Exhibit No.:	
Issues:	Portfolio Design Goals, Decoupling and Cost-Effectiveness Tests
Witness:	Maurice Brubaker
Type of Exhibit:	Surrebuttal Testimony
Sponsoring Party:	Missouri Industrial Energy Consumers
Case No.:	EO-2015-0055
Date Testimony Prepared:	April 27, 2015

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's 2nd Filing to Implement Regulatory Changes in Furtherance of Energy Efficiency as allowed by MEEIA	)))))))	**Case No. EO-2015-0055**

Surrebuttal Testimony of

Maurice Brubaker

On behalf of

Missouri Industrial Energy Consumers

April 27, 2015

BRUBAKER & ASSOCIATES, INC.

Project 10017

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's 2nd Filing to Implement Regulatory Changes in Furtherance of Energy Efficiency as allowed by MEEIA	**Case No. EO-2015-0055**

STATE OF MISSOURI)
) **SS**
COUNTY OF ST. LOUIS)

Affidavit of Maurice Brubaker

Maurice Brubaker, being first duly sworn, on his oath states:

1. My name is Maurice Brubaker. I am a consultant with Brubaker & Associates, Inc., having its principal place of business at 16690 Swingley Ridge Road, Suite 140, Chesterfield, Missouri 63017. We have been retained by the Missouri Industrial Energy Consumers in this proceeding on their behalf.

2. Attached hereto and made a part hereof for all purposes is my surrebuttal testimony which was prepared in written form for introduction into evidence in Missouri Public Service Commission Case No. EO-2015-0055.

3. I hereby swear and affirm that the testimony is true and correct and that it shows the matters and things that it purports to show.

Maurice Brubaker

Subscribed and sworn to before me this 27th day of April, 2015.

MARIA E. DECKER
Notary Public - Notary Seal
STATE OF MISSOURI
St. Louis City
My Commission Expires: May 5, 2017
Commission # 13706793

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's 2nd Filing to Implement Regulatory Changes in Furtherance of Energy Efficiency as allowed by MEEIA	))))))	**Case No. EO-2015-0055**

Table of Contents to the Surrebuttal Testimony of Maurice Brubaker

Page

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's 2nd Filing to Implement Regulatory Changes in Furtherance of Energy Efficiency as allowed by MEEIA	))))))	**Case No. EO-2015-0055**

Surrebuttal Testimony of Maurice Brubaker

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A Maurice Brubaker. My business address is 16690 Swingley Ridge Road, Suite 140, Chesterfield, MO 63017.

Q WHAT IS YOUR OCCUPATION?

A I am a consultant in the field of public utility regulation and President of Brubaker & Associates, Inc., energy, economic and regulatory consultants.

Q PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A This information is included in Appendix A to this testimony.

Q ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?

A This testimony is presented on behalf of the Missouri Industrial Energy Consumers ("MIEC"). MIEC members include some of the largest industrial users of electricity on the Ameren Missouri system.

Q WHAT ISSUES DO YOU COVER IN YOUR SURREBUTTAL TESTIMONY?

A I respond to the testimony of Sierra Club witness Tim Woolf with respect to his proposal to implement demand-side management ("DSM") at the level of estimated Maximum Achievable Potential ("MAP"), rather than Realistic Achievable Potential ("RAP") and his proposal to focus on the Utility Cost Test ("UCT") rather than the Total Resource Cost ("TRC") when evaluating DSM. I also address the testimony of Ashok Gupta and Philip Mosenthal who appear on behalf of the Natural Resources Defense Council ("NRDC") with respect to their recommendation to adopt some form of decoupling mechanism.

Summary and Conclusions

Q WHAT ARE YOUR MAIN CONCLUSIONS AND RECOMMENDATIONS?

A They may be summarized as follows:

1. Sierra Club's proposal to design to the level of MAP rather than RAP would cause rates to be significantly higher than with RAP, and would create significant implementation risk and expose customers to higher rates.

