Robin Carnahan
Secretary of State

Administrative Rules Division
Rulemaking Transmittal Receipt

Rule ID: 12160
Date Printed: 10/25/2010
Rule Number: 4 CSR 240-22.030
Rulemaking Type: Proposed Amendment
Date Submitted to Administrative Rules Division: 10/25/2010
Date Submitted to Joint Committee on Administrative Rules: 10/25/2010

Name of Person to Contact with questions concerning this rule:

Content: Morris Woodruff	Phone: 1-2849	Email: morriswoodruff@psc.mo.gov	Fax: 6-6010
RuleDataEntry:	Phone:	Email:	Fax:

Included with Rulemaking:

Cover Letter	10/25/2010
Affidavit for public cost	10/25/2010

Print Close

Robin Carnahan

Secretary of State
Administrative Rules Division

RULE TRANSMITTAL

Administrative Rules Stamp

RECEIVED
OCT 25 2010
SECRETARY OF STATE
ADMINISTRATIVE RULES

COPY

Rule Number 4 CSR 240-22.030

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
Email address morris.woodruff@psc.mo.gov

Data Entry Morris Woodruff Phone 573-751-2849 FAX 573-526-6010
Email address morris.woodruff@psc.mo.gov

Interagency mailing address Governor Office Bldg., Suite 900, 200 Madison St., Jefferson City, MO 65102

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:

Small Business Regulatory Fairness Board (DED) Stamp

SMALL BUSINESS
REGULATORY FAIRNESS BOARD
OCT 25 2010
RECEIVED

JCAR Stamp

JOINT COMMITTEE ON
OCT 25 2010
ADMINISTRATIVE RULES

Missouri Public Service Commission

POST OFFICE BOX 360
JEFFERSON CITY MISSOURI 65102
573-751-3234
573-751-1847 (Fax Number)
http://www.psc.mo.gov

October 25, 2010

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

Re: 4 CSR 240-22.030 Load Analysis and Load Forecasting

Dear Secretary Carnahan,

CERTIFICATION OF ADMINISTRATIVE RULE

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

The Public Service Commission has determined and hereby certifies that this proposed rulemaking will not have an economic impact on small businesses. The Public Service Commission further certifies that it has conducted an analysis of whether there has been a taking of real property pursuant to section 536.017, RSMo 2000, that the proposed rulemaking does not constitute a taking of real property under relevant state and federal law, and that the proposed rulemaking conforms to the requirements of 1.310, RSMo, regarding user fees.

The Public Service Commission has determined and hereby also certifies that this proposed rulemaking complies with the small business requirements of 1.310, RSMo, in that it does not have an adverse impact on small businesses consisting of fewer than twenty-five full or part-time employees or it is necessary to protect the life, health, or safety of the public, or that this rulemaking complies with 1.310, RSMo, by exempting any small business consisting of fewer than twenty-five full or part-time employees from its coverage, by implementing a federal mandate, or by implementing a federal program administered by the state or an act of the general assembly.

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

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

Morris L. Woodruff, Chief Regulatory Law Judge
Missouri Public Service Commission
200 Madison Street
P.O. Box 360
Jefferson City, MO 65102
(573) 751-2849
morris.woodruff@psc.mo.gov

Morris L. Woodruff
Chief Regulatory Law Judge

AFFIDAVIT

PUBLIC COST

STATE OF MISSOURI)
) **ss.**
COUNTY OF COLE)

I, David Kerr, Director, Missouri Department of Economic Development, first being duly sworn, on my oath, state that it is my opinion that the cost of the proposed amendment to rule, 4 CSR 240-22.030, is less than five hundred dollars in the aggregate to this agency, any other agency of state government or any political subdivision thereof.

David Kerr
Director
Department of Economic Development

Subscribed and sworn to before me this 7th day of Oct., 2010. I am commissioned as a notary public within the County of Cole, State of Missouri, and my commission expires on 17 July 2011.

ANNETTE KEHNER
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: July 17, 2011
Commission Number: 07492656

Title 4-Department of Economic Development
Division 240-Public Service Commission
Chapter 22-Electric Utility Resource Planning

PROPOSED AMENDMENT

4 CSR 240-22.030 Load Analysis and Load Forecasting. Changes are made throughout this rule to update to current load analysis and load forecasting processes.

PURPOSE: This rule sets minimum standards for the maintenance and updating of historical data, the level of detail required in analyzing [and forecasting]loads, and ***the purposes to be accomplished by load analysis and by load forecast models. The load analysis discussed in this rule is intended to support both demand-side management efforts of 4 CSR 240-22.050 and the load forecast models of this rule. This rule also sets the minimum standards*** *for the documentation of the inputs, components and methods used to derive the load forecasts.*

PURPOSE: This proposed amendment allows the electric utilities more discretion in choosing its load forecasting methodology specifications while retaining the criteria needed for an accurate forecast. It also sets out what data needs to be consistent between the utility's load forecast and the utility's demand-side resource analysis.

