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Witness: Randy S. Gross
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MISSOURI PUBLIC SERVICE COMMISSION

REGULATORY REVIEW DIVISION

REBUTTAL TESTIMONY

OF

RANDY S. GROSS

KCP&L GREATER MISSOURI OPERATIONS COMPANY

FILE NO. EO-2012-0009

Jefferson City, Missouri
March 2012

Susan L. Sundermeyer
Notary Public

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OF

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KCP&L GREATER MISSOURI OPERATIONS COMPANY

FILE NO. EO-2012-0009

Q. Please state your name and business address.

A. My name is Randy S. Gross, and my business address is Missouri Public Service Commission, P. O. Box 360, Jefferson City, Missouri 65102.

Q. What is your present position at the Missouri Public Service Commission (“Commission”)?

A. I am an Engineer in the Energy Unit of the Regulatory Review Division.

Q. Please state your educational background and experience.

A. These are contained in Schedule RSG-1.

Q. Would you please summarize the purpose of your rebuttal testimony?

A. I provide Staff’s review, analysis and recommendations concerning KCP&L Greater Missouri Operations Company’s (“GMO’s” or “Company’s”) proposed MPower and Energy Optimizer demand response programs with respect to the minimum filing requirements contained in Rules 4 CSR 240-20.094(3) and 4 CSR 240-3.164(2).

I present Staff's following recommendations related to GMO's proposed MPower and Energy Optimizer demand response programs:

1. The Commission grant GMO a variance from the current market potential study requirement of 4 CSR 240-240.3.164(2)(A), since GMO has engaged Navigant (Navigant is a specialized global expert services firm providing

1 Energy Efficiency and Demand Side Strategy Services) to perform a DSM
2 market potential study for its service territory, this work has started and is
3 expected to be completed in early 2013 for use by the Company in its future
4 MEEIA and Chapter 22 analyses and filings; and

- 5 2. The Commission grant GMO a variance from the requirement of Rule 4 CSR
6 240-20-094(3)(A) that an approved demand-side program be included in the
7 electric utility's preferred plan, but order that GMO include all proposed
8 demand response programs in its preferred resource plan as part of its April 1,
9 2012 Chapter 22 compliance filing¹; and
- 10 3. The Commission approve GMO's proposed MPower and Energy Optimizer
11 programs only if GMO makes a supplemental filing in this case that includes
12 the program descriptions the Company provided in their response to Staff's
13 data requests 0028 and 0029.

14 Q. What are GMO's MPower and Energy Optimizer programs?

15 A. They are two existing GMO demand response programs that GMO has utilized
16 to curtail GMO's load during the summer months when peak electric demand occurs.
17 MPower is a voluntary load curtailment program for large commercial and industrial
18 customers and provides a payment to customers for curtailing their load when requested to do
19 so by GMO. Energy Optimizer is an air conditioning cycling program for residential and
20 small commercial customers that allows the Company to cycle program participants' air

¹ This recommendation does not mean that Staff wants GMO to limit its demand response programs in its April 1, 2012 Chapter 22 compliance filing to only those demand response programs in this application.

1 | conditioners off and on when the Company provided thermostats receive a paging signal from
2 | GMO that calls for a load reduction.²

3 | Q. Has the Company provided evaluation, measurement and verification
4 | (“EM&V”) reports for Energy Optimizer or MPower?

5 | A. Yes. GMO witness Allen D. Dennis provides an overview of these reports in
6 | his testimony. Schedule ADD-3 to that testimony contains an EM&V report for Energy
7 | Optimizer. Schedule ADD-8 contains an EM&V report for MPower.

8 | Q. Has Staff reviewed these EM&V reports?

9 | A. Yes.

10 | Q. What is Staff’s opinion of them?