2. The recommendation of Sierra Club to focus more on the UCT when selecting DSM programs is inappropriate. DSM programs score better under UCT than under TRC only because a significant amount of cost – the cost borne directly by the consumer in DSM implementation – is ignored. The Commission should reject this ill-advised recommendation.

3. The proposal of NRDC to implement some form of revenue decoupling is inappropriate and should be rejected.

RAP vs. MAP

Q HAS AMEREN MISSOURI DESIGNED ITS DSM PROGRAM BASED ON RAP OR MAP?

A Ameren Missouri has designed its DSM program based on RAP.

Q DOES SIERRA CLUB AGREE WITH THIS?

A No. As expressed in the rebuttal testimony of Sierra Club witness Tim Woolf, beginning at page 27, Sierra Club would have Ameren Missouri align its DSM program more with MAP criteria.

Q WHAT IS THE DIFFERENCE BETWEEN RAP AND MAP?

A The definitions of both RAP and MAP are set forth in the Commission's rules in 4 CSR 240-3.164. MAP is defined in 4 CSR 240-3.164(1)(N):

> "Maximum achievable potential means energy savings and demand savings relative to a utility's baseline energy forecast and baseline demand forecast, respectively, resulting from expected program participation and ideal implementation conditions. Maximum achievable potential establishes a maximum target for demand-side savings that a utility can expect to achieve through its demand-side programs and involves incentives that represent a very high portion of total programs costs and very short customer payback periods. **Maximum achievable potential is considered the hypothetical upper-boundary of achievable demand-side savings potential, because it presumes conditions that are ideal and not typically observed**." (Emphasis added)

RAP is defined as follows in 4 CSR 240.3.164(1)(T):

> "Realistic achievable potential means energy savings and demand savings relative to a utility's baseline energy forecast and baseline demand forecast, respectively, resulting from expected program participation and realistic implementation conditions. Realistic achievable potential establishes a realistic target for demand-side savings that a utility can expect to achieve through its demand-side programs and involves incentives that represent a moderate portion of total program costs and longer customer payback periods when compared to those associated with maximum achievable potential."

Q IN YOUR OPINION, IS IT PRACTICAL OR REASONABLE TO DESIGN PROGRAMS TO ACHIEVE MAP?

A No. As can be seen from the very definition taken from the Commission's Rules, MAP is a hypothetical upper-boundary of DSM savings potential because it presumes conditions that are ideal and not typically observed.

On the other hand, RAP acknowledges that conditions are rarely ideal, and focuses upon what can practically and cost-effectively be achieved through a DSM program.

Q HOW DOES AMEREN MISSOURI CHARACTERIZE THE DIFFERENCE AND EXPLAIN THE BASIS FOR ITS DECISION TO FOLLOW A RAP PATH RATHER THAN A MAP PATH?