(1) Selecting Load Analysis Methods. The utility may choose multiple methods of load analysis if it deems doing so is necessary to achieve all of the purposes of load analysis and if the methods are consistent with, and calibrated to, one another. The utility shall describe and document its intended purposes for load analysis methods, why the selected load analysis methods best fulfill those purposes, and how the load analysis methods are consistent with one another and with the end-use consumption data used in the demand-side analysis as described in 4 CSR 240-22.050. At a minimum, the load analysis methods shall be selected to achieve the following purposes:

(A) To identify end-use measures that may be potential demand-side resources, generally, those end-use measures with an opportunity for energy and/or demand savings;

(B) To derive a data set of historical values from load research that can be used as dependent and independent variables in the load forecasts;

(C) To facilitate the analysis of impacts of implemented demand-side programs and demand-side rates on the load forecasts and to augment measurement of the effectiveness of demand-side resources necessary for 4 CSR 240-22.070(8) in the evaluation of the performance of the demand-side programs or rates after they are implemented; and

(D) To preserve, in a historical data base, the results of the load analysis used to perform the demand-side analysis as described in 4 CSR 240-22.050, and the load forecasting described in 4 CSR 240-22.030.

(2) Historical Data Base **for Load Analysis**. The utility shall develop and maintain data on the actual historical patterns of energy usage within its service territory. The following information shall be maintained and updated on an ongoing basis, **and described and documented in the triennial compliance filings**:

(A) Customer Class Detail. *[*The]**At a minimum, the** historical data base shall be maintained for each of the *[following]* major classes*[: residential, commercial, industrial, interruptible and other classes that may be required for forecasting (for example, large power, wholesale, outdoor lighting and public authorities).*

1. Taking into account the requirement for an unbiased forecast as well as the cost of developing data at the subclass level, the utility shall determine what level of subclass detail is required for forecasting and what methods to use in gathering subclass information for each major class.

2. The utility shall consider the following categories of subclasses: for residential, dwelling type; for commercial, building or business type; and for industrial, product type. If the utility uses subclasses which do not fit into these categories, it must explain the reasons for its choice of subclasses;]

(B) Load Data Detail. The historical load data base shall contain the following data:

1. For each jurisdiction *[under which the utility has rates established and]*for which it prepares customer and energy **and demand** forecasts, **for** each major class, *[and]to* the *[extent data is required to support the detail specified in paragraph (1)(A)1., for each subclass,]*actual monthly energy usage and number of customers and weather-normalized monthly energy usage;

2. For each **jurisdiction and** major class, estimated actual and weather-normalized demands at the time of monthly system peaks; and

3. For the system, actual and weather-normalized hourly net system load;

(C) Load Component Detail. The historical data base for major class monthly energy usage and demands at time of monthly peaks shall be disaggregated into a *[number of units]***number-of-units** component and a *[use kilowatt-hour (kWh) per unit]***use-per-unit** component, for both actual and weather-normalized loads.

1. *[Typical units for the major classes are--residential, number of customers; commercial, square feet of floor space or commercial employment level; and industrial, production output or employment level. If the utility uses a different unit measure, it must explain the reason for choosing different units.]***The number-of-units component shall be the number of customers, square feet, devices, or other units as appropriate to the customer class and the load analysis method selected by the utility. The utility shall select the units component with the intent of providing meaningful load analysis for demand-side analysis and maintaining the integrity of the data base over time.**

2. The utility shall develop and implement a procedure to routinely measure and regularly update estimates of the effect of departures from normal weather on class and system electric loads. *[A.]*The estimates of the effect of weather on **historical major** class and system loads shall incorporate the nonlinear response of loads to daily weather and seasonal variations in loads.

[B. For at least the base year of the forecast, the utility shall estimate the cooling, heating and nonweather-sensitive components of the weather-normalized major class loads.

*C.]***3.** The utility shall **describe and** document the methods used to develop weather measures and the methods used to estimate the effect of weather on electric loads. If statistical models are used, the documentation shall include at least: the functional form of the models; the estimation techniques employed; *[the data used to estimate the models, including the development of model input data from basic data;]*and the relevant statistical results of the models, including parameter estimates and tests of statistical significance*[; and]*. **The data used**

to estimate the models, including the development of model input data from basic data, shall be included in the workpapers supplied at the time the compliance report is filed;

(D) *[Length of Data Base. Once the utility has developed]* **For each major class specified pursuant to section (2)(A), the utility shall provide, on a seasonal and annual basis for each year of the historical period:**

1. Its assessment of the historical end-use drivers of energy usage and peak demand, including trends in numbers of units and energy consumption per unit;

2. Its assessment of the weather sensitivity of energy and peak demand; and

3. Plots illustrating trends materially affecting electricity consumption over the historical period;

(E) The utility shall describe and document any adjustments that it made to historical data prior to using it in its development or interpretation of the forecasting models; and

(F) Length of Historical Data Base. The utility shall develop and retain the historical data base **over the historical period***[, it shall retain that data base for the ten (10) most recent years or for the period of time used as the basis of the utility's forecast, whichever is longer.*

1. The development of actual and weather-normalized monthly class and system energy usage and actual hourly net system loads shall start from January 1982 or for the period of time used as the basis of the utility's forecast of these loads, whichever is longer.

