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Witness: Seoung Joun Won
Sponsoring Party: MO PSC Staff
Type of Exhibit: Surrebuttal Testimony
Case No.: ER-2014-0351
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MISSOURI PUBLIC SERVICE COMMISSION

REGULATORY REVIEW DIVISION

SURREBUTTAL TESTIMONY

OF

SEOUNG JOUN WON, Ph.D.

THE EMPIRE DISTRICT ELECTRIC COMPANY

CASE NO. ER-2014-0351

Jefferson City, Missouri
March 2015

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TABLE OF CONTENTS

1
2
3
4
5
6
7
8
9
10

EXECUTIVE SUMMARY 1

EXTREME TEMPERATURES ON WEEKENDS..... 1

CONCLUSION 2

1 **SURREBUTTAL TESTIMONY**

2 **OF**

3 **SEOUNG JOUN WON, Ph.D.**

4 **THE EMPIRE DISTRICT ELECTRIC COMPANY**

5 **CASE NO. ER-2014-0351**

6 Q. Are you the same Dr. Seoung Joun Won who filed in Staff's Cost of Service
7 Report on January 29, 2015 and Rebuttal Testimony on March 9, 2015?

8 A. Yes I am.

9 **EXECUTIVE SUMMARY**

10 Q. What is the purpose of your Surrebuttal testimony?

11 A. The purpose of this testimony is to address the Rebuttal Testimony of The
12 Empire District Electric Company ("Empire" or "Company") witness Mark Quan.

13 Q. Which issue are you going to address?

14 A. I am addressing the weather normalization methodology, specifically, the
15 method of assigning days with extreme temperatures (page 8, line 6 – page 9, line 6) between
16 weekend and weekdays for normal weather.

17 **EXTREME TEMPERATURES ON WEEKENDS**

18 Q. Does Staff have a method for reassigning weekend days (Saturday-Sunday)
19 with extreme temperatures to weekdays (Monday-Friday)?

20 A. Yes. One of Staff's procedures within its weather normalization modeling is
21 that if a daily normal temperature is the highest temperature of a given month and was

1 assigned to a weekend of the test year, Staff reassigns the temperature to the highest weekday
2 temperature of the month because of preserving the pattern of the actual peak demands.¹

3 Q. What is the purpose of moving the extreme daily temperature from a weekend
4 to a weekday?

5 A. Empirically, the peak demand for a month occurs on a weekday and not on a
6 weekend. Because the weather model that estimates the monthly peak demands accounts for
7 weekday and weekend days, extreme temperatures assigned to weekends will result in the
8 weather normalized peak demand to be under estimated. Staff's model corrects this variation.

9 Q. Has Staff used this procedure of moving extreme temperature to weekdays
10 from weekends in other rate case proceedings?

11 A. Yes. Staff has used this procedure in all electric rate cases since 2000,
12 including Empire's last rate case, Case No. ER-2012-0345.

13 **CONCLUSION**

14 Q. Please summarize your surrebuttal testimony.

15 A. Mr. Quan's testimony notes that Staff moves extreme temperatures from the
16 weekends to the weekdays.² In addition, he states that this procedure "increases the
17 normalized energy by 19,061 kWh over my corrected calculations".³ However, Staff's
18 calculation correctly account for the weekend/weekday variation to not under estimate normal
19 sales. To properly calculate monthly peak demands, the extreme daily temperatures need to
20 be reassigned from weekends to weekdays. Staff has used this normalization procedure and
21 continues to recommend its use.

¹ The detail information of the calculation and assignment of the 30-year normal is presented in Staff's direct testimony and rebuttal testimony.

² Figure 5, Page 9, Rebuttal Testimony of Mark Quan.

³ Lines 13-14, Page 8, Rebuttal Testimony of Mark Quan.

Surrebuttal Testimony of
Seoung Joun Won, Ph.D.

1 | Q. Does this conclude your surrebuttal testimony?

2 | A. Yes, it does.