Exhibit No.:	
Issues:	Rate Design
Witness:	Martin Hyman
Sponsoring Party:	Missouri Department of Economic Development – Division of Energy
Type of Exhibit:	Direct Testimony
Case No.:	ER-2016-0156

MISSOURI PUBLIC SERVICE COMMISSION

KCP&L GREATER MISSOURI OPERASTIONS COMPANY

CASE NO. ER-2016-0156

DIRECT TESTIMONY

OF

MARTIN R. HYMAN

ON

BEHALF OF

MISSOURI DEPARTMENT OF ECONOMIC DEVELOPMENT

DVISION OF ENERGY

Jefferson City, Missouri
July 29th, 2016

(Rate Design)

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of KCP&L Greater Missouri Operations	)	
Company's Request for Authority to Implement	)	Case No. ER-2016-0156
A General Rate Increase for Electric Service	)	

AFFIDAVIT OF MARTIN HYMAN

STATE OF MISSOURI	)	
	)	**ss**
COUNTY OF COLE	)	

Martin R. Hyman, of lawful age, being duly sworn on his oath, deposes and states:

1. My name is Martin R. Hyman. I work in the City of Jefferson, Missouri, and I am employed by the Missouri Department of Economic Development as a Planner III, Division of Energy.
2. Attached hereto and made a part hereof for all purposes is my Direct Testimony (Rate Design) on behalf of the Missouri Department of Economic Development – Division of Energy.
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.

Martin R. Hyman

Subscribed and sworn to before me this 29th day of July, 2016.

LAURIE ANN ARNOLD
Notary Public - Notary Seal
State of Missouri
Commissioned for Callaway County
My Commission Expires: April 26, 2020
Commission Number: 16808714

Notary Public

My commission expires: 4/26/20

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I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Martin R. Hyman. My business address is 301 West High Street, Suite 720, PO Box 1766, Jefferson City, Missouri 65102.

Q. By whom and in what capacity are you employed?

A. I am employed by the Missouri Department of Economic Development – Division of Energy ("DE") as a Planner III.

Q. Please describe your educational background and employment experience.

A. In 2011, I graduated from the School of Public and Environmental Affairs at Indiana University in Bloomington with a Master of Public Affairs and a Master of Science in Environmental Science. There, I worked as a graduate assistant, primarily investigating issues surrounding energy-related funding under the American Recovery and Reinvestment Act of 2009. I also worked as a teaching assistant in graduate school and interned at the White House Council on Environmental Quality in the summer of 2011. I began employment with DE in September, 2014. Prior to that, I worked as a contractor for the U.S. Environmental Protection Agency to coordinate intra-agency modeling discussions.

Q. Have you previously filed testimony before the Missouri Public Service Commission ("PSC" or "Commission") on behalf of DE or any other party?

A. Yes. I submitted testimony in EO-2015-0055 on behalf of DE regarding Union Electric Company d/b/a Ameren Missouri's proposed Cycle II portfolio under the Missouri Energy Efficiency Investment Act. I also submitted testimony on behalf of DE in ER-2014-0370 regarding Kansas City Power & Light Company's ("KCP&L") proposed

changes to its customer charges and time-differentiated rates, as well as testimony regarding that company's proposals for the Clean Charge Network. In WR-2015-0301 and SR-2015-0302, I submitted testimony on behalf of DE regarding Missouri-American Water Company's and the Commission Staff's ("Staff") rate design proposals and in order to propose a demand-side efficiency mechanism. I provided testimony on behalf of DE in EA-2015-0256 in support of KCP&L Greater Missouri Operations Company's ("GMO" or "Company") application for a Certificate of Convenience and Necessity to construct its Greenwood solar facility. I submitted testimony on behalf of DE in ER-2016-0023 regarding The Empire District Electric Company's demand-side management ("DSM") portfolio, EDE's and Staff's proposed residential rate designs, and the need for a working docket on residential rate design. Most recently, I submitted testimony on behalf of DE in EM-2016-0213 regarding the merger of The Empire District Electric Company with Liberty Utilities (Central) Co.

II. PURPOSE AND SUMMARY OF TESTIMONY

Q. What is the purpose of your Direct Testimony in this proceeding?

A. My testimony addresses the benefits of restructuring the residential class volumetric declining block rates in a manner that would better promote energy efficiency and conservation. DE supports transitioning to flat (and eventually inclining block) rates for GMO's residential customer class; however, the transition should occur gradually over the next few cases in order to avoid rate shock. This gradual approach is particularly important given the consolidation of the L&P and MPS service areas proposed by the Company. Consolidation would result in changes to rates in addition to any changes authorized to effectuate an approved increase in overall revenue collection. In order to

minimize the combined bill impacts of consolidation, rate increases, and moving towards flat (and eventually inclining block) rates, DE proposes that the Commission order the second and third block rates be moved 10 percent towards flat rates in this case.

III. POLICY CONSIDERATIONS

Q. Why is it appropriate to transition from declining block rates to flat (and eventually inclining block) rates?

A. Historically, utilities have used declining block rates to encourage greater consumption and increased system utilization. Declining block rates reduced costs by supporting the use of baseload plants and spreading fixed production and distribution cost recovery over greater sales volumes. However, over time, other considerations have diminished the benefits of an aggressive load growth strategy. For example, the development of regional dispatch has allowed more flexibility in the use of generation resources, reducing the need to pursue economies of scale in generation in localized areas. The cost of electric plant has also increased, and health and environmental concerns have resulted in a greater emphasis on reducing carbon emissions through more efficient use and conservation.

Q. Why is DE's proposal directed at transitioning rates for the residential class?

A. The residential class is the largest customer class and is characterized by a greater level of peak to average use relative to other customer classes. As a result, there is a greater opportunity to reduce peak use and promote efficiency through the pricing structure. It would also be appropriate in the future to consider implementing inclining block rates for small commercial classes to the extent customers in these classes have usage characteristics similar to residential customers.

Q. Why not immediately implement flat or inclining block rates for all residential customers?

A. Rate design changes should be accomplished gradually to avoid "rate shock." This is particularly important in the current case, since the Company has requested both rate consolidation[1] and a residential rate increase.[2] These requests would both, if approved by the Commission, result in bill impacts separately from any changes to rate structures.