2. Estimated actual and weather-normalized class and system monthly demands at the time of the system peak and weather-normalized hourly system loads shall start from January 1990 or for the period of time used as the basis of the utility's forecast of these loads, whichever is longer].

(*[2]***3**) Analysis of Number of Units. For each major class*[or subclass]*, the utility shall *[analyze]* **describe and document its analysis of** the historical relationship between the number of units and the economic **and**/or demographic factors (*[driver]***explanatory** variables) that affect the number of units for that major class*[or subclass. These]*. **The analysis may incorporate or substitute the results of secondary analyses, with the proviso that the utility analyze and verify the applicability of those results to its service territory. If the utility develops primary analyses, or to the extent they are available from secondary analyses, these** relationships shall be specified as statistical or mathematical models that relate the number of units to the *[driver]***explanatory** variables.

(A) Choice of *[Driver]***Explanatory** Variables. The utility shall identify appropriate *[driver]***explanatory** variables as predictors of the number of units for each major class*[or subclass]*. The critical assumptions that influence the *[driver]***explanatory** variables shall also be identified **and documented.**

(B) Documentation of statistical models shall include the elements specified in *[subparagraph (1)(C)]***section** (2)(C) of this rule. Documentation of mathematical models shall include a specification of the functional form of the equations **if the utility develops primary analyses, or to the extent they are available if the utility incorporates secondary analyses.**

[(C) Where the utility has modeled the relationship between the number of units and the driver variables for a major class, but not for subclasses within that major class, it shall consider how a change in the subclass shares of major class units could affect the major class forecast.]

(*[3]*4) Analysis of Use Per Unit. For each major class, the utility shall *[analyze]***describe and document its analysis of** historical use per unit by end use.

(A) End-Use **Load** Detail. For each major class, use per unit shall be disaggregated *[by end use]*, where information permits*[*.

1. Where applicable for each major class,], **by** end-**uses that contribute significantly to energy** use *[information shall be developed for at least lighting, process equipment, space cooling, space heating, water heating and refrigeration]***or peak demand.**

1. The utility shall consider developing information on at least the following end-use loads:

A. For the residential sector: lighting, space cooling, space heating, ventilation, water heating, refrigerators, freezers, cooking, clothes washers, clothes dryers, television, personal computers, furnace fans, plug loads and other uses;

B. For the commercial sector: space heat, space cooling, ventilation, water heat, refrigeration, lighting, office equipment, cooking equipment and other uses;

C. For the industrial sector: machine drives, space heat, space cooling, ventilation, lighting, process heating, and other uses.

2. **The utility may modify the end-use loads specified in section (4)(A)1.**

A. The utility may remove or consolidate the specified end-use loads if it determines that a specified end-use load is not contributing, and is not likely to contribute in the future, significantly to energy use or peak demand in a major class.

B. The utility shall add to the specified end-use loads if it determines that an end-use load currently not specified is likely to contribute significantly to energy use or peak demand in a major class.

C. The utility shall provide documentation of its decision to modify the specified end-use loads for which information is developed, as well as an assessment of how the modifications can be made to best preserve the continuity and integrity of the end-use load data base.

3. For each major class and each *[end use]***end-use load**, including those listed in *[paragraph (3]**section*** (4)(A)1., if information is not available, the utility shall provide a schedule for acquiring this end-use **load** information or demonstrate that either the expected costs of acquisition were found to outweigh the expected benefits over the planning horizon or that gathering the end-use **load** information has proven to be infeasible.

*[3. If the utility has not yet acquired end-use information on space cooling or space heating for a major class, the]***4. The** utility shall determine the effect that weather has on the total load of *[that]***each** major class by disaggregating the load into its cooling, heating and non-weather-sensitive components. If the cooling or heating components are a significant portion of the total load of the major class, then the cooling or heating components of that load shall be designated as end uses for that major class.

[4. The difference between the total load of a major class and all end uses for which the utility has acquired end-use information shall be designated as an end use for that major class.]

