

Exhibit No.:  
Issues: Residential Lighting Stipulation  
Witness: Adam Bickford  
Sponsoring Party: Missouri Department of Natural  
Resources – Division of Energy  
Type of Exhibit: Rebuttal Testimony  
Case No.: ER-2012-0345

**REBUTTAL TESTIMONY**  
**OF**  
**ADAM BICKFORD**  
**MISSOURI DEPARTMENT OF NATURAL RESOURCES**  
**DIVISION OF ENERGY**

**JANUARY 16, 2013**

**BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF MISSOURI**

**EMPIRE DISTRICT ELECTRIC COMPANY**

**RATE CASE**

**CASE NO. ER-2012-0345**

**BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF MISSOURI**

In the Matter of The Empire District Electric )  
Company of Joplin, Missouri Tariffs )  
Increasing Rates for Electric Service )  
Provided to Customers in the Missouri Service )  
Area of the Company )


File No. ER-2012-0345

**AFFIDAVIT OF ADAM BICKFORD**

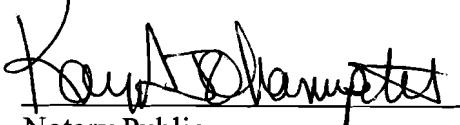
**STATE OF MISSOURI** )  
) **SS**  
**CITY OF JEFFERSON** )

Adam Bickford, of lawful age, being duly sworn on his oath, deposes and states:

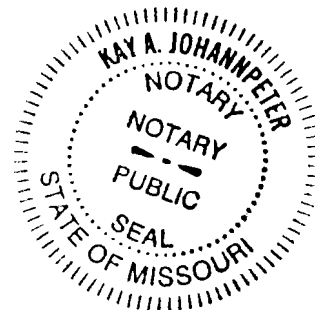
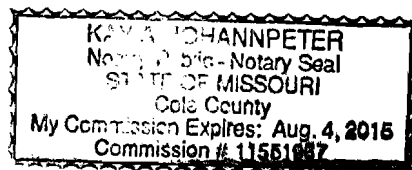
1. My name is Adam Bickford. I work in the City of Jefferson, Missouri, and I am employed by the Missouri Department of Natural Resources' Division of Energy as a Planner III.
2. Attached hereto and made a part hereof for all purposes is the Public version of my Rebuttal Testimony on behalf of the Missouri Department of Natural Resources' Division of Energy, consisting of 8 pages of testimony, all of which have been prepared in written form for introduction into evidence in the above-referenced docket.
3. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct to the best of my knowledge.

  
\_\_\_\_\_  
Adam Bickford

Subscribed and sworn to before me this 16th day of January, 2013.

  
\_\_\_\_\_  
Notary Public

My commission expires:



## **Table of Contents**

I. Introduction .....	1
II. Lighting Stipulation in ER-2011-0004.....	1
III. Empire’s Position on Residential Lighting.....	2
IV. Empire’s History with Residential Lighting Programs.....	4
V. Conclusion.....	8

## I. Introduction

1  
2 **Q. Please state your name and business address.**

3 A. My name is Adam Bickford. My business address is Missouri Department of  
4 Natural Resources, Division of Energy, 1101 Riverside Drive, P.O. Box 176,  
5 Jefferson City, Missouri 65102-0176.

6 **Q. Are you the same Adam Bickford who filed Direct Testimony on behalf of the**  
7 **Missouri Department of Natural Resource, Division of Energy previously in**  
8 **this case?**

9 A: Yes, I am.

10 **Q. What is the purpose of your rebuttal testimony in these proceedings?**

11 A. My testimony responds to Empire District Electric's (Empire) witness Martin O.  
12 Penning<sup>1</sup> regarding the stipulation and agreement in File No. ER-2011-0004  
13 addressing the redesign of its residential lighting program. My testimony will  
14 address the stipulation from ER-2011-0004, Mr. Penning's testimony, and Empire's  
15 experience with residential lighting programs.