Q. Does DE recommend that a working group be established to consider additional movement towards inclining block rates?

A. Yes. Consideration of additional movement towards inclining block rates will require time and effort towards understanding customer usage, cost causation and recovery, affordability, and the impacts of rates on consumption (i.e., the price elasticity of demand); to accomplish these goals, parties should have the opportunity to collaboratively consider rate design proposals outside the bounds of a contested proceeding. A working group would allow parties to evaluate the impacts of transitioning to inclining block rates on lower income and electric space heating and cooling users and to consider the merits of more extensive block rate modifications. One such modification could involve establishing the first block of an inclining block rate at a level equal to average essential service needs, with subsequent blocks of usage tailored to encourage lower use.

[1] Missouri Public Service Commission Case No. ER-2016-0156, *In the Matter of KCP&L Greater Missouri Operations Company's Request for Authority to Implement A General Rate Increase for Electric Service*, Direct Testimony of Bradley D. Lutz on Behalf of KCP&L Greater Missouri Operations Company, February 23, 2016, page 3, lines 17-18.
[2] *Ibid*, page 33, lines 1-6.

IV. RESIDENTIAL RATE DESIGN AND BILL IMPACTS

Q. Have you prepared an analysis of the bill impacts associated with your block rate recommendation?

A. Yes. I have prepared an analysis of the bill impact associated with the Company's general use residential rate proposal, followed by an analysis of moving the second and third blocks of the Company's proposed general use residential winter rates 10 percent towards a flat rate structure (with a revenue-neutral decrease to the first winter block rate).

A. COMPANY PROPOSAL

Q. What are the current rates for GMO's general use residential customers?

A. The rates for the Company's MPS and L&P jurisdictions are shown below in Tables 1a and 1b, respectively.

Table 1a. Current general use rates for MPS residential customers.[3]

			Current
Customer Charge			$10.43
Energy Charge	**Summer (June through September)**	**Block 1 (first 600 kWh)**	$0.1115
		Block 2 (next 400 kWh)	$0.1148
		Block 3 (all other kWh)	$0.1205
	Winter (October through May)	**Block 1 (first 600 kWh)**	$0.1115
		Block 2 (next 400 kWh)	$0.0764
		Block 3 (all other kWh)	$0.0764

Table 1b. Current general use rates for L&P residential customers.[4]

			Current
Customer Charge			$9.54
Energy Charge	**Summer (June through September)**		$0.1191
	Winter (October through May)	**Block 1 (first 650 kWh)**	$0.1058
		Block 2 (all other kWh)	$0.0780

[3] Missouri Public Service Commission File Nos. YE-2013-0326 and YE-2015-0204, KCP&L Greater Missouri Operations Company, Schedule of Rates for Electricity, Various Dates, Sheet Nos. 51-52.
[4] Missouri Public Service Commission File No. YE-2015-0204, KCP&L Greater Missouri Operations Company, Schedule of Rates for Electricity, December 1, 2014, Sheet No. 18.

Q. What rates does GMO propose for its residential customers?

A. As noted above, GMO proposes to consolidate the rates for its MPS and L&P jurisdictions.[5] The consolidated rate is shown below in Table 2.

Table 2. Company's proposed general use rates for all GMO residential customers.[6]

			GMO Proposed
Customer Charge			$14.50
Energy Charge	**Summer (June through September)**		$0.13072
	Winter (October through May)	**Block 1 (first 600 kWh)**	$0.10152
		Block 2 (next 400 kWh)	$0.09853
		Block 3 (all other kWh)	$0.07490

B. RESIDENTIAL BILL FREQUENCY ANALYSES

Q. What is the purpose of a bill frequency analysis?

A. The purpose of a bill frequency analysis is to determine the average (mean), minimum, and maximum amount of use for various groups of customers. This analysis can serve as the basis for other calculations, such as a bill impact analysis.

Q. What is the basis of your analyses?

A. My analyses are based on highly confidential, non-weather-normalized data sets (separated by jurisdiction) provided by the Company in response to Data Request DED-DE 200.

Q. How did you conduct your analyses?

A. First, I aggregated use by block using the Company's Fuel Adjustment Clause line item. This line item provided the clearest indication of monthly use, as did the Demand-Side Investment Mechanism line item. I used the "Data Analysis" function in Excel to create

[5] Lutz Direct, page 3, lines 17-18.
[6] Missouri Public Service Commission Case No. ER-2016-0156, *In the Matter of KCP&L Greater Missouri Operations Company's Request for Authority to Implement A General Rate Increase for Electric Service*, KCP&L Greater Missouri Operations Company, Proposed Tariff Change Schedules – Tariffs (Rules and Regulations), February 23, 2016, Sheet No. 146.1-146.2.

summary statistics by billed revenue month (rather than the month used for GMO's general ledger). This was done to more closely match consumption with the price signals received by customers through their bills. Some data did not appear to have appropriate date coding and were omitted.

Q. Did you independently conduct your statistical analyses?

A. Yes.

Q. What were your results?

A. My results are shown below in Tables 3a and 3b and Figures 1a and 1b.

Table 3a. Summary statistics for use by month for MPS general use residential customers (kWh).

	Mean	Minimum	Maximum	Standard Deviation	Count
Jun-14	969.05	2.00	1,889.00	568.15	21
Jul-14	1,219.63	1.00	6,686.00	664.92	5,575
Aug-14	1,259.19	1.00	7,263.00	693.12	5,695
Sep-14	1,257.33	1.00	8,328.00	679.31	5,806
Oct-14	734.44	1.00	6,175.00	456.62	5,895
Nov-14	663.15	1.00	11,695.00	443.14	5,999
Dec-14	858.24	1.00	6,175.00	638.94	6,110
Jan-15	969.39	1.00	8,369.00	752.14	6,216
Feb-15	850.31	1.00	7,341.00	674.46	6,306
Mar-15	842.39	1.00	7,129.00	683.98	6,418
Apr-15	643.29	1.00	4,078.00	417.28	6,532
May-15	618.18	1.00	5,133.00	384.14	6,645
Jun-15	859.37	1.00	6,273.00	522.20	6,822

Table 3b. Summary statistics for use by month for L&P general use residential customers (kWh).