(B) The data base and historical analysis required for each end use shall **be developed from a utility-specific survey or other primary data. The data base and analysis may incorporate or substitute the results of secondary data, with the proviso that the utility analyze and verify the applicability of those results to its service territory. The data base and historical analysis required for each end use shall** include at least the following:

1. Measures of the stock of energy-using capital goods. For each major class and end-**use load identified in section (4)(A)**, the utility shall implement a procedure to develop and maintain *[survey]***adequate** data on the energy-related characteristics of the building, appliance and equipment stock including saturation levels, efficiency levels and sizes where applicable. The utility shall update *[these surveys]***the data** before each *[scheduled]***triennial compliance** filing*[pursuant to 4 CSR 240-22.080]*; and

2. Estimates of end-use energy and demand. For *[each]***the** *[end use]***end-use loads identified in section (4)(A)**, the utility shall estimate *[end-use]*monthly energies and demands at **the** time of monthly system peaks and shall calibrate these energies and demands to equal the weather-normalized monthly energies and demands at **the** time of monthly peaks for each major class for the most recently available data.

[(4) Analysis of Load Profiles. The utility shall develop a consistent set of daily load profiles for the most recent year for which data is available. For each month, load profiles shall be developed for a peak weekday, a representative of at least one (1) weekday and a representative of at least one (1) weekend day.

(A) Load profiles for each day type shall be developed for each end use, for each major class and for the net system load.

(B) For each day type, the estimated end-use load profiles shall be calibrated to sum to the estimated major class load profiles and the estimated major class load profiles shall be calibrated to sum to the net system load profiles.]

(5) Selecting Load Forecasting Models. The utility shall select load forecast models and develop the historical data base needed to support the selected models. The selected load forecast models will include a method of end-use load analysis for at least the residential and small commercial classes, unless the utility demonstrates that end-use load methods are not practicable and provides documentation that other methods are at a minimum comparable to end-use methods. The utility may choose multiple models and methods if it deems doing so is necessary to achieve all of the purposes of load forecasting and if the methods and models are consistent with, and calibrated to, one another. The utility shall describe and document its intended purposes for load forecast models, why the selected load forecast models best fulfill those purposes, and how the load forecast models are consistent with one another and with the end-use usage data used in the demand-side analysis as described in 4 CSR 240-22.050. As a minimum, the load forecast models shall be selected to achieve the following purposes:

(A) Assessment of consumption drivers and customer usage patterns - to better understand customer preferences and their impacts on future energy and demand requirements, including weather sensitivity of load;

(B) Long term load forecasts - to serve as a basis for planning capacity and energy service needs. This can be served by any forecasting method or methods that produce reasonable projections (based on comparing model projections of loads to actual loads) of future demand and energy loads;

(C) Policy analysis - to assess the impact of legal mandates, economic policies and rate designs on future energy and demand requirements. The utility may use any load forecasting method or methods that it demonstrates can adequately analyze the impacts of legal mandates, economic policies and rate designs.

(6) Load Forecasting Model Specifications.

(A) For each load forecasting model selected by the utility pursuant to section 4 CSR 240-22.030(5), the utility shall describe and document its:

1. Determination of appropriate independent variables as predictors of energy and peak demand for each major class. The critical assumptions that influence the independent variables shall also be identified.

A. The utility shall assess the applicability of the historical explanatory variables pursuant to section (3)(A) to its selected forecast model;

B. To the extent that the independent variables selected by the utility differ from the historical explanatory variables, the utility shall desribe and document those differences.

2. Development of any mathematical or statistical equations comprising the load forecast models, including a specification of the functional form of the equations.

3. Assessment of the applicability of any load forecast models or portions of models that were utilized by the utility but developed by others, including a specification of the functional forms of any equations or models, to the extent they are available.

(B) If the utility selects load forecast models that include end-use load methods, the utility shall describe and document any deviations in the independent variables or functional forms of the equations from those derived from load analysis in sections (3) and (4).

(C) Historical Data Base for Load Forecasting. In addition to the load analysis data base, the utility shall develop and maintain a data base consistent with and as needed to run each forecast model utilized by the utility. The utility shall describe and document its load forecasting historical data base in the triennial compliance filings. As a minimum, the utility shall:

1. Develop and maintain a data set of historical values for each independent variable of each forecast model. The historical values for each independent variable shall be collected for a period of ten (10) years, or such period deemed sufficient to allow the independent variables to be accurately forecasted over the entire planning horizon.

2. Explain any adjustments that it made to historical data prior to using it in its development of the forecasting models.

3. Archive previous projections of all independent variables used in the energy usage and peak load forecasts made in at least the past ten (10) years and provide a comparison of the historical projected values in prior plan filings to actual historical values and to projected values in the current compliance filing.

4. Archive all previous forecasts of energy and peak demand, including the final data sets used to develop the forecasts, made in at least the past ten (10) years. Provide a comparison of the historical final forecasts to the actual historical energy and peak demands, and to the current forecasts in the current triennial compliance filing.