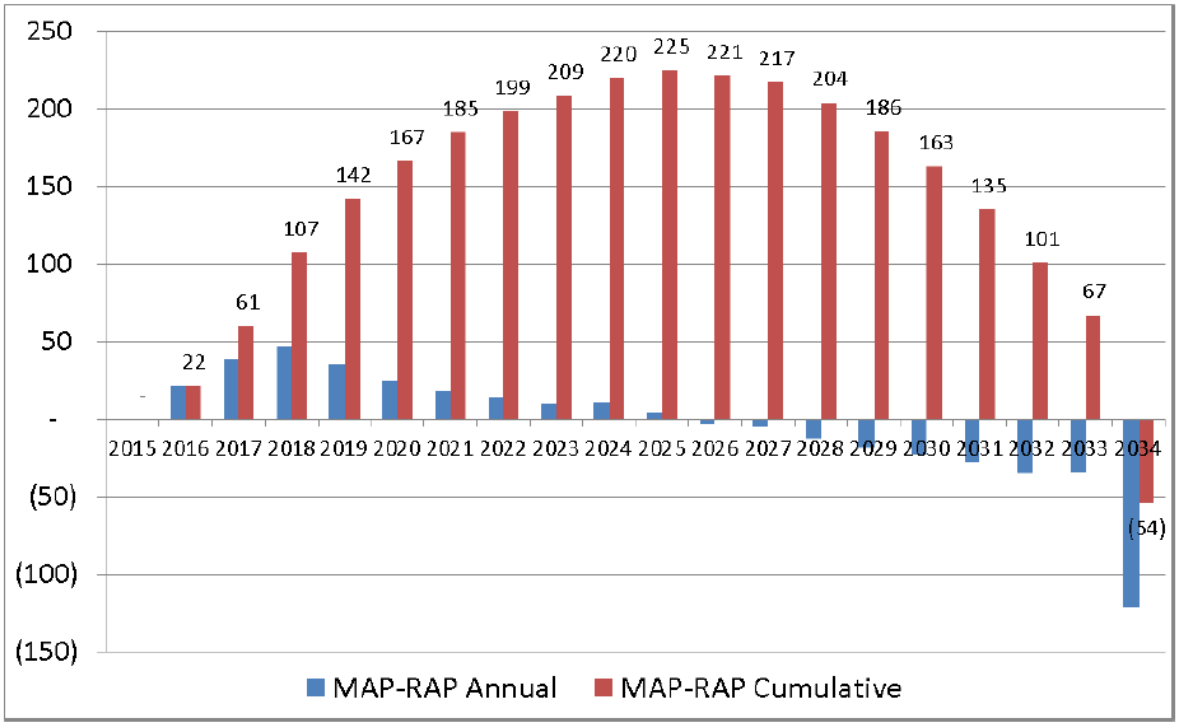
A In its current Integrated Resource Plan ("IRP") (EO-2015-0084) Ameren Missouri explains it this way on pages 11-12 of Chapter 10:

> **DSM Portfolio**[footnote omitted] – RAP and MAP DSM portfolios both performed well in the scoring and, importantly, both result in reduced total costs to customers. The decision between the two must involve a consideration of risk and reward from the perspective of both customers and Ameren Missouri. Based on our analysis of the year-by-year cost differences between RAP and MAP, and an understanding of the increased level of risk in achieving MAP relative to RAP, Ameren Missouri has chosen to include the RAP portfolio in its preferred resource plan.

Q DID AMEREN MISSOURI PROVIDE ANY YEAR-BY-YEAR DIFFERENTIAL REVENUE REQUIREMENT ANALYSIS FOR RAP AS COMPARED TO MAP PLANS?

A Yes. This is set forth on page 9 of Chapter 10 in Ameren Missouri 2014 IRP. Figure 10-1 is reproduced below.

Figure 10.1 Year-by-Year PVRR Differences for RAP and MAP Plans



This calculation compares the year-by-year revenue requirement differences on a net present value ("NPV") basis for RAP Plan F (1,200 MW combined cycle in 2034 with RAP EE) to Plan S (600 MW combined cycle in 2034 with MAP EE). The blue bars represent the annual difference in revenue requirements with a positive value indicating that the cost of a MAP program exceeds that of the RAP program. The red bars are the cumulative difference, again with a positive value indicating MAP is more expensive. Note that the customers are worse off by as much $225 million in 2025 under the MAP plan as compared to a RAP plan. This difference begins to recede after 2025, but only becomes break-even on an NPV basis in the year 2034 when the difference in combined cycle capacity comes into play.

MAP obviously places tremendous risk on customers for the potential of a benefit that may or may not materialize almost 20 years into the future. As Ameren Missouri explained on page 9 of Chapter 10, the MAP portfolio would cost roughly

twice as much as the RAP portfolio in the years 2016 through 2018. Over the planning horizon, the MAP budget would be $2.45 billion as compared to $1.27 billion for RAP, or 93% more costly than RAP, even though energy savings would be only about 36% greater.

