(B)6:** KCPL proposes a change to this subsection that would replace the phrase "energy at the customer's meters" with the phrase "energy supplied to the transmission grid, less losses." KCPL explains this change is necessary because physical energy cannot be assigned to an individual customer or group of customers

**RESPONSE AND EXPLANATION OF CHANGE:** The Commission agrees with the comment and will modify the subsection as KCPL suggests.

**COMMENT 18 – Changes to Section .060(4)(C):** Public Counsel would add the phrase “for demand-side resources” to better describe the utility financial incentives that are to be analyzed.

**RESPONSE AND EXPLANATION OF CHANGE:** The Commission agrees with the comment and will modify the subsection as Public Counsel suggests.

**COMMENT 19 – Changes to Subsection .060(4)(C)1.B:** Public Counsel suggests the phrase “impact on retail rates” be changed to “percentage increase in the average rate from the prior years.”

**RESPONSE:** The Commission agrees with the comment and will modify the subsection as Public Counsel suggests.

**COMMENT 20 – Changes to Subsection .060(4)(C)1.C:** Public Counsel suggests the addition of the phrase “and credit metrics.”

**RESPONSE:** The Commission agrees with the comment and will modify the subsection as Public Counsel suggests.

**COMMENT 21 - Changes to Subsection .060(4)(C)2:** Public Counsel would add a reference to legal mandates to be consistent with the change to the definition of legal mandates it proposed for section .020(27).

**RESPONSE AND EXPLANATION OF CHANGE:** The Commission agrees with the comment and will modify the subsection as Public Counsel suggests.

**COMMENT 22 - Changes to Sections .060(5), (6), and (7) Relating to Critical Uncertain Factors:** Public Counsel would make changes to these three sections to help clarify the distinction between “uncertain factors” and “critical uncertain factors” so that the process of determining which “uncertain factors” are deemed to be “critical uncertain factors” is easier to follow.

**RESPONSE:** The Commission does not believe Public Counsel’s suggestions constitute a material change that would improve the rule. Furthermore, no other stakeholder suggested changing these sections. The Commission will not make the changes suggested by Public Counsel.

**COMMENT 23 - New Section .060(8) Relating to Covariant Risk Analysis:** Dogwood would add a new section that would require utilities to take into account the interrelationship between risk factors through a covariant risk analysis. At the hearing, Staff supported the concept of covariant risk analysis, but suggested the same result could be obtained by inserting language into section .060(6) that would require the utility to describe its assessment of the impacts “and inter-relationship” of critical uncertain factors.

**RESPONSE AND EXPLANATION OF CHANGE:** The Commission agrees with Dogwood's emphasis about covariant risk analysis. However, it agrees with Staff that Dogwood's purpose can be accomplished by inserting language into section .060(6) and does not require the addition of a new section. The Commission will modify section .060(6) as suggested by Staff.

#### **4 CSR 240-22.060 Integrated Resource Plan and Risk Analysis.**

(2) Specification of Performance Measures. The utility shall specify, describe, and document a set of quantitative measures for assessing the performance of alternative resource plans with respect to resource planning objectives.

(A) These performance measures shall include at least the following:

1. Present worth of utility revenue requirements, with and without any rate of return or financial performance incentives for demand-side resources the utility is planning to request;
2. Present worth of probable environmental costs;
3. Present worth of out-of-pocket costs to participants in demand-side programs and demand-side rates;
4. Levelized annual average rates;
5. Maximum single-year increase in annual average rates;
6. Financial ratios (e.g. pretax interest coverage, ratio of total debt to total capital, ratio of net cash flow to capital expenditures) or other credit metrics indicative of the utility's ability to finance alternative resource plans; and
7. Other measures that utility decision-makers believe are appropriate for assessing the performance of alternative resource plans relative to the planning objectives identified in 4 CSR 240-22.010(2).

(3) Development of Alternative Resource Plans. The utility shall use appropriate combinations of demand-side resources and supply-side resources to develop a set of alternative resource plans, each of which is designed to achieve one (1) or more of the planning objectives identified in 4 CSR 240-22.010(2). Demand-side resources are the demand-side candidate resource options and portfolios developed in 4 CSR 240-22.050(6). Supply-side resources are the supply-side candidate resource options developed in 4 CSR 240-22.040(4). The goal is to develop a set of alternative plans based on substantively different mixes of supply-side resources and demand-side resources and variations in the timing of resource acquisition to assess their relative performance under expected future conditions as well as their robustness under a broad range of future conditions.