	Mean	Minimum	Maximum	Standard Deviation	Count
Jun-14	676.81	0.00	2,679.00	591.48	54
Jul-14	1,088.91	0.00	6,373.00	686.53	11,485
Aug-14	1,097.18	0.00	7,622.00	691.48	11,640
Sep-14	1,092.65	0.00	10,245.00	696.18	11,818
Oct-14	645.07	0.00	12,241.00	484.93	11,971
Nov-14	659.98	0.00	9,481.00	524.09	12,173
Dec-14	881.69	0.00	9,936.00	771.21	12,366
Jan-15	1,000.19	0.00	10,101.00	892.72	12,463
Feb-15	874.14	0.00	11,345.00	799.49	12,568
Mar-15	872.16	0.00	10,513.00	802.83	12,733
Apr-15	623.47	0.00	6,938.00	468.48	12,909
May-15	572.11	0.00	6,292.00	404.38	13,129
Jun-15	761.80	0.00	6,638.00	523.17	13,352

Figure 1a. Average use by month for MPS general use residential customers (kWh). The overall average for the data set is shown in red.

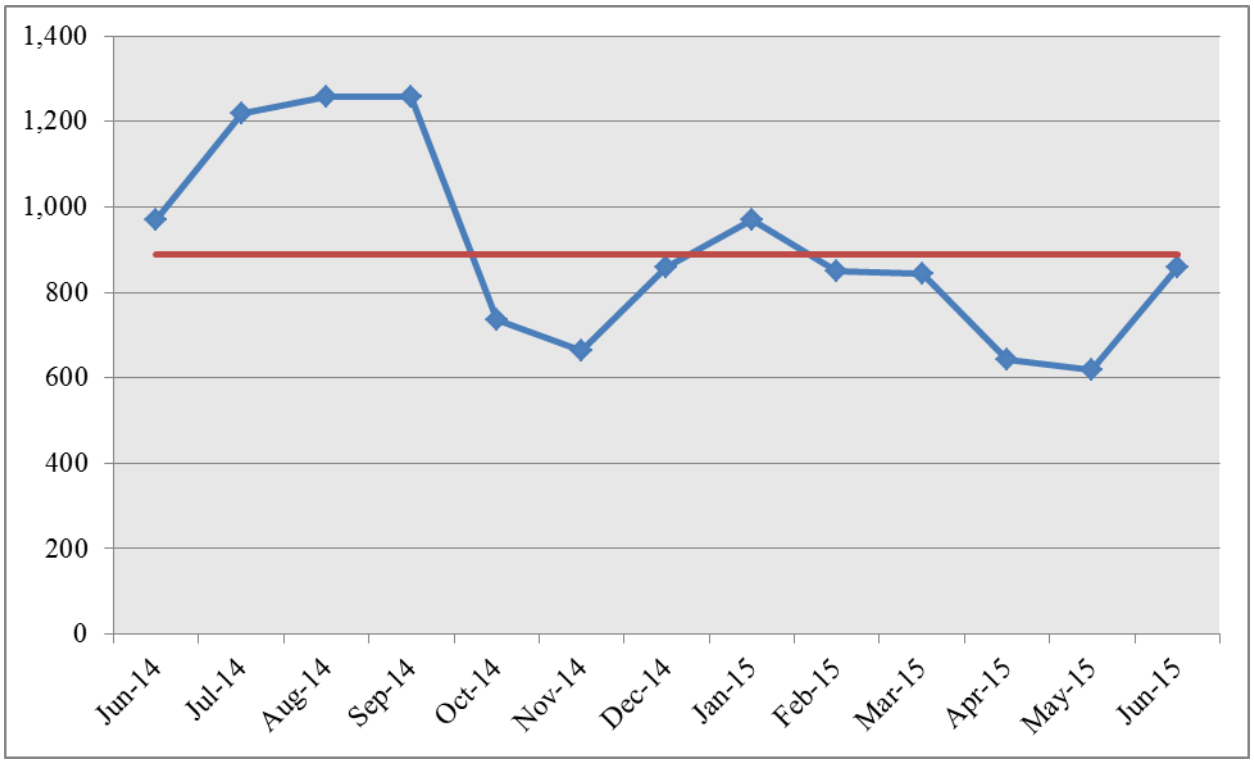
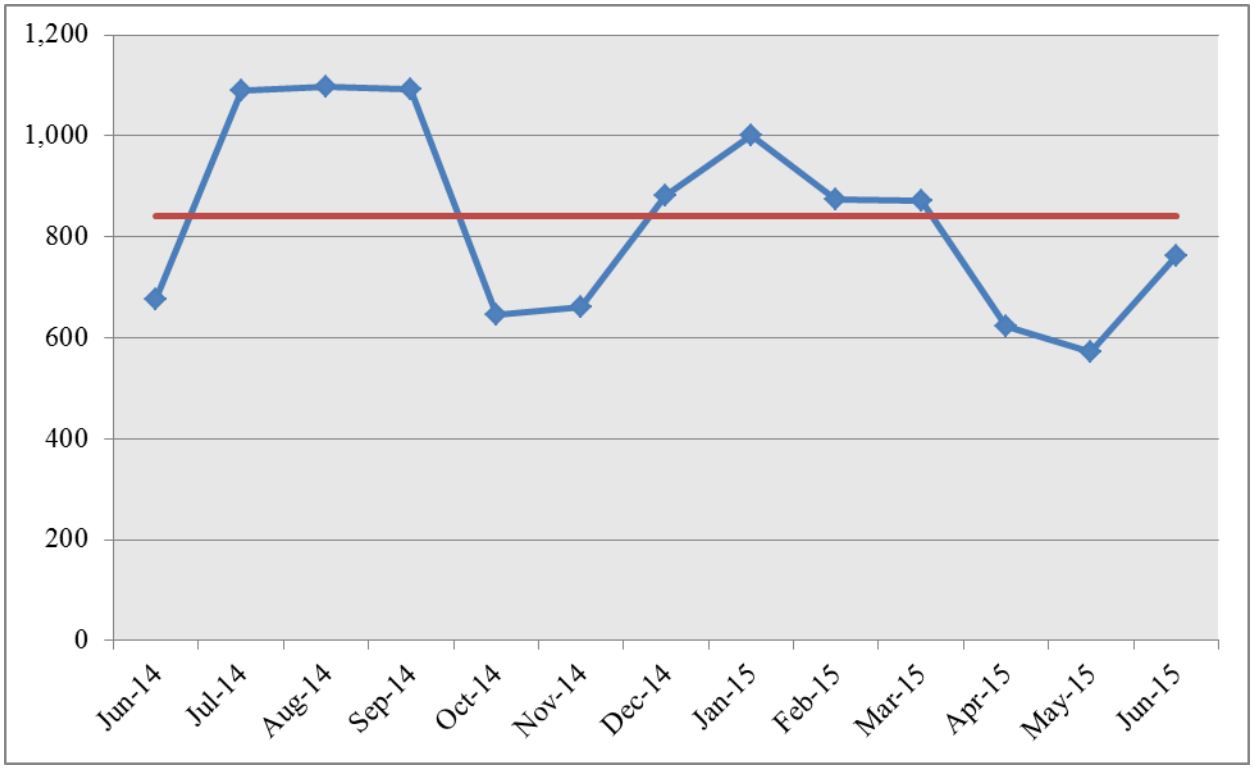


