

Exhibit No.
Issue: Lighting Tariff
Witness: Samuel S. McGarrah
Type of Exhibit: Direct Testimony
Sponsoring Party: Empire District Electric
Case No. ER-2012-0345
Date Testimony Prepared: July 2012

**Before the Public Service Commission
of the State of Missouri**

Direct Testimony

of

Samuel S. McGarrah

July 2012



DIRECT TESTIMONY
OF
SAMUEL S. MCGARRAH
THE EMPIRE DISTRICT ELECTRIC COMPANY
BEFORE THE
MISSOURI PUBLIC SERVICE COMMISSION
CASE NO. ER-2012-0345

1 **INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A. Samuel S. McGarrah. My business address is 602 Joplin Street, Joplin, Missouri,
4 64802.

5 **Q. WHO IS YOUR EMPLOYER AND WHAT POSITION DO YOU HOLD?**

6 A. The Empire District Electric Company (“Empire” or “Company”) is my
7 employer. I hold the position of Director – Commercial Operations Western
8 Division.

9 **Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND.**

10 A. I hold a Masters of Science Degree in Electrical Engineering from the University
11 of Arkansas.

12 **Q. PLEASE DESCRIBE YOUR EMPLOYMENT BACKGROUND WITH**
13 **EMPIRE.**

14 A. I joined the staff at Empire in June 1994 as a Distribution Engineer. I later served
15 as Planning Engineer, Manager of System Planning and Protection, and Director
16 of Engineering and Line Services. My employment with Empire has been
17 continuous since 1994 except for a brief employment with TAMKO Roofing from
18 January 2000 to April 2001.

1 **Q WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS CASE**
2 **BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION**
3 **(“COMMISSION”)?**

4 A. I will provide insight into the proposed changes to the allocation of the prices for
5 the various lights within Empire’s street and private lighting tariff.

6 **MERCURY VAPOR VS. HIGH PRESSURE SODIUM**

7 **Q. PLEASE DESCRIBE THE METHOD USED TO ALLOCATE LIGHTING**
8 **TARIFF CHARGES.**

9 A. Empire’s proposed changes in the street and private lighting tariff are based upon
10 the cost of service for the installed size and type of light. The cost of service
11 includes the energy required for the operation of the lamp as well as the material
12 and labor required for installation and maintenance of the fixture.

13 **Q. HOW DOES ENERGY IMPACT THE SCHEDULE’S ALLOCATED**
14 **CHARGES?**

15 A. Mercury Vapor (“MV”) lighting is an inefficient form of lighting when compared
16 to High Pressure Sodium (HPS). It requires approximately twice the energy for a
17 MV light to provide the equivalent HPS illumination.

18 **Q. HOW DOES THE MV EQUIPMENT AND ENVIRONMENTAL**
19 **CONCERNS IMPACT EMPIRE’S PROPOSAL?**

20 A. These factors are significant. For example, MV lighting comprises a lamp which
21 contains the heavy metal Mercury, which is considered a hazardous material that
22 requires appropriate disposal. As I mentioned earlier, MV lighting is also an
23 inefficient form of lighting compared to the alternatives. Because of these issues

1 with MV lighting, MV light heads are no longer manufactured. Manufacturers
2 continue to provide MV lamps; however, since light heads are no longer available
3 and there are environmental concerns, it seems obvious that the MV lamps will
4 only be available for a limited time. Since HPS lights are considered a more
5 economic form of efficient lighting, this type of equipment is readily available
6 from manufacturers, keeping the cost of this technology considerably lower than
7 MV.

8 **Q. ARE THE PROPOSED CHANGES IN EMPIRE'S MUNICIPAL STREET**
9 **LIGHTING TARIFF ("SPL") ALLOCATION BASED ONLY ON COST**
10 **OF SERVICE?**

11 A No. Empire did develop an SPL Allocation based only on the cost of service.
12 However, a review of this allocation determined that changing rates based upon
13 such an allocation would cause a major shift in revenue responsibility to the
14 municipalities. Therefore, in an effort to mitigate the impact of the revenue shift
15 on the municipalities, Empire reduced the shift in cost from a full cost of service
16 allocation. Empire's proposed cost allocation is based upon a 25% movement
17 towards a full cost of service based allocation.