Q WHAT IS YOUR RECOMMENDATION?

A After having reviewed this material, my recommendation is that Ameren Missouri continue to plan using the RAP portfolio, and not the MAP portfolio for the reasons noted above, namely that the MAP portfolio would be significantly more expensive, because even optimistically net benefits are at least 20 years into the future. In addition, because of the very aggressive nature of a MAP portfolio and the unrealistic assumptions that underlie it, there is a high risk of not being able to achieve the indicated benefits, even 20 years out. In summary, the value proposition for MAP versus RAP is not at all attractive from a consumer point of view.

UCT vs. TRC

Q WHAT DOES MR. WOOLF HAVE TO SAY ABOUT THE USE OF THE UCT AS OPPOSED TO THE TRC?

A He begins his discussion of these issues on page 46. Although he acknowledges that the Missouri Energy Efficiency Investment Act ("MEEIA") statute expresses a preference for the use of the TRC in determining what is cost-effective, he seems to want to downplay the role of the TRC and give more emphasis to the results of the UCT.

Q DO YOU AGREE WITH MR. WOOLF?

A No. The TRC involves a consideration of costs incurred by the utility as well as costs directly incurred by the participant. The UCT, if used as a screening mechanism, would look only at the costs incurred by the utility, and would ignore costs that would have to be incurred by the participant in order to take part in the programs and make them work. From an overall resource perspective, it is not reasonable to ignore costs that would be incurred by the customer, such as the additional cost of a more efficient device relative to a conventional device, or the impact of replacing a device before the end of its useful life.

I do agree, however, that Ameren Missouri should continue to calculate not only the TRC test and the UCT test, but also the participant test ("PT") and the non-participant or Rate Impact Measure ("RIM") tests. All provide useful information, but for purposes of selecting Energy Efficiency ("EE") resources to include in a portfolio, I continue to believe that the TRC test is the most relevant.

Decoupling

Q IN GENERAL TERMS, WHAT DOES DECOUPLING ENTAIL?

A Decoupling generally entails establishing a mechanism which guarantees the level of revenue to be collected by a utility between rate cases at the level set in the most recent rate case. There would be periodic adjustments to bring the actual level of revenues either up, or down, to the level of dollars set in that preceding rate case. It would not matter whether deviations were the result of the loss of customers, cooler than normal or warmer than normal weather, economic downturns, utility earnings, or anything else.

Q WHICH WITNESSES MENTION DECOUPLING IN THEIR TESTIMONY?

A NRDC witness Mosenthal mentions it beginning at about page 43 of his testimony, and refers to the testimony of NRDC witness Gupta for further details.

Q WHAT DOES MR. GUPTA SAY ABOUT THE CONCEPT OF DECOUPLING?

A He essentially explains why he does not like the throughput disincentive mechanism that Ameren Missouri uses, makes a passing reference to some 2009 testimony by another NRDC witness, and then makes some brief comments about decoupling. No specific plan or proposal is set out.

Q SHOULD THE COMMISSION CONSIDER DECOUPLING?

A No. Putting aside the question of whether decoupling would be permitted under current statutes or Commission Rules, the Commission should not entertain decoupling. Guaranteeing a fixed level of revenue for the utility reduces the utility's risk, and shifts the risk to customers. As just one example, suppose that the service territory was affected by a major storm. Today, utilities have every incentive to restore service as quickly as possible, not only to make their reliability metrics look good, but also because it is in their economic best interest to restore service and resume the collection of revenues. Frequently, this involves overtime work and additional compensation, and compensation to other utilities who lend a hand during such times. If the utility's revenues are insulated from such events, to the extent that it collects the same amount of money regardless of how quickly service is restored, there is some economic disincentive to spending the extra money for overtime and third-party assistance because doing so would not affect the level of revenues collected.

Also, a decoupling mechanism would make utility rates very volatile. In the event that there was a cool summer, the utility's rates would then be adjusted to compensate it as if the weather had been normal. But, in order to do so, the shortfall would have to be charged back to customers, adding to rate volatility.