Figure 1b. Average use by month for L&P general use residential customers (kWh). The overall average for the data set is shown in red.



Q. What can you conclude from these results?

A. The overall average use for the period examined differed little between the MPS and L&P jurisdictions (889 and 842 kWh, respectively). Use peaked most during the summer for both jurisdictions, though there is a sizeable peak in winter use in the L&P jurisdiction. Use from December through March was higher in the L&P jurisdiction than the MPS jurisdiction, while the opposite occurred during the other months. This may be due to the currently lower winter rates in the L&P jurisdiction, as well as that jurisdiction's northwestern location in the state.[7]

[7] See Missouri Public Service Commission, 2008, "Map of Missouri Electric Service Areas," http://psc.mo.gov/CMSInternetData/Electric/Missouri%20Electric%20Service%20Area%20Map-9-18-08.pdf.

Q. Do you have anything to add regarding your analyses and results?

A. Yes. Caution should be exercised when interpreting results from June of 2014. In both data sets, extremely small sample sizes were obtained from the Company for that month; this statistical bias could affect calculations derived from the data during this month.

C. RESIDENTIAL BILL IMPACT ANALYSES OF THE COMPANY'S PROPOSAL

Q. What is the purpose of a bill impact analysis?

A. The purpose of a bill impact analysis is to determine the changes to customer bills as the result of changes in rates. While such an analysis is often based on the "average" customer's use, it should also take into account customers who use greater or lesser amounts of a given commodity to determine equity and efficiency impacts.

Q. What is the basis of your analyses?

A. My analyses are based on the bill frequency analyses described above, along with the Company's current and proposed rates.

Q. How did you conduct your analyses?

A. I used the averages derived from the bill frequency analyses, in addition to usage amounts at the calculated monthly minimum and maximum usages and usages 50 percent below and 100 percent above the monthly averages. I selected these lower and higher usage amounts to illustrate the bill impacts of the Company's proposal based on variations in residential customer usage. The usage amounts which I have described are shown below in Tables 4a and 4b.

Table 4a. Monthly usage amounts used in bill impact analysis for MPS general use residential customers (kWh).

	Minimum	Average Minus 50%	Average	Average Plus 100%	Maximum
Jun-14	2.00	484.52	969.05	1,938.10	1,889.00
Jul-14	1.00	609.82	1,219.63	2,439.27	6,686.00
Aug-14	1.00	629.59	1,259.19	2,518.37	7,263.00
Sep-14	1.00	628.66	1,257.33	2,514.65	8,328.00
Oct-14	1.00	367.22	734.44	1,468.89	6,175.00
Nov-14	1.00	331.57	663.15	1,326.30	11,695.00
Dec-14	1.00	429.12	858.24	1,716.47	6,175.00
Jan-15	1.00	484.69	969.39	1,938.77	8,369.00
Feb-15	1.00	425.15	850.31	1,700.62	7,341.00
Mar-15	1.00	421.20	842.39	1,684.78	7,129.00
Apr-15	1.00	321.65	643.29	1,286.58	4,078.00
May-15	1.00	309.09	618.18	1,236.36	5,133.00
Jun-15	1.00	429.69	859.37	1,718.75	6,273.00

Table 4b. Monthly usage amounts used in bill impact analysis for L&P general use residential customers (kWh).

	Minimum	Average Minus 50%	Average	Average Plus 100%	Maximum
Jun-14	0.00	338.41	676.81	1,353.63	2,679.00
Jul-14	0.00	544.46	1,088.91	2,177.83	6,373.00
Aug-14	0.00	548.59	1,097.18	2,194.37	7,622.00
Sep-14	0.00	546.33	1,092.65	2,185.31	10,245.00
Oct-14	0.00	322.53	645.07	1,290.13	12,241.00
Nov-14	0.00	329.99	659.98	1,319.96	9,481.00
Dec-14	0.00	440.84	881.69	1,763.38	9,936.00
Jan-15	0.00	500.10	1,000.19	2,000.38	10,101.00
Feb-15	0.00	437.07	874.14	1,748.28	11,345.00
Mar-15	0.00	436.08	872.16	1,744.31	10,513.00
Apr-15	0.00	311.74	623.47	1,246.95	6,938.00
May-15	0.00	286.06	572.11	1,144.22	6,292.00
Jun-15	0.00	380.90	761.80	1,523.60	6,638.00

Additionally, it should be noted that my analyses evaluated the Company's rates based on the seasons indicated in its tariffs. I did not include additional charges, such as the Fuel Adjustment Clause and Demand-Side Investment Mechanism.

Q. What were your results?

A. My results are shown below in Tables 5a through 5f, as well as Figures 2a and 2b.

Table 5a. Current bills by month for MPS general use residential customer usage levels analyzed.