## 16 II. Lighting Stipulation in ER-2011-0004

17 **Q. Which agreement in File No. ER-2011-0004 are you referring to?**

18 A. Paragraph 10 of the stipulation and agreement in File No. ER-2011-0004 states:

19 10. Additionally, Empire will redesign a residential lighting program and present  
20 a tariff to implement such redesigned program to the DSM advisory group.  
21 Within one year of the effective dates of rates in this case, Empire agrees to file  
22 either LED lighting tariff sheets or an update on an LED pilot study and plans for  
23 filing future tariff sheets.<sup>2</sup>  
24

25 **Q. Are you a member of Empire's DSM advisory group?**

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<sup>1</sup> Direct Testimony of Martin O. Penning, File No. ER-2012-0345,

<sup>2</sup> Stipulation and Agreement, File No. ER-2011-0004, p 2-3.

1 A. Yes.

2 **Q. Has Empire presented a redesigned residential lighting program to its DSM**  
3 **advisory group?**

4 A. No, but Empire's residential lighting program design has been discussed in various  
5 meetings addressing Empire's 2011 IRP stipulation and its 2012 MEEIA filing.

### 6 **III. Empire's Position on Residential Lighting**

7 **Q. What is Empire's position on the lighting programs described in Paragraph 10**  
8 **of its stipulation in ER-2011-0004?**

9 A. Empire witness Martin O. Penning discusses the lighting stipulation in his direct  
10 testimony. He cited the agreement that Empire "redesign a residential lighting  
11 program and present a tariff to implement such redesigned program to the DSM  
12 advisory group," but did not discuss this part of the stipulation in any detail.<sup>3</sup> He  
13 then described his colleagues' examination of the LED market and their discussions  
14 with Staff about complying with the LED Street Area Lighting (SAL) portion of the  
15 agreement. In the end, Empire decided not to file residential lighting program tariffs  
16 or to pursue an LED lighting pilot study.

17 **Q. Did Mr. Penning discuss Empire's residential lighting program further?**

18 A. No.

19 **Q. Can you describe the meetings where Empire's residential lighting program**  
20 **was discussed?**

21 A. Discussion of Empire's residential lighting program occurred during the stakeholder  
22 group meetings for Empire's 2013 Integrated Resource Plan (IRP) and Empire's

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<sup>3</sup> Direct Testimony of Martin O. Penning, File No. ER-2012-0345, p. 2

1 MEEIA filing. Empire submitted its 2010 Integrated Resource Plan (IRP) on  
2 September 3, 2010 in File No. EO-2011-0066. A stipulation and agreement  
3 resolving the deficiencies and concerns stakeholders found in the plan was filed  
4 April 1, 2011 and approved by the Commission on April 27, 2011 (“First IRP  
5 Agreement”). The First IRP Agreement contained language in Paragraph 9a  
6 stating that Empire agreed to implement three additional DSM programs during the  
7 “interim period” between the effective date of the First IRP Agreement and Empire’s  
8 filing of its next IRP, in April 2013. The three programs were (1) an ENERGY  
9 STAR washing machine rebate program, (2) a residential lighting program, and (3)  
10 a Home Energy Comparison Report program.<sup>4</sup> The First IRP Agreement also  
11 established a series of quarterly IRP stakeholder meetings and required Empire to  
12 file a MEEIA application.

13 Empire filed its MEEIA application on February 28, 2012 in compliance with  
14 the schedule established in First IRP Agreement in File No. EO-2011-0066.<sup>5</sup> The  
15 three programs described in the First IRP Agreement, Paragraph 9a were included  
16 in Empire’s MEEIA DSM plan. The residential lighting program proposed in this  
17 plan was a continuation of Empire’s current residential lighting effort, which  
18 distributed four CFL bulbs in a prepackaged “lighting kit”, free to Empire customers  
19 through the mail or at special events.<sup>6</sup>

20 On June 6, 2012 Empire and its stakeholders submitted the “Second  
21 Nonunanimous Stipulation and Agreement” in File No. EO-2011-0066 (“Second IRP  
22 Agreement”). This suspended the implementation time period for Empire’s new

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<sup>4</sup> See First IRP Agreement, File No. EO-2011-0066, Paragraph 9a

<sup>5</sup> File No. EO-2012-0206.

<sup>6</sup> See File No. EO-2012-0206 Schedule A, p 15.

1 DSM programs to give Empire the opportunity to complete a demand side potential  
2 study for use in Empire's 2013 IRP. This agreement also allowed Empire to  
3 withdraw its MEEIA filing.<sup>7</sup> Empire withdrew its MEEIA filing in File no. EO-2012-  
4 0260 on July 5, 2012.