11 | A. Staff reviewed both of these EM&V reports prepared by Opinion Dynamics
12 | Corporation. Overall Staff finds them to contain a thorough evaluation of process,
13 | measurement and verification of energy (kWh) and demand (kW) impact results based upon
14 | actual historical data from the programs. Opinion Dynamics Corporation calculated Total
15 | Resource Cost (“TRC”) test results greater than 1.0 for both programs. Opinion Dynamics
16 | Corporation has demonstrated experience and expertise in this EM&V field as indicated by its
17 | energy client list, case studies and list of publications on its website.³ Staff found the EM&V
18 | reports for Energy Optimizer and MPower are complete, professionally prepared and
19 | conducted independent of GMO. The independence of a third party evaluator is very
20 | important to assure the integrity of an EM&V report. Staff notes that the Company supports
21 | the International Performance Measurement and Verification Protocol (“IPMVP”).⁴

² Direct testimony of Allen D. Dennis, page 8, lines 15-16.

³ <http://www.opiniondynamics.com/>

⁴ Direct testimony of Allen D. Dennis, page 23, lines 12-14.

1 Q. What is the International Performance Measurement and Verification
2 Protocol?

3 A. The International Performance Measurement and Verification Protocol defines
4 standard terms and suggests best practices for quantifying the results of demand-side
5 management (“DSM”) programs. This Protocol has become the national measurement and
6 verification standard in the United States and several other countries.⁵

7 Q. Why is this protocol important?

8 A. It is important because use of the protocol results in each program being
9 evaluated on a consistent basis and then each cost-benefit calculation can be used to compare
10 and rank different programs.

11 Q. Do these EM&V reports satisfy the requirements of 4CSR 240.3-163(7)?

12 A. Staff believes they do.

13 Q. Does GMO’s filing include a current market potential study required by Rule
14 4 CSR 240-3.164(2)(A)?

15 A. No. The Company’s filing did not include a current market potential study.

16 Q. Is this important?

17 A. Yes. Under the rule, such studies are to include the target customer base,
18 baseline annual energy and demand forecasts, realistic achievable potential⁶ (“RAP”) and
19 maximum achievable potential (“MAP”) for annual energy savings and annual demand
20 savings for individual measures, for individual programs (all new and existing programs such
21 as MPower and Energy Optimizer), and for all measures and all programs. A current market
22 potential study is important when the utility screens potential measures and programs, but in

⁵ http://en.wikipedia.org/wiki/International_performance_measurement_and_verification_protocol;
<http://www.nrel.gov/docs/fy02osti/31505.pdf>

⁶ Realistic achievable potential is defined in 4 CSR 240-3.164(1)(T).

1 particular to develop a 20-year baseline annual energy and demand forecast and savings for
2 both RAP and MAP. GMO's current MPower and Energy Optimizer demand response
3 programs⁷ have existing participants, and have TRC values of 1.53⁸ and 3.16,⁹ respectively.
4 Since MPower and Energy Optimizer already have existing participants, it would be useful to
5 have the RAP annual energy savings and annual demand savings for these programs from a
6 current market potential study for GMO's service territory. This would allow a more accurate
7 determination of target customer penetration rates and the development of an implementation
8 plan that has the goal of achieving all cost-effective demand-side savings.¹⁰ It is typical for
9 demand response programs to initially target the "low hanging fruit," i.e., the easy to achieve
10 demand response reductions. Therefore, to increase participation in established programs, the
11 programs may very well require an increased or different incentive than what has been used to
12 date. Therefore, the TRC values for expanding existing programs may be expected to be
13 lower than the TRCs in the EM&V reports for these existing programs¹¹ in order to achieve
14 all cost-effective demand-side savings.

15 Q. If GMO were to request a variance from the current market potential study
16 requirement of Rule 4 CSR 240-240.3.164(2)(A), would Staff support the request?

17 A. Yes.

18 Q. Why?

⁷ GMO's MPower and Energy Optimizer programs both have original tariff sheets with effective dates of October 11, 2008.

⁸ *Direct testimony of Allen Dennis*, Schedule ADD-8 EM&V report for MPower program.

⁹ *Direct testimony of Allen Dennis*, Schedule ADD-3 EM&V report for Energy Optimizer program.