	Minimum	Average Minus 50%	Average	Average Plus 100%	Maximum
Jun-14	$10.65	$64.45	$119.70	$236.29	$230.37
Jul-14	$10.54	$78.46	$149.72	$296.68	$808.41
Aug-14	$10.54	$80.73	$154.48	$306.21	$877.94
Sep-14	$10.54	$80.62	$154.26	$305.77	$1,006.27
Oct-14	$10.54	$51.38	$87.60	$143.71	$503.26
Nov-14	$10.54	$47.40	$82.15	$132.82	$924.99
Dec-14	$10.54	$58.28	$97.06	$162.63	$503.26
Jan-15	$10.54	$64.47	$105.55	$179.61	$670.88
Feb-15	$10.54	$57.83	$96.45	$161.42	$592.34
Mar-15	$10.54	$57.39	$95.85	$160.21	$576.15
Apr-15	$10.54	$46.29	$80.64	$129.79	$343.05
May-15	$10.54	$44.89	$78.72	$125.95	$423.65
Jun-15	$10.54	$58.34	$107.11	$209.86	$758.65

Table 5b. Bills by month under Company's proposed rates for MPS general use residential customer usage levels analyzed.

	Minimum	Average Minus 50%	Average	Average Plus 100%	Maximum
Jun-14	$14.76	$77.84	$141.17	$267.85	$261.43
Jul-14	$14.63	$94.22	$173.93	$333.36	$888.49
Aug-14	$14.63	$96.80	$179.10	$343.70	$963.92
Sep-14	$14.63	$96.68	$178.86	$343.22	$1,103.14
Oct-14	$14.60	$51.78	$88.66	$149.94	$502.43
Nov-14	$14.60	$48.16	$81.63	$139.26	$915.88
Dec-14	$14.60	$58.06	$100.86	$168.49	$502.43
Jan-15	$14.60	$63.71	$111.81	$185.14	$666.76
Feb-15	$14.60	$57.66	$100.07	$167.30	$589.76
Mar-15	$14.60	$57.26	$99.29	$166.11	$573.89
Apr-15	$14.60	$47.15	$79.68	$136.29	$345.37
May-15	$14.60	$45.88	$77.20	$132.53	$424.39
Jun-15	$14.63	$70.67	$126.84	$239.17	$834.51

Table 5c. Bill impacts by month for MPS general use residential customer usage levels analyzed.

	Minimum	Average Minus 50%	Average	Average Plus 100%	Maximum
Jun-14	38.6%	20.8%	17.9%	13.4%	13.5%
Jul-14	38.8%	20.1%	16.2%	12.4%	9.9%
Aug-14	38.8%	19.9%	15.9%	12.2%	9.8%
Sep-14	38.8%	19.9%	15.9%	12.2%	9.6%
Oct-14	38.5%	0.8%	1.2%	4.3%	-0.2%
Nov-14	38.5%	1.6%	-0.6%	4.9%	-1.0%
Dec-14	38.5%	-0.4%	3.9%	3.6%	-0.2%
Jan-15	38.5%	-1.2%	5.9%	3.1%	-0.6%
Feb-15	38.5%	-0.3%	3.8%	3.6%	-0.4%
Mar-15	38.5%	-0.2%	3.6%	3.7%	-0.4%
Apr-15	38.5%	1.9%	-1.2%	5.0%	0.7%
May-15	38.5%	2.2%	-1.9%	5.2%	0.2%
Jun-15	38.8%	21.1%	18.4%	14.0%	10.0%

Figure 2a. Bill impacts by month for MPS general use residential customer usage levels analyzed.