(7) Base-Case Load Forecast. The utility's base-case load forecast shall be based on projections of the *[major economic and demographic driver]***independent** variables that utility decision-makers believe to be most likely. All components of the base-case **load** forecast shall *[be based on the assumption of]***assume** normal weather conditions. The load impacts of implemented demand-side programs **and rates** shall be incorporated in the base-case load forecast but the load

impacts of proposed demand-side programs **and rates** shall not be included in the base-case forecast.

(A) *[Customer]***Major** Class and Total Load Detail. The utility shall produce forecasts of monthly energy usage and demands at the time of the summer and winter system peaks by major class for each year of the planning horizon*[. Where the utility anticipates that jurisdictional levels of forecasts will be required to meet the requirements of a specific state, then the utility*, **and** shall *[determine a procedure by which the major class forecasts can be separated by jurisdictional component.*

*(B) Load Component Detail. For each major class, the utility shall produce separate forecasts of the number of units and use per unit components based on the analysis described in sections (2)]***describe** and *[(3) of this rule.*

*1. Number of units forecast. The utility's forecast of number of units for each major class shall be based on the analysis of the relationship between number of units and driver variables described in section (2). Where judgment has been applied to modify the results of a statistical or mathematical model, the utility shall specify the factors which caused the modification and shall explain how]**document*** those*[factors were quantified.*

A. The forecasts of the driver variables shall be specified and clearly documented. These forecasts shall be compared to historical trends and significant differences between the forecasts and long-term and recent trends shall be analyzed and explained.

*B. The]*forecasts *[of the number of units for each major class shall be compared to historical trends. Significant differences between the forecasts and long-term and recent trends shall be analyzed and explained]***in its triennial compliance filings. Where applicable, these major class forecasts shall be separated into their jurisdictional components.**

[2. Use per unit forecast. The utility's forecast of monthly energy usage per unit and seasonal peak demands per unit for each major class shall be based on the analysis described in section (3).

*A. The forecasts of the driver variables for the use per unit shall be specified.]***1.** The utility shall **describe and** document how the *[forecast of use per unit has]* **base case forecasts of energy usage and demands have** taken into account the effects of real prices of electricity, real prices of competitive energy sources, real incomes and any other relevant economic and demographic factors. If the methodology does not incorporate economic and demographic factors, the utility shall explain how it accounted for the effects of these factors.

*B. End-use detail. For each major class and for each end use, the utility shall forecast both monthly energy use and demands at time of the summer and winter system peaks***2. The utility shall describe and document how the forecasts of energy usage and demands have taken into account the effects of legal mandates affecting the consumption of electricity.**

*[C.]***3.** The *[stock of energy-using capital goods. For each end use for which the]*utility *[has developed measures of the stock of energy-using capital goods and where the utility has determined that forecasting the use of electricity associated with these energy-using capital goods is cost-effective and feasible, it]*shall *[forecast those measures]***describe** and document *[the relationship between]***how** the forecasts of *[the measures to the forecasts of end-use energy]***energy usage** and demands *[at time of the summer and winter system peaks. The values of the driver variables used to generate forecasts of the measures of the stock of energy-using capital goods shall be specified and clearly documented.*

D. The major class forecasted use per unit shall be compared to historical trends in weather-normalized use per unit. Significant differences between the forecasts and long-term and recent trends shall be analyzed and explained.

*(C) Net System Load Forecast. The utility shall produce a forecast of net system load profiles for each year of the planning horizon. The net system load forecast shall be]***are** consistent with *[the utility's forecasts of monthly energy and demands at time of summer and winter system peaks for the major rate classes.*

*(6) Sensitivity Analysis. The utility shall analyze the sensitivity of the components of the base-case forecast for each major class to variations]***trends in historical consumption patterns, end uses and end-use efficiency** in the *[key driver variables, including the real price of electricity, the real price of competing fuels and economic and demographic factors* **utility's service area as** identified *[in section (2) and subparagraph (5)(B)2.A.*

*(7) High-Case and Low-Case Load Forecasts. Based on the sensitivity analysis described in section (6), the utility shall produce at least two (2) additional load forecasts (a high-growth case and a low-growth case) that bracket the base-case load forecast. Subjective probabilities shall be assigned to each of the load forecast cases. These forecasts and associated subjective probabilities shall be used as inputs to the strategic risk analysis required by]***pursuant to sections** 4 CSR 240-22.*[070.*

*(8) Reporting Requirements. To demonstrate compliance with the provisions of this rule, and pursuant to the requirements of]***030(2), (3) and** (4 *CSR 240-22.080, the utility shall prepare a report that contains at least the following information:***).**

*[(A)]***4. For at least the base year of the forecast, the utility shall describe and document its estimates of the monthly cooling, heating and non-weather-sensitive components of the weather-normalized major class loads.**

5. Where judgment has been applied to modify the results of its energy and peak forecast models, the utility shall describe and document the factors which caused the modification and how those factors were quantified.