¹⁰ Section 393.1075 is known as the Missouri Energy Efficiency Investment Act ("MEEIA") and Section 4 of MEEIA directs that "The commission shall permit electric corporations to implement commission-approved demand-side programs proposed pursuant to this section with a goal of achieving all cost-effective demand-side saving."

¹¹ *Direct testimony of Allen Dennis*, Schedules ADD-8 And ADD-3 contain the EM&V reports for GMO's MPower and Energy Optimizer programs, respectively.

1 A. Because GMO has engaged Navigant to perform a DSM market potential study
2 for its service territory, this work has started and is expected to be completed in early 2013,
3 and the results will then be available for use by the Company in its future MEEIA and
4 Chapter 22 analyses and filings.

5 Q. Do you know of any other variances Staff views that GMO should have
6 requested for its proposed demand response programs, but did not?

7 A. Yes. GMO has not requested a variance from Rule
8 4 CSR 240-20.094(3)(A)(3) which requires that Commission approved demand-side programs
9 be included in the electric utility's preferred plan.

10 Q. If GMO were to request a variance from the requirement that an approved
11 demand-side program be included in the electric utility's preferred plan found in Rule
12 4 CSR 240-20-094(3)(A)(3), would Staff support it?

13 A. Yes, on the condition that GMO be ordered to include all proposed demand
14 response programs in its preferred resource plan in its April 1, 2012, Chapter 22 compliance
15 filing.

16 Q. What estimated incremental annual demand savings has the Company included
17 in its MEEIA application?

18 A. Per GMO witness Tim M. Rush, GMO's targeted incremental annual demand
19 savings, represented as kilowatt (kW) savings, is 1.0 % of annual peak demand.¹² Staff
20 witness John Rogers includes Staff's calculation of the estimated annual demand savings for
21 the Company's demand response programs for 2012 – 2018 in Schedule JAR-3 to his rebuttal
22 testimony.

¹² Direct testimony of Tim M. Rush, page 17, lines 6-8.

1 Q. Are the proposed annual demand savings levels in Schedule JAR-3
2 reasonable?

3 A. Yes, given the program design and planned spending levels, the annual
4 demand savings levels are reasonable. Although the Company has not included a current
5 market potential study as required by Rule 4 CSR 240-3.164(2)(A) and discussed previously
6 in this testimony, the Company has included other demand response potential studies for the
7 residential and commercial sectors in schedule ADD-11 of the direct testimony of Allen D.
8 Dennis. It used the results of these studies to develop its proposed Energy Optimizer and
9 MPower programs.

10 Q. Does the Company's estimated incremental 1.0% annual demand savings
11 promote the MEEIA goal of all cost-effective demand-side savings?

12 A. The testimony of Staff witness John A. Rogers discusses and presents Staff's
13 position on whether GMO's proposed DSM programs can achieve a goal of all cost-effective
14 demand-side savings.

15 Q. Did the Company provide the detailed description of each demand response
16 program required by Rule 4 CSR 240-3.164(2)(C)?

17 A. Not initially, but they eventually did.

18 Q. When?

19 A. When Staff inquired of GMO as to this through a data request, Staff Data
20 Request No. 0006.1, the Company responded as follows:

21 Schedule TMR-4 attached to the testimony of Tim Rush in Case No. EO-2012-
22 0008 was considered the support detail for GMO as well. Schedule TMR-4
23 consists of the Applications, Recommendations and Orders associated with the
24 KCP&L portfolio of the requested DSM programs and is attached.
25

1 Kansas City Power & Light Company (“KCPL”) has withdrawn its MEEIA filing, closing
2 Case No. EO-2012-0008. Regardless, Schedule TMR-4 of the KCPL’s filing consists of the
3 information for the current KCPL DSM programs’ tariffs compliance filings, not for GMO’s
4 proposed demand response programs for this MEEIA filing.