Q DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A Yes.

Qualifications of Maurice Brubaker

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A Maurice Brubaker. My business address is 16690 Swingley Ridge Road, Suite 140, Chesterfield, MO 63017.

Q PLEASE STATE YOUR OCCUPATION.

A I am a consultant in the field of public utility regulation and President of the firm of Brubaker & Associates, Inc. ("BAI"), energy, economic and regulatory consultants.

Q PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A I was graduated from the University of Missouri in 1965, with a Bachelor's Degree in Electrical Engineering. Subsequent to graduation I was employed by the Utilities Section of the Engineering and Technology Division of Esso Research and Engineering Corporation of Morristown, New Jersey, a subsidiary of Standard Oil of New Jersey.

In the Fall of 1965, I enrolled in the Graduate School of Business at Washington University in St. Louis, Missouri. I was graduated in June of 1967 with the Degree of Master of Business Administration. My major field was finance.

From March of 1966 until March of 1970, I was employed by Emerson Electric Company in St. Louis. During this time I pursued the Degree of Master of Science in Engineering at Washington University, which I received in June, 1970.

In March of 1970, I joined the firm of Drazen Associates, Inc., of St. Louis, Missouri. Since that time I have been engaged in the preparation of numerous

studies relating to electric, gas, and water utilities. These studies have included analyses of the cost to serve various types of customers, the design of rates for utility services, cost forecasts, cogeneration rates and determinations of rate base and operating income. I have also addressed utility resource planning principles and plans, reviewed capacity additions to determine whether or not they were used and useful, addressed demand-side management issues independently and as part of least cost planning, and have reviewed utility determinations of the need for capacity additions and/or purchased power to determine the consistency of such plans with least cost planning principles. I have also testified about the prudency of the actions undertaken by utilities to meet the needs of their customers in the wholesale power markets and have recommended disallowances of costs where such actions were deemed imprudent.

I have testified before the Federal Energy Regulatory Commission ("FERC"), various courts and legislatures, and the state regulatory commissions of Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Guam, Hawaii, Illinois, Indiana, Iowa, Kentucky, Louisiana, Michigan, Missouri, Nevada, New Jersey, New Mexico, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, South Dakota, Texas, Utah, Virginia, West Virginia, Wisconsin and Wyoming.

The firm of Drazen-Brubaker & Associates, Inc. was incorporated in 1972 and assumed the utility rate and economic consulting activities of Drazen Associates, Inc., founded in 1937. In April, 1995 the firm of Brubaker & Associates, Inc. was formed. It includes most of the former DBA principals and staff. Our staff includes consultants with backgrounds in accounting, engineering, economics, mathematics, computer science and business.

Brubaker & Associates, Inc. and its predecessor firm has participated in over 700 major utility rate and other cases and statewide generic investigations before utility regulatory commissions in 40 states, involving electric, gas, water, and steam rates and other issues. Cases in which the firm has been involved have included more than 80 of the 100 largest electric utilities and over 30 gas distribution companies and pipelines.

An increasing portion of the firm's activities is concentrated in the areas of competitive procurement. While the firm has always assisted its clients in negotiating contracts for utility services in the regulated environment, increasingly there are opportunities for certain customers to acquire power on a competitive basis from a supplier other than its traditional electric utility. The firm assists clients in identifying and evaluating purchased power options, conducts RFPs and negotiates with suppliers for the acquisition and delivery of supplies. We have prepared option studies and/or conducted RFPs for competitive acquisition of power supply for industrial and other end-use customers throughout the Unites States and in Canada, involving total needs in excess of 3,000 megawatts. The firm is also an associate member of the Electric Reliability Council of Texas and a licensed electricity aggregator in the State of Texas.

In addition to our main office in St. Louis, the firm has branch offices in Phoenix, Arizona and Corpus Christi, Texas.