5 During the period between February 28, 2012 and July 5, 2012, Empire and  
6 its stakeholders met multiple times as the DSM Advisory group, the IRP  
7 stakeholder group and in a series of MEEIA technical conferences. These  
8 meetings focused on IRP issues, such as the construction of a revised energy and  
9 demand forecast, and on the mechanics of Empire's demand side investment  
10 mechanism. Empire did not present a "redesign of its residential lighting program"  
11 in its MEEIA filing; rather it proposed continuing the direct distribution program it  
12 began in 2010.

#### 13 **IV. Empire's History with Residential Lighting Programs**

##### 14 **Q. Describe Empire's history implementing residential lighting programs.**

15 A. Empire began its DSM programs in 2006 as part of Empire's Experimental  
16 Regulatory Plan approved in File No. EO-2005-0263.<sup>8</sup> Empire implemented the  
17 "Change a Light, Change the World" program administered by the Midwest Energy  
18 Efficiency Alliance (MEEA) as part of its original DSM portfolio. This program was a  
19 customer rebate program that partnered with ACE Hardware stores in the Empire  
20 service territory to provide Empire ratepayers with a \$2.00 instant rebate coupon for

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<sup>7</sup>See Second IRP Agreement, File No. EO-2011-0066, Paragraph 6, p. 3.

<sup>8</sup>"As part of Empire's Experimental Regulatory Plan (Case No. EO-2005-0263), a collaborative, the Customer Programs Collaborative ("CPC") was formed, consisting of representatives from Empire, the Commission Staff, the Office of Public Counsel, Department of Natural Resources Energy Center, and industrial intervener Praxair. This group selected a consultant, through an RFP, to develop a portfolio of DSM programs and to assist in their implementation." Direct testimony, Sherrill L. McCormack, File No. ER-2011-0004, p. 2.

1 each approved CFL bulb purchased.<sup>9</sup> Empire customers completed rebate  
2 applications at the point of purchase, ACE Hardware employees collected and  
3 processed the rebate applications, and MEEA administered the distribution of the  
4 rebates. The program also distributed point-of-purchase promotional materials to  
5 participating stores.

6 According to the MEEA evaluation of the 2008 program, customers in the  
7 Empire service territory purchased 89% of the 2008 program goal from four  
8 participating retailers (purchasing 9,860 out of an expected 11,058 bulbs). These  
9 sales produced an estimated savings of over 500 MWh of electricity in 2008 and  
10 over 3,500 MWh over the lifetime of the rebated bulbs.<sup>10</sup>

11 MEEA discontinued the “Change a Light, Change the World” program in  
12 2009. In 2009, Empire, with input from its Customer Program Collaborative  
13 (“CPC”), designed a direct mail distribution program.<sup>11</sup> Under this program, Empire  
14 mailed out a kit that included four CFL bulbs and an information packet describing  
15 Empire’s other residential programs. By September 2010, Empire had mailed  
16 11,250 program kits to residential customers. Empire planned to distribute an  
17 additional 12,000 CFLs (approximately 3,000 kits) to customers during three events  
18 to be held in the Fall and Winter of 2010.

19 This program design was continued in Empire’s proposed MEEIA DSM plan  
20 in EO-2012-0262.<sup>12</sup> Empire’s program design is appropriate for new technologies  
21 that have not achieved saturation in the marketplace. However, evidence from

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<sup>9</sup> See Midwest Energy Efficiency Alliance, 2009. Change a Light, Change the World 2008 Campaign: Summary Report, Results, and Lessons Learned. April 15, 2009

<sup>10</sup> Ibid, p. 11

<sup>11</sup> Direct Testimony of Sherrill L. McCormack, File No. ER-2011-0004, p. 4.

<sup>12</sup> See File No. EO-2012-0206 Schedule A, p 15.



1 lighting program evaluations suggests that CFL bulbs are a well-established sector  
2 of the retail lighting market.<sup>13</sup> Evidence from studies, such as Colorado and  
3 Ameren Missouri studies cited above, suggest that program designs that support  
4 sales of CFL bulbs by partnering with upstream retailers, rather than the direct  
5 distribution model employed by Empire, are more effective in increasing the  
6 penetration of high-efficiency light bulbs into the residential market.