6. For each major class specified *[in subsection (1)]***pursuant to section (2)**(A), the utility shall provide plots of *[number of units,[***class monthly** energy *[usage per unit]*and *[total class energy usage.*

1. Plots shall be produced for the summer period (June through September), the remaining nonsummer months and the calendar year.

2. The plots shall cover the historical data base period and the forecast period of at least twenty (20) years.

A. The historical period shall include both actual and weather-normalized energy usage per unit and total class energy usage.

B. The plots for the forecast period shall show each end-use component of major class energy usage per unit and total class energy usage for the base-case forecast.

(B) For each major class specified in subsection (1)(A), the utility shall provide plots of class demand per unit and class total demand at time of summer and winter system peak. The plots shall cover the historical data base period and the forecast period of at least twenty (20) years.

1. The plots for the historical period shall include both actual and weather-normalized class demands per unit and total demands at the time of summer and winter system peak demands.

*2. The plots for the forecast period shall show each end-use component of major class]*coincident *[demands per unit and total class coincident demands for the base-case forecast.*

(C) For the forecast of class energy and peak demands, the utility shall provide a summary of the sensitivity analysis required by section (6) of this rule that shows how changes in the driver variables affect the forecast.

*(D) For the net system load, the utility shall provide plots of energy usage and]*peak demand*[.*

1. The energy plots shall include the summer, nonsummer and total energy usage for each calendar year.

2. The peak demand plots shall include the] **at the time of** summer and winter **system** peak*[demands.*

3]. The plots shall cover the historical data base period and the forecast period of at least twenty (20) years. The **plots of coincident peak demands for the** historical period shall include both actual and weather-normalized *[values.]***peak demands at the time of summer and winter system peak.** The **plots of coincident peak demand for the** forecast period shall *[include]***show the class coincident demands for** the base-case*[, low-case and high-case forecasts.]* **forecast at the time of summer and winter system peak.**

*[4.***7.** The utility *[shall describe how the subjective probabilities assigned to each forecast were determined.*

*(E) For each major class, the utility]*shall provide *[estimated load profile]*plots *[for the summer and winter system peak days.*

*1. The plots shall show each end-use component]*of *[the hourly load profile.*

2. The plots shall be provided for the base year of the load forecast and for the fifth, tenth and twentieth years of the forecast.

*(F) For the net system load profiles,]*the *[utility shall provide plots for the]***net system load profiles for the** summer peak day and the winter peak day*[.*

1.] **showing the contribution of each major class.** The plots shall *[show each of the major class components of]***be provided in** the *[net system load profile in a cumulative manner.*

*2. The plots shall be provided]***triennial filing** for the base year of the forecast and for the fifth, tenth and twentieth years of the forecast. **Plots for all years shall be included in the workpapers supplied at the time of the triennial filing.**

[(G) The data presented in all plots also shall be provided in tabular form.

(H) The utility shall provide a description of the methods used to develop all forecasts required by this rule, including an annotated summary that shows how these methods comply with the specific provisions of this rule. If end-use methods have not been used in forecasting, an explanation as to why they have not been used shall be included. Also included shall be the utility's schedule to acquire end-use information and to develop end-use forecasting techniques or a discussion as to why the acquisition of end-use information and the development of end-use forecasting techniques are either impractical or not cost-effective.]

(B) Forecasts of independent variables. The forecasts of independent variables shall be specified, described and documented.

1. Documentation of mathematical models developed by the utility to forecast the independent variables shall include the reasons the utility selected the models as well as specification of the functional form of the equations.

2. If the utility adopted forecasts of independent variables developed by another entity, documentation shall include the reasons the utility selected those forecasts, an analysis showing that the forecasts are applicable to the utility's service territory, and, if

available, a specification of the functional form of the equations used to forecast the independent variables.

3. These forecasts of independent variables shall be compared to historical trends in the variables and significant differences between the forecasts and long-term and recent trends shall be analyzed and explained.

4. Where judgment has been applied to modify the results of a statistical or mathematical model, the utility shall specify the factors which caused the modification and shall explain how those factors were quantified.

(C) Net System Load Forecast. The utility shall produce a forecast of net system load profiles for each year of the planning horizon. The net system load forecast shall be consistent with the utility's forecasts of monthly energy and peak demands at time of summer and winter system peaks for each major class.

(8) Load Forecast Sensitivity Analysis. The utility shall describe and document its analysis of the sensitivity of the dependent variables of the base-case forecast for each major class to variations in the independent variables identified in section 4 CSR 240-22.030(6)(A).

(A) The utility shall produce at least two (2) additional normal weather load forecasts (a high-growth case and a low-growth case) that bracket the base-case load forecast. Subjective probabilities shall be assigned to each of the load forecast cases. These forecasts and associated subjective probabilities shall be used as inputs to the risk analysis required by 4 CSR 240-22.060.

