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September 1, 2016

The Honorable Jeanne M. Cochran
Administrative Law Judge
Office of Administrative Hearings
600 North Robert Street
P.O. Box 64620
St. Paul, MN 55164-0620

Re: *In the Matter of the Petition of Minnesota Energy Resources Corporation for Evaluation and Approval of Rider Recovery for its Rochester Natural Gas Extension Project.*
MPUC Docket No. G-011/GP-15-895
OAH Docket No.68-2500-33191

Dear Judge Cochran:

After reviewing Mr. Clabots' Surrebuttal testimony, the OAG has determined that as a result of miscommunication Dr. Urban inadvertently used non-weather normalized data for some of the analysis in her Direct and Rebuttal Testimonies. Now that Mr. Clabots has identified the error, the OAG has determined that the most efficient way to correct the error is to file erratas to Dr. Urban's Direct and Rebuttal. The changes that result from this correction are in Table 2 on Pages 27 and 28 of the Direct Testimony, and Table 1 on Pages 3 and 4 of the Rebuttal Testimony. The impact of the correction changes the average annual percentage change in sales during the period of 2007 to 2015 from -0.00204% to 0.46%.

The OAG has also taken the opportunity to make non-substantive corrections to the numbering of tables throughout Dr. Urban's Direct Testimony.

I have attached errata pages for both Dr. Urban's Direct and Rebuttal Testimonies to this letter, along with a bullet point list of the changes that have been made. The errata pages have been marked with red-lines to identify changes, and can be exchanged with pages in the existing Direct and Rebuttal Testimonies. Because no trade secret or highly sensitive trade secret information is contained in the errata pages, only one universal version is included here; they can be interchanged with the corresponding pages in any version of Dr. Urban's Direct or Rebuttal Testimonies.

The Honorable Jeanne M. Cochran

September 1, 2016

Page 2

Clean copies of Dr. Urban's Errata Direct Testimony and Errata Rebuttal Testimony will be e-filed separately. These documents are complete versions of testimony including the red-lined errata pages. Because of the extensive nature of the exhibits filed with Dr. Urban's testimony, the OAG does not intend to re-file all of Dr. Urban's schedules. The only schedule that has been modified is JAU-10, attached to Dr. Urban's direct testimony, which has been corrected so that it refers to weather normalized data provided by the Company.

I have informed MERC of these errata, and it is my understanding that the Company does not object to proceeding in this matter. I am happy to discuss this matter further at the status conference on Thursday, September 1.

By copy of this letter all parties have been served. An Affidavit of Service is also enclosed.

Sincerely,

s/ Ryan P. Barlow

RYAN P. BARLOW
Assistant Attorney General

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Enclosures

Errata to Direct Testimony of Office of Attorney General Witness Dr. Urban:

- Pages i and ii the Table of Contents references are updated
- On Page 27, Line 11, “Table 3 presents historical usage by retail customer class” is replaced with “Table 2 presents weather normalized calendar sales by retail customer class.”
- On Page 28, Table 2 is replaced.
- On Page 28, footnote 41 is replaced with “MERC’s response to OAG IR 155.5 (OAG-155-5 Rochester WN Calendar Data-2.xlsx), attached as Schedule JAU-10.”
- On Page 29, Line 1, “Table 3” is replaced with “Table 2.”
- On Page 30, Line 15, “Table 4” is replaced with “Table 3.”
- On Page 30, Line 17, “Table 5” is replaced with “Table 4.”
- On Page 37, Line 16, “Table 7” is replaced with “Table6.”
- Page 37, footnote 63, Cusomters has been corrected to read Customers
- On the List of Schedules, Number 10, 155.6 is replaced with 155.5
- Schedule 10 has been replaced with Schedule 155.5

Errata to Rebuttal Testimony of Office of Attorney General Witness Dr. Urban:

- On Page i, the Table of Contents page references are updated.
- On Page 3, Line 6–7, the sentence is modified to read “As pointed out in my Direct Testimony, the historical average annual growth rate in sales for firm customers from 2007 to 2015 has been 0.46 percent.”
- On Page 3, Footnote 6 is replaced with “MERC’s response to OAG IR 155.5 (OAG-155-5 Rochester WN Calendar Data-2.xlsx), Schedule JAU-10.”
- On Page 3 and 4, Table 1 is replaced.
- On Page 5, Line 5, “2.6 percent” is replaced with “2.26 percent.”
- On Page 5, Line 6, “20120” is replaced with “2020.”