7 **Q. What is the importance of lighting programs in a utility DSM portfolio?**

8 A. Generating energy savings by replacing incandescent bulbs with more efficient  
9 CFLs and LEDs has been a central goal of national energy policy since the  
10 passage of the Energy Policy Act (EPA) in 2005,<sup>14</sup> and the Energy Independence  
11 and Security Act (EISA) in 2007.<sup>15</sup> These acts imposed new performance  
12 standards on light bulbs that led to the phasing out of inefficient incandescent and  
13 florescent bulbs and the development of higher efficiency lighting equipment.

14 From MDNR's point of view, implementing a lighting program is one of the  
15 simplest ways for a utility to achieve a substantial level of energy savings.

16 Traditionally, these programs provide rebates to cover a portion of the cost  
17 difference between a baseline incandescent bulb, for example a standard 60 watt  
18 bulb, and a more efficient alternative, such as a 13 watt CFL or an A19 LED bulb.  
19 Earlier in the decade, utilities may have had to provide an incentive to retailers to  
20 stock high efficiency bulbs. These programs, collectively called "market  
21 transformation programs," were designed to change the stocking patterns of

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<sup>13</sup> See, for example: Cadmus Group, 2009, *Colorado Home Lighting Program Process and Impact Evaluation Report*, p 4-5 and Cadmus Group, 2012, *Ameren Missouri Lighting and Appliance Evaluation Program Year 2011*.  
<sup>14</sup> Energy Policy Act. § 109–58. (2005) <http://www.gpo.gov/fdsys/pkg/PLAW-109publ58/pdf/PLAW-109publ58.pdf>  
<sup>15</sup> Energy Independence and Security Act § 110–140 (2007) <http://www.gpo.gov/fdsys/pkg/PLAW-110publ140/pdf/PLAW-110publ140.pdf>

1 retailers to provide customers with efficient lighting options. Now, most retailers  
2 stock high efficiency light bulbs regularly, so a market transformation incentive to a  
3 retailer may not be necessary.

4 Other program designs, such as the “Market Lift” design,<sup>16</sup> which leverages  
5 retailers’ sales strategies to increase the sales of CFL multipacks, have proven  
6 successful with many of the large and small retailers in the Empire service territory.  
7 This program design provides direct incentives to retailers to modify their stocking  
8 and shelving patterns to maximize sales of CFL bulbs. This program has been  
9 successful in rural and urban markets in the Midwest and Southern United States.

10 In addition to supporting retailers, multiple models for administering the  
11 customer rebates exist. For example, a utility can arrange to reduce the price for  
12 eligible purchases at the point of sale, it can have customers complete and submit  
13 rebate forms at the store, or it can have the store provide rebate forms to eligible  
14 customers to be completed and submitted by the customer later. Both Ameren  
15 Missouri and KCPL/Greater Missouri Operations have included residential lighting  
16 programs in their recent MEEIA filings.

17 Regardless of the mechanics of the program, a utility needs to engage  
18 retailer partners for a lighting rebate program to work. MDNR is unaware of actions  
19 taken by Empire to engage retailers to offer customer rebates for CFL or LED  
20 bulbs. Such rebates would benefit its residential customers and provide Empire  
21 with more energy savings, compared to their direct distribution program.

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<sup>16</sup> See <http://www.meeaconference.org/uploads/file/ppt2012/ChrisCloutier.pdf>

## V. Conclusion

1  
2 **Q. What remedy to this situation is MDNR requesting?**

3 A. Empire is in the process of completing its 2013 Integrated Resource Plan (IRP),  
4 which is due in April, 2013. According to agreements in the IRP case, Empire will  
5 file a MEEIA application by July, 2013. These upcoming submissions give Empire  
6 an opportunity to propose a redesigned residential lighting program that will help  
7 Empire achieve the state energy goal of capturing “all cost-effective energy  
8 savings.” MDNR recommends that the Commission order Empire to investigate  
9 residential lighting design programs, including the Market Lift design, present the  
10 results of their investigation to its DSM advisory group prior to filing its MEEIA  
11 application, and consider the advisory group’s recommendations when it submits its  
12 MEEIA filing.

13 **Q. Does this conclude your testimony?**

14 A. Yes. Thank you.