5 The Company failed to provide a description of the MPower and Energy Optimizer
6 programs it proposes for the Commission to approve under the MEEIA and Rule
7 4 CSR 240-3.164(2)(C). The Company’s filing includes a general description of the existing
8 MPower and Energy Optimizer programs and EM&V reports for each program based upon
9 historical data. The Company provided descriptions for all its new DSM programs in
10 Schedule ADD-2 to the direct testimony of GMO witness Allen D. Dennis. However, it did
11 not include in Schedule ADD-2 descriptions of the MPower and Energy Optimizer programs
12 it is proposing the Commission approve for implementation under the MEEIA and MEEIA
13 rules. The Company acknowledges in the direct testimony of GMO witness Tim M. Rush that
14 this information is required.¹³ Staff requested that the Company provide the program
15 descriptions for the MPower and Energy Optimizer programs in data request 0028 and 0029.
16 The Company response provided these descriptions in attachments marked “HC”.

17 Q. Does the Company response satisfy the filing requirement?

18 A. No. Staff recommends that the Commission order the Company to provide
19 these descriptions in a supplemental filing.

20 Q. Why are the EM&V reports for the current programs not sufficient under the
21 rule?

22 A. The key problem with them is that they are based on historical data. The
23 Company indicates that some of the recommendations in the EM&V reports for program

¹³ Direct testimony of Tim M. Rush, page 24, starting on line 9, and ending on page 25, line 23.

1 changes will be incorporated in the new DSM programs,¹⁴ but these new program
2 descriptions need to be included in the Company's filing.

3 Q. Are the MPower and Energy Optimizer programs GMO is asking the
4 Commission to approve under the MEEIA and its MEEIA rules different than its current
5 MPower and Energy Optimizer programs?

6 A. Yes.

7 Q. How are they different?

8 A. The Company identified and discussed these modifications in the testimony of
9 Allen D. Dennis¹⁵ and in its response to Staff's Data Request No. 0002 in which GMO
10 indicates that it is also currently evaluating additional modifications for the Energy Optimizer
11 program. The Company's proposed modifications are based upon the recommendations in the
12 EM&V report and the Company's experience with these existing programs. These
13 modifications will not change the purpose of the programs and are expected to improve the
14 programs.

15 Q. What does Rule 4 CSR 240-3.164(2)(B) require of GMO?

16 A. In part, the Company is required to demonstrate the cost-effectiveness of each
17 proposed DSM program, including the MPower and Energy Optimizer programs.

18 Q. Has the Company done that for the MPower and Energy Optimizer programs?

19 A. Yes.

20 Q. What is the basis for Staff's opinion?

21 A. As I previously stated, GMO's MPower and Energy Optimizer demand
22 response programs currently exist, have existing customer accounts, and have TRC values of

¹⁴ Direct testimony of Allen D. Dennis, starting on page 12, line 22 and ending on page 14, line 8, and Company response to Staff's Data Request No. 0002.

¹⁵ Direct testimony of Allen D. Dennis starting on page 13, line 15 and ending on line 21.

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1 1.53¹⁶ and 3.16,¹⁷ respectively. Based on discussions with Staff witness Dr. Hojong Kang
2 these values were calculated by the DSMoreTM program. Since they are significantly greater
3 than the required TRC value of 1.0 and these are existing successful programs, Staff is
4 reasonably confident that both of these proposed programs will also have a TRC greater than
5 1.0. Therefore, Staff views that GMO has demonstrated the cost-effectiveness of the
6 proposed MPower and Energy Optimizer programs.

7 Q. Are you familiar with how the TRC values for the existing MPower and
8 Energy Optimizer programs were calculated?

9 A. Only in a general way.

10 Q. Have you reviewed the calculations of the respective TRC values of 1.53 and
11 3.16 for the existing MPower and Energy Optimizer programs?

12 A. No. I am accepting the results of the review performed by other staff as
13 expressed in the testimony of Dr. Hojong Kang.