18 **Q. ARE EMPIRE'S PROPOSED CHANGES TO THE PRIVATE LIGHTING**
19 **SERVICE TARIFF ("PL") BASED ON A FULL COST OF SERVICE**
20 **ALLOCATION?**

21 A No. Empire had similar concerns with respect to the cost shift. Therefore,
22 Empire is proposing a rate change that moves only part of the way towards full
23 cost of service in the MV lights.

1 **Q. PLEASE COMPARE THE EXISTING RATES BEFORE AND AFTER**
2 **THE REALLOCATION OF PRICING.**

3 **A. The following is a comparison of those rates:**

SPL-Municipal St Lighting	Current	New Allocation
4,000 Lumen Incandescent	61.48	71.31
7,000 Lumen Mercury	83.50	85.83
11,000 Lumen Mercury	100.22	103.76
20,000 Lumen Mercury	143.48	146.20
53,000 Lumen Mercury	242.07	254.64
6,000 Lumen HP Sodium	78.25	75.94
16,000 Lumen HP Sodium	97.95	96.10
27,500 Lumen HP Sodium	127.48	124.77
50,000 Lumen HP Sodium	181.67	174.48
130,000 Lumen HP Sodium	293.17	292.97
12,000 Lumen MH	122.45	115.61
20,500 Lumen MH	150.07	140.92
36,000 Lumen MH	200.75	188.05
110,000 Lumen MH	443.62	405.80

PL-Private Lighting	Current	New Allocation
6,800 Lumen Std Mercury	14.81	16.01
20,000 Lumen Std Mercury	24.65	26.35
54,000 Lumen Std Mercury	47.25	49.52
6,000 Lumen Std Sodium	13.68	13.49
16,000 Lumen Std Sodium	19.90	19.25
27,500 Lumen Std Sodium	28.77	27.98
50,000 Lumen Std Sodium	33.36	33.03
12,000 lumen Std MetalH	23.07	23.18
20,500 Lumen Std MetalH	30.79	30.03
36,000 Lumen Std MetalH	34.55	34.57
20,000 Lumen Mercury FL	34.55	32.90
54,000 Lumen Mercury FL	57.04	58.34
27,500 Lumen Sodium FL	33.47	31.33
50,000 Lumen Sodium FL	45.90	42.39
140,000 Lumen Sodium FL	67.07	66.31
12,000 Lumen MetalH FL	23.69	24.26
20,500 Lumen MetalH FL	31.69	0.00
36,000 Lumen MetalH FL	46.73	44.11
110,000 Lumen MetalH FL	68.28	68.09
Anchor and Guy	1.90	1.79
Conductor	0.018	0.017
Pole	1.90	2.11
Transformer	1.90	1.92

1 **Q. DO THE ABOVE RATES INCLUDE THE IMPACT OF EMPIRE'S**
2 **PROPOSED RATE INCREASE IN THIS CASE?**

3 A. No. The rates I have displayed above only reflect the impact of our cost shift
4 proposal. In addition to the cost shift, all of the lighting rates will receive an
5 across the board rate increase. Empire witness Aaron Doll will discuss this in his
6 direct testimony.

7 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

8 A. Yes it does.

AFFIDAVIT OF SAMUEL S. MCGARRAH

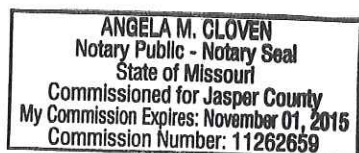
STATE OF MISSOURI)
) ss
COUNTY OF JASPER)

On the 2nd day of July, 2012, before me appeared Samuel S. McGarrah, to me personally known, who, being by me first duly sworn, states that he is Director of Commercial Operations of The Empire District Electric Company and acknowledges that he has read the above and foregoing document and believes that the statements therein are true and correct to the best of his information, knowledge and belief.



Samuel S. McGarrah

Subscribed and sworn to before me this 2nd day of July, 2012.





Notary Public

My commission expires: 11/01/2015.