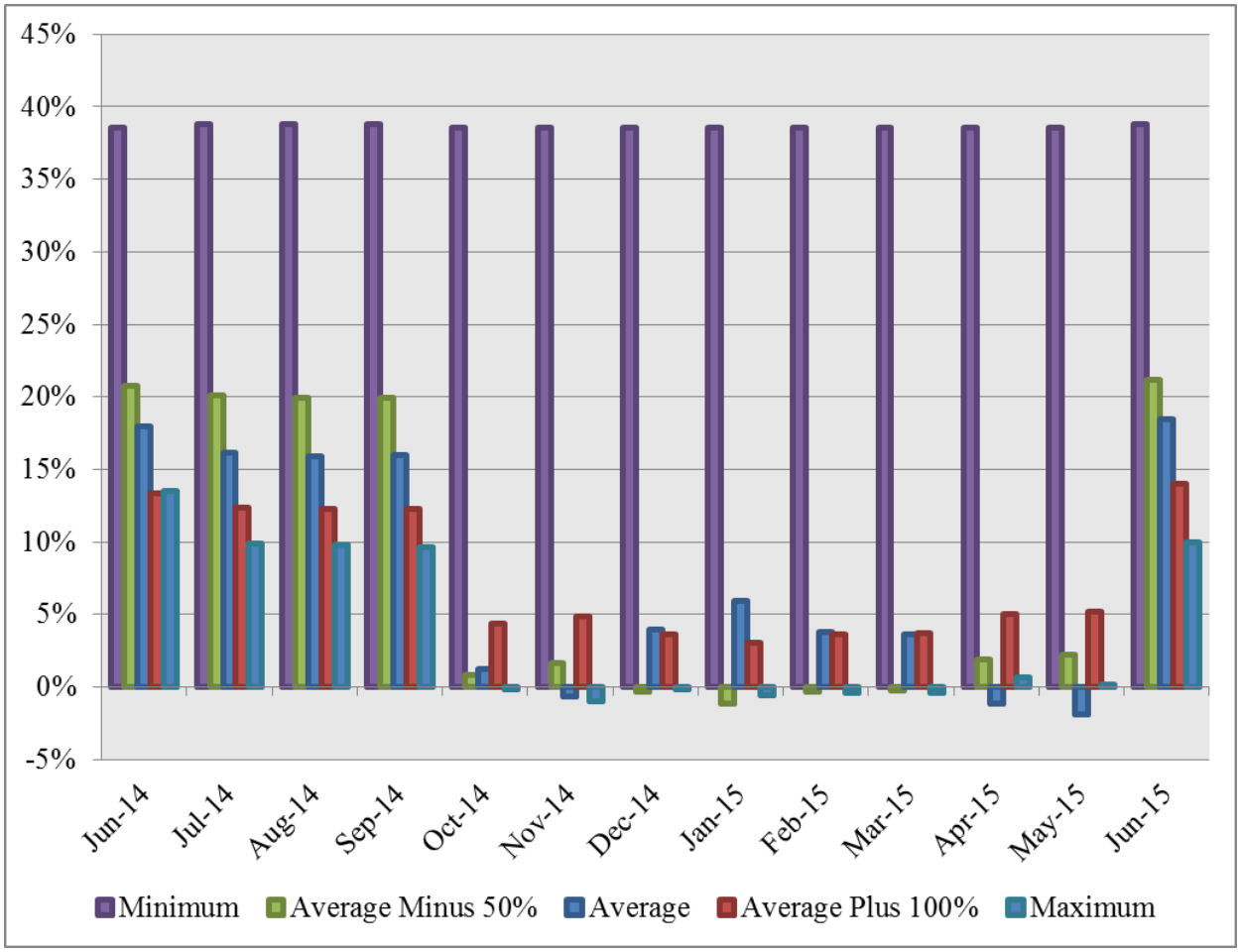


Table 5d. Current bills by month for L&P general use residential customer usage levels analyzed.

	Minimum	Average Minus 50%	Average	Average Plus 100%	Maximum
Jun-14	$9.54	$49.84	$90.15	$170.76	$328.61
Jul-14	$9.54	$74.38	$139.23	$268.92	$768.56
Aug-14	$9.54	$74.88	$140.21	$270.89	$917.32
Sep-14	$9.54	$74.61	$139.68	$269.81	$1,229.72
Oct-14	$9.54	$43.66	$77.79	$128.24	$982.41
Nov-14	$9.54	$44.45	$79.09	$130.57	$767.13
Dec-14	$9.54	$56.18	$96.38	$165.15	$802.62
Jan-15	$9.54	$62.45	$105.62	$183.64	$815.49
Feb-15	$9.54	$55.78	$95.79	$163.98	$912.52
Mar-15	$9.54	$55.68	$95.64	$163.67	$847.62
Apr-15	$9.54	$42.52	$75.50	$124.87	$568.77
May-15	$9.54	$39.80	$70.07	$116.86	$518.39
Jun-15	$9.54	$54.91	$100.27	$191.00	$800.13

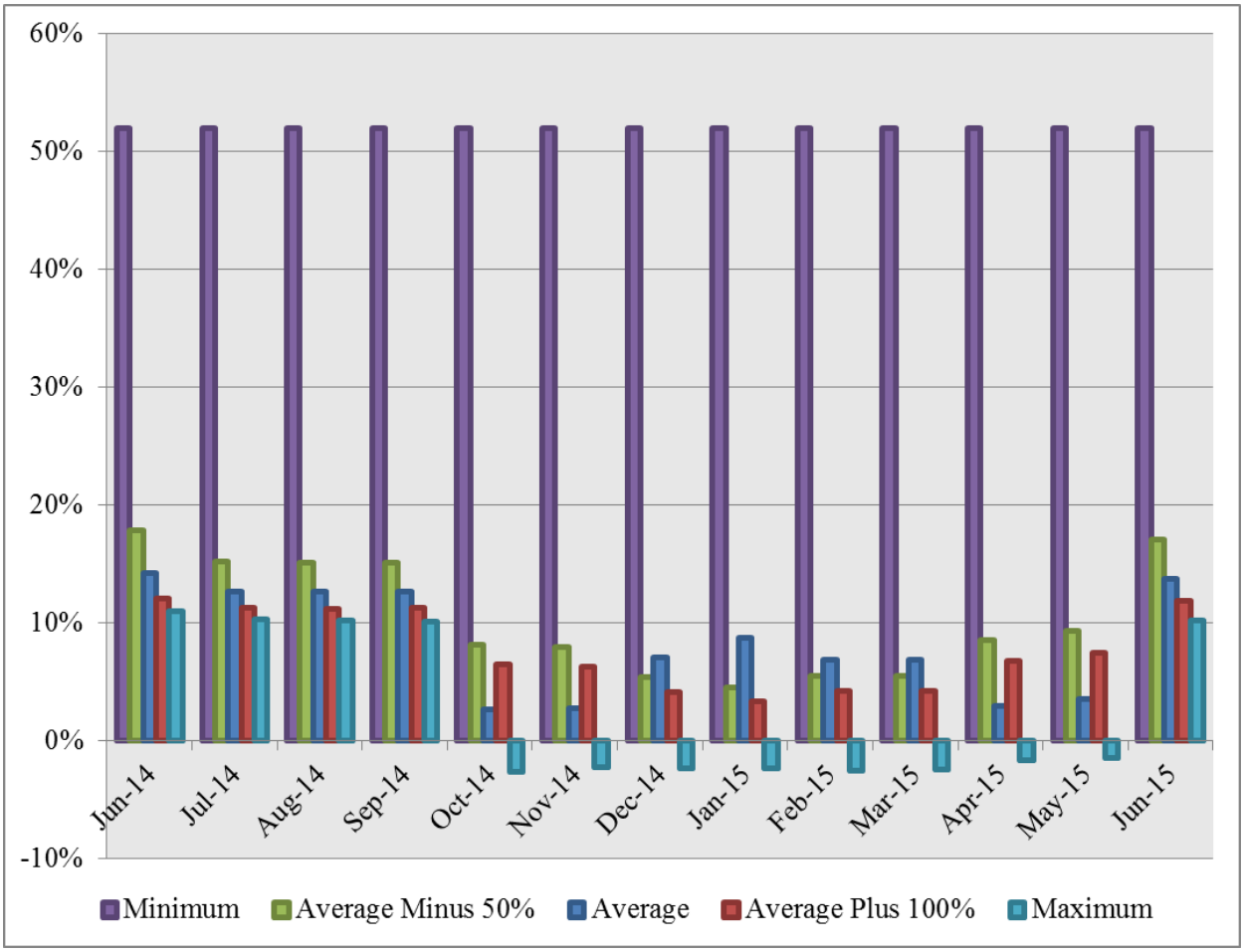
Table 5e. Bills by month under Company's proposed rates for L&P general use residential customer usage levels analyzed.

