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Revenue Requirement Seoung Joun Won MO PSC Staff Surrebuttal Testimony ER-2014-0351 March 24, 2015

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

Stoff Exhibit No 227 Date MASReporter XF File No P-R - 2014-0351

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of The Empire District) Electric Company for Authority to File) Tariffs Increasing Rates for Electric) Service Provided to Customers in the) Company's Missouri Service Area.

Case No. ER-2014-0351

AFFIDAVIT OF SEOUNG JOUN WON, PhD

STATE OF MISSOURI)) ss COUNTY OF COLE)

Secung Joun Won, PhD, of lawful age, on his oath states: that he has participated in the preparation of the following Surrebuttal Testimony in question and answer form, consisting of $\underline{3}$ pages of Surrebuttal Testimony to be presented in the above case, that the answers in the following Surrebuttal Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true to the best of his knowledge and belief.

<u>Accurg Jourhan</u> Sebung Joun Won, PhD

Subscribed and sworn to before me this 25° day of March, 2015.

SUSAN L. SUNDERMEYER Notary Public - Notary Seal State of Missouri **Commissioned for Callaway County** My Commission Expires: October 28, 2018 Commission Number: 14942086

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1	SURREBUTTAL TESTIMONY
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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
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Surrebuttal Testimony of Seoung Joun Won, Ph.D.

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

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

A. Empirically, the peak demand for a month occurs on a weekday and not on a weekend. Because the weather model that estimates the monthly peak demands accounts for weekday and weekend days, extreme temperatures assigned to weekends will result in the 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 weekdays10 from weekends in other rate case proceedings?

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

13 CONCLUSION

Q.

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Please summarize your surrebuttal testimony.

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

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Q. Does this conclude your surrebuttal testimony?

A. Yes, it does.