(B) The utility shall estimate the sensitivity of system peak load forecasts to extreme weather conditions. This information shall be considered by utility decision makers to assess the ability of alternative resource plans to serve load under extreme weather conditions when selecting the preferred resource plan pursuant to 4 CSR 240-22.070(1).

(C) The utility shall provide plots of energy usage and peak demand covering the historical data base period and the forecast period of at least twenty (20) years.

1. The energy plots shall include the summer, non-summer and total energy usage for each calendar year. The peak demand plots shall include the summer and winter peak demands.

2. The historical period shall include both actual and weather-normalized values. The forecast period shall include the base-case, low-case and high-case forecasts.

*AUTHORITY: sections 386.040, 386.250, 386.610 and 393.140, RSMo 2000. * Original rule filed June 12, 1992, effective May 6, 1993.*
**Original authority: 386.040, RSMo 1939; 386.250, RSMo 1939, amended 1963, 1967, 1977, 1980, 1987, 1988, 1991; 386.610, RSMo 1939; and 393.140, RSMo 1939, amended 1949, 1967.*

PUBLIC COST: Adoption of this proposed amendment will not cost affected state agencies or political subdivisions more than $500 in the aggregate.

PRIVATE COST: Adoption of this proposed amendment will not cost affected private entities more than $500 in the aggregate.

NOTICE TO SUBMIT COMMENTS AND NOTICE OF PUBLIC HEARING: Anyone may file comments in support of or in opposition to this proposed amendment with the Missouri Public

Service Commission, Steve Reed, Secretary of the Commission, P.O. Box 360, Jefferson City, MO 65102. To be considered, comments must be received at the Commission's offices on or before January 3, 2011, and should include a reference to Commission File No. EX-2010-0254 Comments may also be submitted via a filing using the Commission's electronic filing and information system (EFIS). A public hearing regarding this proposed rule is scheduled for January 6, 2011, at 9:00 a.m. in the commission's offices in the Governor Office Building, 200 Madison Street, Room 305, Jefferson City, Missouri. Interested persons may appear at this hearing to submit additional comments and/or testimony in support of or in opposition to this proposed rule, and may be asked to respond to commission questions. Any persons with special needs as addressed by the Americans with Disabilities Act should contact the Missouri Public Service Commission at least ten (10) days prior to the hearing at one (1) of the following numbers: Consumer Services Hotline 1-800-392-4211 (voice) or Relay Missouri at 711.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of a Proposed Rulemaking Regarding Revision of the Commission's Chapter 22 Electric Utility Resource Planning Rules	))))	File No. EX-2010-0254

DISSENT OF COMMISSIONER JEFF DAVIS TO THE PROPOSED RULEMAKING REVISING THE COMMISSION'S CHAPTER 22 ELECTRIC UTILITY RESOURCE PLANNING RULES

I respectfully dissent from my colleagues' order to promulgate these rules as they are currently written.

Anyone who has ever been involved in the integrated resource planning (IRP) process knows these rules have desperately needed revision for years. It's taken a long time to get where we are. These rules are an improvement in some respects, but something important is missing: accountability for the Public Service Commission and the PSC Staff for any outcome in these IRP proceedings. It may seem like an antiquated note, but I think we need to take responsibility for the decisions we make – or in this case – fail to make.

Both the Missouri Energy Development Association (MEDA) and the Missouri Department of Natural Resources (MDNR) offered language whereby the Commission would at least "acknowledge" the utility's resource plan. "Acknowledgement" of the plan would enhance the process because it would force the parties and the staff to focus on outcomes as well as the process by which those outcomes were determined. After all, outcomes should be the purpose of the IRP process. More importantly, electric utilities could use the acknowledgement process to establish the prudence of making--or not making--certain large capital expenditures that are going to amount to billions of dollars over the next decade (e.g.

– whether to shut down and decommission one or more coal plants or to continue retrofitting all of them) before they get to a rate case and have to argue over imprudence or lack thereof.

Whether and how we address IRP decisions will definitely impact customer rates for years to come. Failing to act on the substance of IRPs constitutes a decision in and of itself. The Commission's failure sends a message of uncertainty to the utilities we regulate, their investors and Wall Street saying either "we want to be free to disavow your plan and disallow the expenses later" or "we are afraid to be criticized for acknowledging a plan that later failed."

Ultimately, our failure to address the substance of utility resource plans increases financing costs for capital investment projects as well as litigation costs in future rate cases because parties will litigate the issue in future cases and knowing the Commission may disallow expenses, lenders and investors will want higher returns. That uncertainty will assuredly cause Missouri investor-owned electric utilities to place the least possible amount of investment capital at risk short-term. This is important because the cheapest plan today will not likely be the cheapest plan over the next one to five years, and even less likely over the long-term (from 30 to 50 years). Thus, the ratepayers could end up paying higher rates long-term so the utility can consistently save a few dollars on the front end, or because the utility opted for cheaper, less reliable technology.