	Minimum	Average Minus 50%	Average	Average Plus 100%	Maximum
Jun-14	$14.50	$58.74	$102.97	$191.45	$364.70
Jul-14	$14.50	$85.67	$156.84	$299.19	$847.58
Aug-14	$14.50	$86.21	$157.92	$301.35	$1,010.85
Sep-14	$14.50	$85.92	$157.33	$300.16	$1,353.73
Oct-14	$14.50	$47.24	$79.85	$136.55	$956.77
Nov-14	$14.50	$48.00	$81.32	$138.79	$750.05
Dec-14	$14.50	$59.25	$103.17	$172.00	$784.13
Jan-15	$14.50	$65.27	$114.84	$189.75	$796.49
Feb-15	$14.50	$58.87	$102.42	$170.87	$889.66
Mar-15	$14.50	$58.77	$102.23	$170.57	$827.35
Apr-15	$14.50	$46.15	$77.72	$133.32	$559.58
May-15	$14.50	$43.54	$72.58	$125.63	$511.19
Jun-15	$14.50	$64.29	$114.08	$213.66	$882.22

Table 5f. Bill impacts by month for L&P general use residential customer usage levels analyzed.

	Minimum	Average Minus 50%	Average	Average Plus 100%	Maximum
Jun-14	52.0%	17.8%	14.2%	12.1%	11.0%
Jul-14	52.0%	15.2%	12.7%	11.3%	10.3%
Aug-14	52.0%	15.1%	12.6%	11.2%	10.2%
Sep-14	52.0%	15.2%	12.6%	11.2%	10.1%
Oct-14	52.0%	8.2%	2.7%	6.5%	-2.6%
Nov-14	52.0%	8.0%	2.8%	6.3%	-2.2%
Dec-14	52.0%	5.5%	7.0%	4.1%	-2.3%
Jan-15	52.0%	4.5%	8.7%	3.3%	-2.3%
Feb-15	52.0%	5.5%	6.9%	4.2%	-2.5%
Mar-15	52.0%	5.6%	6.9%	4.2%	-2.4%
Apr-15	52.0%	8.5%	2.9%	6.8%	-1.6%
May-15	52.0%	9.4%	3.6%	7.5%	-1.4%
Jun-15	52.0%	17.1%	13.8%	11.9%	10.3%

Figure 2b. Bill impacts by month for L&P general use residential customer usage levels analyzed.



D. REDUCED WINTER BLOCK RATE DIFFERENTIALS

Q. Have you evaluated the impact of transitioning general service winter rates for the residential class towards a flat winter rate structure?

A. Yes. Based on the Company's proposed rate design, I calculated what a flat winter rate design would look like (on a revenue-neutral basis) for residential general use customers. As shown below in Table 6 under the "Flat" column, winter rates would be $0.09598 per kWh. The "10% Flatter" column shows what rates would look like under DE's proposal

to move the second and third blocks 10 percent of the way towards flat rates, with the first block adjusted downwards to maintain revenue neutrality. As discussed above, subsequent rate cases could involve different movements towards a new rate structure based on additional analyses.

Table 6. General use residential rates for GMO customers under flatter winter rate designs (based on Company proposal).

	Proposed	Flat	10% Flatter
Customer Charge	$14.50	$14.50	$14.50
Summer Energy Charge	$0.13072	$0.13072	$0.13072
Winter Energy Charge Block 1 (first 600 kWh)	$0.10152	$0.09598	$0.10097
Winter Energy Charge Block 2 (next 400 kWh)	$0.09853	$0.09598	$0.09828
Winter Energy Charge Block 3 (all other kWh)	$0.07490	$0.09598	$0.07701

Q. What would be the impacts of such rate design modifications on customers with varying levels of use?

A. Compared to the Company's proposed rates, customers using the least amount of electricity or with below average or average use would see bill reductions in both the MPS and L&P jurisdictions under the flat and 10 percent flatter winter rates (Tables 7a-7b, 8a-8b, and 9a-9b). Customers with above average use or who use the most electricity would see comparative bill increases (Tables 10a-10b and 11a-11b); however, under absolutely flat winter rates, these increases would be far higher than with 10 percent flatter winter rates. Relative to the Company's proposal, customers with 100 percent greater than average use would see up to 8.82 percent higher bills under flat winter rates, but a less than one percent increase at most under 10 percent flatter winter rates. These findings support the idea that, in order to reduce rate shock and maintain gradualism, there should be a transition to flat or inclining block rates rather than an immediate shift.

Table 7a. Bill impacts under flatter winter rate designs by month for MPS general use residential customers at the minimum monthly electricity use.

	Flat	10% Flatter
Jun-14	0.00%	0.00%
Jul-14	0.00%	0.00%
Aug-14	0.00%	0.00%
Sep-14	0.00%	0.00%
Oct-14	-0.04%	0.00%
Nov-14	-0.04%	0.00%
Dec-14	-0.04%	0.00%
Jan-15	-0.04%	0.00%
Feb-15	-0.04%	0.00%
Mar-15	-0.04%	0.00%
Apr-15	-0.04%	0.00%
May-15	-0.04%	0.00%
Jun-15	0.00%	0.00%

Table 7b. Bill impacts under flatter winter rate designs by month for L&P general use residential customers at the minimum monthly electricity use.

	Flat	10% Flatter
Jun-14	0.00%	0.00%
Jul-14	0.00%	0.00%
Aug-14	0.00%	0.00%
Sep-14	0.00%	0.00%
Oct-14	0.00%	0.00%
Nov-14	0.00%	0.00%
Dec-14	0.00%	0.00%
Jan-15	0.00%	0.00%
Feb-15	0.00%	0.00%
Mar-15	0.00%	0.00%
Apr-15	0.00%	0.00%
May-15	0.00%	0.00%
Jun-15	0.00%	0.00%

Table 8a. Bill impacts under flatter winter rate designs by month for MPS general use residential customers at 50 percent below average use.