14 Q. Do you have any additional concerns for the proposed MPower program?

15 A. Yes, customer participation levels in the MPower program are currently being
16 constrained.

17 Q. How is GMO constraining customer participation in the MPower program?

18 A. GMO has placed a moratorium on new contracts for the MPower program and
19 the Company is not currently accepting and/or processing new program applications.¹⁸ Staff
20 is concerned that this program may not be expanded and may even be suspended in the future
21 although the Company has indicated that they will accept new applications going forward.¹⁹

¹⁶ Direct testimony of Allen Dennis, Schedule ADD-8 EM&V Report for MPower program.

¹⁷ Direct testimony of Allen Dennis, Schedule ADD-3 EM&V Report for Energy Optimizer program

¹⁸ Company response to Data Requests No. 0001 and 0025.

¹⁹ Company response to Data Request No. 0025.

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1 Q. Does this complete your rebuttal testimony?

2 A. Yes.

Randy S. Gross

Educational Background and Work Experience

I have Master and Bachelor of Science degrees in Electrical Engineering from the University of Missouri at Columbia. I am an active licensed Professional Engineer in the states of Kansas and Missouri with inactive licenses in Arizona and Illinois. I have co-authored nine technical papers in the areas of process instrumentation and controls, power plant performance monitoring and information technology. My work experience spans more than 39 years in electrical and instrumentation and control detailed design, information technology, training, software verification and validation, telecommunication, project management and controls, construction management, contract administration, plant start-up, project oversight, plant operating procedures, design basis reconstitution, equipment technical specifications and procurement, nuclear plant and site, detailed design engineering, plant modifications and engineering procedures. From 1972-1997, I was employed by Black & Veatch with responsibilities in electrical, instrumentation and control engineering and project management. From 1997-2001, I was employed by the Foxboro Company (Invensys) as a Principal Account Manager for Distributed Control Systems (DCS) that included hardware, software and instrumentation. From 2001-2002, I provided consulting services for the Argosy Console company in the areas of process engineering and re-engineering, supply chain management, Quality Assurance, Six Sigma and Safety program implementations.

From 2002-2005, I provided contract engineering services to AmerenUE at the Callaway Nuclear Station in the areas of Software Verification and Validation, INPO accredited training, Project Management, Cost and Schedule controls, Digital Control System procedures and Plant Operation procedures. In 2005, I provided contract detailed instrumentation and

control engineering services for the Process Division of Burns & McDonnell Engineering for the Conoco Phillips refinery in Amarillo, TX. In 2006, I was employed by CIBER as a Senior Strategist with responsibilities in Project Oversight for large software development projects and Continuity of Operations Plans. From 2007-2009, I provided staff augmentation contract engineering services for the Wolf Creek Nuclear Operating Company (WCNOC) at their Wolf Creek Nuclear Power Station as a Senior Design Professional Engineer for major design projects, emergent engineering issues and plant refueling outage engineering. In 2009, I was employed with Black & Veatch as the Nuclear Division Business Line Manager with responsibilities for business development, outside sale and marketing. I have been employed by the Missouri Public Service Commission since February 2010 as a staff Engineer to provide technical expertise in the areas of smart grid deployment and implementation, transmission, distribution, demand response, renewable/alternative energy sources, plug in hybrid and electric vehicles and coal carbon capture and sequestration. I attended the Commission's Missouri Energy Efficiency Investment Act of 2009 ("MEEIA") rulemaking workshops held in April through June, 2010 and participate in workshops addressing issues, impacts, deployment and implementation for demand response aggregation and smart grid issues. I am currently serving on the Organization of MISO States Demand Response and Technology independent working group, the NARUC staff Subcommittee on Clean Coal and Carbon Sequestration, and have worked with EISPC on various transmission line planning tasks.

Other cases I have been assigned to or participated are as follows:

Date Filed	Case Number	Company Name
11/10/2010	ER-2010-0355	Kansas City Power & Light Company
11/17/2010	ER-2010-0356	Kansas City Power & Light Company Greater Missouri Operations Company
05/10/2011	ER-2011-0028`	Ameren Missouri
01/06/2012	EO-2011-0271	Ameren Missouri