The importance of this issue is best illustrated by the decisions the Commission faces regarding our aging fleet of coal plants. In September, Wood Mackenzie's North American power research group issued a startling report that almost 60 gigawatts of coal-fired electric plants could be retired over the next decade. Independent verification of that estimate comes from Ellen Lapson, Managing Director of Corporate Ratings for Fitch Rating Agency. On

September 30, 2010, at the Financial Research Institute, Director Lapson said that Wood Mackenzie's number was a reasonable number. At least two Commissioners were present at that meeting.

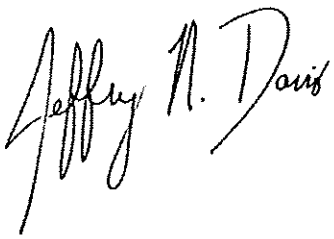
The findings of the Wood Mackenzie report ought to send a shiver down the spine of everyone here at the PSC as well as anyone employed by a Missouri utility. More than 80% of the electricity consumed in this state is fueled by coal. Collectively, Missouri utilities probably own around 10,000 megawatts of coal-fired generation, if not more. Ameren Missouri is the largest Missouri utility and owns several thousand megawatts of coal-fired generation all by itself, but everyone including the utilities who've camouflaged themselves as being leaders in the green revolution have similar risks. So, when the Wall Street analysts say "Coal is in the crosshairs" they mean pretty much every Missouri utility, but especially Ameren because they own the most coal plants, and that ultimately every utility customer in the state is in the crosshairs. Each and every one of our investor-owned electric utilities is going to make significant investment decisions regarding the retirement or retrofitting of a large fleet of coal plants averaging more than 40 years or older as well as the addition of new resources to replace these retiring coal plants, meet growing demand and comply with government mandates for utilities to buy certain amounts of "renewable" electricity.

Presidents and governors don't punt and this Commission shouldn't punt either. Hundreds of millions, if not billions, of dollars are at stake when our electric utilities make these decisions and customer rates are hanging in the balance. We owe it to the ratepayers and to the utilities we regulate to be decisive and thereby meet this Commission's statutory obligation to assure safe and adequate service for consumers at a just and reasonable rate. It's silly and unconscionable to spend a couple of years working on more than 60 pages of

rules that force the utility to think of every scenario, to document how every calculation is made, to check to see if the work was performed correctly and then do nothing with such documents except hold them, waiting to whip them out on some unsuspecting utility executive for not following a plan we don't intend to make them follow until the day they deviate from it.

In conclusion, a Commission majority that has shown a willingness to micro-manage electric utilities by requiring them to undertake low-income assistance programs and make our utilities buy Missouri wind-generated electricity ought not have a problem "acknowledging" whether an electric utility's preferred resource plan seems like a good or a bad one.

Respectfully submitted,



Jeff Davis, Commissioner

Dated at Jefferson City, Missouri
On this 25th day of October, 2010.

Small Business Regulatory Fairness Board
Small Business Impact Statement

Date: 9-13-2010

Rule Number: 4 CSR 240-22.030

Name of Agency Preparing Statement: **Public Service Commission**

Name of Person Preparing Statement: **Lena Mantle**

Phone Number: **573-751-520**

Email: **Lena.Mantle@psc.mo.gov**

Name of Person Approving Statement:

Please describe the methods your agency considered or used to reduce the impact on small businesses *(examples: consolidation, simplification, differing compliance, differing reporting requirements, less stringent deadlines, performance rather than design standards, exemption, or any other mitigating technique).*

Not applicable, no small businesses impacted. Only directly impacts the four investor-owned utility companies in the state.

Please explain how your agency has involved small businesses in the development of the proposed rule.

Not applicable, no small businesses impacted. Only directly impacts the four investor-owned utility companies in the state. However, the MoPSC held stakeholder workshops where any interested entity could participate in the process.

Please list the probable monetary costs and benefits to your agency and any other agencies affected. Please include the estimated total amount your agency expects to collect from additionally imposed fees and how the moneys will be used.

This proposed rule will not cost state agencies or political subdivisions more than $500 in the aggregate.

No additional fees will be collected specifically associated with this rulemaking.

Please describe small businesses that will be required to comply with the proposed rule and how they may be adversely affected.

Not applicable, no small businesses impacted. Only directly impacts the four investor-owned utility companies in the state.

Please list direct and indirect costs (in dollars amounts) associated with compliance.

Not applicable, no small businesses impacted. Only directly impacts the four investor-owned utility companies in the state.

Please list types of business that will be directly affected by, bear the cost of, or directly benefit from the proposed rule.

The four investor-owned electric utilities in the state.

Does the proposed rule include provisions that are more stringent than those mandated by comparable or related federal, state, or county standards?
Yes___ No_X_

If yes, please explain the reason for imposing a more stringent standard.

For further guidance in the completion of this statement, please see §536.300, RSMo.