	Flat	10% Flatter
Jun-14	0.00%	0.00%
Jul-14	0.00%	0.00%
Aug-14	0.00%	0.00%
Sep-14	0.00%	0.00%
Oct-14	-3.93%	-0.39%
Nov-14	-3.82%	-0.38%
Dec-14	-4.10%	-0.41%
Jan-15	-4.22%	-0.42%
Feb-15	-4.09%	-0.41%
Mar-15	-4.08%	-0.41%
Apr-15	-3.78%	-0.38%
May-15	-3.73%	-0.37%
Jun-15	0.00%	0.00%

Table 8b. Bill impacts under flatter winter rate designs by month for L&P general use residential customers at 50 percent below average use.

	Flat	10% Flatter
Jun-14	0.00%	0.00%
Jul-14	0.00%	0.00%
Aug-14	0.00%	0.00%
Sep-14	0.00%	0.00%
Oct-14	-3.78%	-0.38%
Nov-14	-3.81%	-0.38%
Dec-14	-4.12%	-0.41%
Jan-15	-4.25%	-0.42%
Feb-15	-4.12%	-0.41%
Mar-15	-4.11%	-0.41%
Apr-15	-3.74%	-0.37%
May-15	-3.64%	-0.36%
Jun-15	0.00%	0.00%

Table 9a. Bill impacts under flatter winter rate designs by month for MPS general use residential customers at average use.

	Flat	10% Flatter
Jun-14	0.00%	0.00%
Jul-14	0.00%	0.00%
Aug-14	0.00%	0.00%
Sep-14	0.00%	0.00%
Oct-14	-4.14%	-0.41%
Nov-14	-4.27%	-0.43%
Dec-14	-3.95%	-0.40%
Jan-15	-3.82%	-0.38%
Feb-15	-3.96%	-0.40%
Mar-15	-3.97%	-0.40%
Apr-15	-4.31%	-0.43%
May-15	-4.37%	-0.44%
Jun-15	0.00%	0.00%

Table 9b. Bill impacts under flatter winter rate designs by month for L&P general use residential customers at average use.

	Flat	10% Flatter
Jun-14	0.00%	0.00%
Jul-14	0.00%	0.00%
Aug-14	0.00%	0.00%
Sep-14	0.00%	0.00%
Oct-14	-4.31%	-0.43%
Nov-14	-4.28%	-0.43%
Dec-14	-3.92%	-0.39%
Jan-15	-3.78%	-0.38%
Feb-15	-3.93%	-0.39%
Mar-15	-3.93%	-0.39%
Apr-15	-4.36%	-0.44%
May-15	-4.37%	-0.44%
Jun-15	0.00%	0.00%

Table 10a. Bill impacts under flatter winter rate designs by month for MPS general use residential customers at 100 percent above average use.

	Flat	10% Flatter
Jun-14	0.00%	0.00%
Jul-14	0.00%	0.00%
Aug-14	0.00%	0.00%
Sep-14	0.00%	0.00%
Oct-14	3.69%	0.37%
Nov-14	1.82%	0.18%
Dec-14	6.38%	0.64%
Jan-15	8.34%	0.83%
Feb-15	6.23%	0.62%
Mar-15	6.07%	0.61%
Apr-15	1.24%	0.12%
May-15	0.48%	0.05%
Jun-15	0.00%	0.00%

Table 10b. Bill impacts under flatter winter rate designs by month for L&P general use residential customers at 100 percent above average use.

	Flat	10% Flatter
Jun-14	0.00%	0.00%
Jul-14	0.00%	0.00%
Aug-14	0.00%	0.00%
Sep-14	0.00%	0.00%
Oct-14	1.29%	0.13%
Nov-14	1.73%	0.17%
Dec-14	6.83%	0.68%
Jan-15	8.82%	0.88%
Feb-15	6.69%	0.67%
Mar-15	6.65%	0.66%
Apr-15	0.64%	0.06%
May-15	-1.04%	-0.10%
Jun-15	0.00%	0.00%

Table 11a. Bill impacts under flatter winter rate designs by month for MPS general use residential customers at the maximum monthly electricity use.

	Flat	10% Flatter
Jun-14	0.00%	0.00%
Jul-14	0.00%	0.00%
Aug-14	0.00%	0.00%
Sep-14	0.00%	0.00%
Oct-14	20.84%	2.08%
Nov-14	24.14%	2.41%
Dec-14	20.84%	2.08%
Jan-15	22.64%	2.26%
Feb-15	21.92%	2.19%
Mar-15	21.75%	2.18%
Apr-15	17.52%	1.75%
May-15	19.50%	1.95%
Jun-15	0.00%	0.00%

Table 11b. Bill impacts under flatter winter rate designs by month for L&P general use residential customers at the maximum monthly electricity use.

	Flat	10% Flatter
Jun-14	0.00%	0.00%
Jul-14	0.00%	0.00%
Aug-14	0.00%	0.00%
Sep-14	0.00%	0.00%
Oct-14	24.31%	2.43%
Nov-14	23.25%	2.33%
Dec-14	23.46%	2.35%
Jan-15	23.54%	2.35%
Feb-15	24.02%	2.40%
Mar-15	23.71%	2.37%
Apr-15	21.59%	2.16%
May-15	20.97%	2.10%
Jun-15	0.00%	0.00%

Q. What is DE's recommendation with respect to modifying the Company's proposed general use residential declining winter block rates?

A. DE would recommend moving the second and third blocks of the proposed general use residential winter rates 10 percent towards a flat rate structure, with a revenue-neutral decrease to the first winter block rate. As shown above, this would limit the bill impacts of the shift on customers. As an element of any general use residential rate design approved by the Commission in this case, DE supports some movement towards flat or inclining block rates.

V. CONCLUSIONS

Q. Please summarize DE's recommendation.

A. DE recommends that the second and third blocks of the winter general service rate for the residential class be moved 10 percent towards flat rates. DE also recommends that a working group be established to address additional movement towards flat and/or inclining block rates for GMO's residential customers, with the goal of proposing such transitions in subsequent rate cases.

Q. Does this conclude your Direct Testimony in this case?

A. Yes.