(A) The utility shall develop, and describe and document, at least one (1) alternative resource plan, and as many as may be needed to assess the range of options for the choices and timing of resources, for each of the following cases. Each of the alternative resource plans for cases pursuant to paragraphs (3)(A)1.-(3)(A)5. shall provide resources to meet at least the projected load growth and resource retirements over the planning period in a manner specified by the case. The utility shall examine cases that—

1. Minimally comply with legal mandates for demand-side resources, renewable energy resources, and other mandated energy resources. This constitutes the compliance benchmark resource plan for planning purposes;
2. Utilize only renewable energy resources, up to the maximum potential capability of renewable resources in each year of the planning horizon, if that results in more renewable energy resources than the minimally compliant plan. This constitutes the aggressive renewable energy resource plan for planning purposes;
3. Utilize only demand-side resources, up to the maximum achievable potential of demand-side resources in each year of the planning horizon, if that results in more demand-side resources than the minimally-compliant plan. This constitutes the aggressive demand-side resource plan for planning purposes;
4. In the event that legal mandates identify energy resources other than renewable energy or demand-side resources, utilize only the other energy resources, up to the maximum potential capability of the other energy resources in each year of the planning horizon, if that results in more of the other energy resources than the compliance benchmark resource plan. For planning purposes, this constitutes the aggressive legally-mandated other energy resource plan;

5. Optimally comply with legal mandates for demand-side resources, renewable energy resources, and other targeted energy resources. This constitutes the optimal compliance resource plan, where every legal mandate is at least minimally met, but some resources may be optimally utilized at levels greater than the mandated minimums;

6. Any other plan specified by the commission as a special contemporary issue pursuant to 4 CSR 240-22.080(4);

7. Any other plan specified by commission order; and

8. Any additional alternative resource plans that the utility deems should be analyzed.

(C) The utility shall include in its development of alternative resource plans the impact of—

1. The potential retirement or life extension of existing generation plants;

2. The addition of equipment and other retrofits on generation plants to meet environmental requirements; and

3. The conclusion of any currently-implemented demand-side resources.

(4) Analysis of Alternative Resource Plans. The utility shall describe and document its assessment of the relative performance of the alternative resource plans by calculating for each plan the value of each performance measure specified pursuant to section (2). This calculation shall assume values for uncertain factors that are judged by utility decision-makers to be most likely. The analysis shall cover a planning horizon of at least twenty (20) years and shall be carried out on a year-by-year basis in order to assess the annual and cumulative impacts of alternative resource plans. The analysis shall be based on the assumption that rates will be adjusted annually, in a manner that is consistent with Missouri law. The analysis shall treat supply-side and demand-side resources on a logically-consistent and economically-equivalent basis, such that the same types or categories of costs, benefits, and risks shall be considered and such that these factors shall be quantified at a similar level of detail and precision for all resource types. The utility shall provide the following information:

(B) For each alternative resource plan, a plot of each of the following over the planning horizon:

1. The combined impact of all demand-side resources on the base-case forecast of summer and winter peak demands;

2. The composition, by program and demand-side rate, of the capacity provided by demand-side resources;

3. The composition, by supply-side resource, of the capacity supplied to the transmission grid provided by supply-side resources. Existing supply-side resources may be shown as a single resource;

4. The combined impact of all demand-side resources on the base-case forecast of annual energy requirements;

5. The composition, by program and demand-side rate, of the annual energy provided by demand-side resources;

6. The composition, by supply-side resource, of the annual energy supplied to the transmission grid, less losses, provided by supply-side resources. Existing supply-side resources may be shown as a single resource;

7. Annual emissions of each environmental pollutant identified pursuant to 4 CSR 240-22.040(2)(B);

8. Annual probable environmental costs; and

9. Public and highly-confidential forms of the capacity balance spreadsheets completed in the specified format;

(C) The analysis of economic impact of alternative resource plans, calculated with and without utility financial incentives for demand-side resources, shall provide comparative estimates for each year of the planning horizon—

1. For the following performance measures for each year:

A. Estimated annual revenue requirement;

B. Estimated annual average rates and percentage increase in the average rate from the prior year; and

C. Estimated company financial ratios and credit metrics.

2. If the estimated company financial ratios in subparagraph (4)(C)1.C. are below investment grade in any year of the planning horizon, a description of any changes in legal mandates and cost recovery mechanisms necessary for the utility to maintain an investment grade credit rating in each year of the planning horizon and the resulting performance measures in subparagraphs (4)(C)1.A.–(4)(C)1.C. of the alternative resource plans that are associated with the necessary changes in legal mandates and cost recovery mechanisms.

(D) A discussion of how the impacts of rate changes on future electric loads were modeled and how the appropriate estimates of price elasticity were obtained;

(E) A discussion of the incremental costs of implementing more renewable energy resources than required to comply with renewable energy legal mandates;

(F) A discussion of the incremental costs of implementing more energy efficiency resources than required to comply with energy efficiency legal mandates;

(G) A discussion of the incremental costs of implementing more energy resources than required to comply with any other energy resource legal mandates; and

(H) A description of the computer models used in the analysis of alternative resource plans.

(6) The utility shall describe and document its assessment of the impacts and inter-relationships of critical uncertain factors on the expected performance of each of the alternative resource plans developed pursuant to 4 CSR 240-22.060(3) and analyze the risks associated with alternative resource plans. This assessment shall explicitly describe and document the probabilities that utility decision-makers assign to each critical uncertain factor.