AFFIDAVIT OF SERVICE

Re: *In the Matter of the Petition of Minnesota Energy Resources Corporation for Evaluation and Approval of Rider Recovery for its Rochester Natural Gas Extension Project.*

MPUC Docket No. G-011/GP-15-895

OAH Docket No.68-2500-33191

[illegible]

I hereby state that on August 31, 2016, I filed with eDockets *Errata Pages to the Testimony of the Office of the Attorney General – Residential Utilities and Antitrust Division’s witness Julie Urban* and served the same upon all parties listed on the attached service list by email, and/or United States Mail with postage prepaid, and deposited the same in a U.S. Post Office mail receptacle in the City of St. Paul, Minnesota.

s/ Judy Sigal

Judy Sigal

Subscribed and sworn to before me
this 1st day of September, 2016.

s/ Patricia Jotblad

Notary Public

My Commission expires: January 31, 2020.

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BEFORE THE MINNESOTA OFFICE OF THE ADMINISTRATIVE HEARINGS
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FOR THE MINNESOTA PUBLIC UTILITIES COMMISSION
121 7th Place East
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St. Paul, Minnesota 55101-2147

MPUC Docket No. G-011/GP-15-895
OAH Docket No.68-2500-33191

In the Matter of the Petition of Minnesota Energy Resources Corporation
for Evaluation and Approval of Rider Recovery for its
Rochester Natural Gas Extension Project

DIRECT TESTIMONY AND EXHIBITS OF MINNESOTA OFFICE OF THE
ATTORNEY GENERAL – ANTITRUST AND UTILITIES DIVISION

WITNESS:

JULIE URBAN

July 1, 2016

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1 forecasts be revised using weather specific to Rochester.³⁸ This adjustment resulted in an
2 overall decline in projected average annual growth in retail sales (excluding interruptible
3 and transport) from 1.6% to 1.5%.³⁹

4 **2. Regressions based on only eight years of data.**

5 **Q. What is your second concern with the sales forecasting?**

6
7 A. I have concerns with a regression analysis based on so few years of historical data. As
8 stated above, the historical data used in MERC's forecasting analysis is limited to eight
9 years. MERC does not have reliable data prior to 2007, when MERC was purchased by
10 Integrys. For a full discussion of the legacy data available to MERC, see MERC's
11 response to OAG IR 155.⁴⁰ Table ~~32~~ presents ~~historical usage~~ weather normalized
12 calendar sales by retail customer class.

³⁸ MERC's Response to DOC IR 15, attachment Rochester Design Peak Day Analysis Revised with Rochester Weather.xlsx, attached as Schedule JAU-3.

³⁹ Clabots Direct, at 7.

⁴⁰ MERC's Response to OAG IR 155 (response to question 3 on page 2), attached as Schedule JAU-9.

1

Table 2⁴¹

Historical Rochester Annual Gas Consumption by Ultimate Consumers						
Calendar Sales: Units MCF				Revised with Rochester weather		
			Small	Large		Percentage
Year	Residential	Commercial	Commercial	Total		Change
2007	3,365,431	83,859	1,469,313	4,918,603		
2008	3,705,225	95,485	1,613,473	5,414,183		10.1%
2009	3,526,467	101,010	1,499,955	5,127,432		-5.3%
2010	3,374,777	99,720	1,426,417	4,900,914		-4.4%
2011	3,464,782	122,001	1,548,654	5,135,437		4.8%
2012	2,861,123	84,553	1,346,091	4,291,767		-16.4%
2013	3,824,179	147,097	1,760,247	5,731,523		33.5%
2014	4,238,355	190,538	1,971,412	6,400,305		11.7%
2015	3,191,334	117,200	1,529,603	4,838,137		-24.4%
Average Annual Percentage Change from 2007 and 2015						(0.00204)

2

MERC Rochester Pipeline Expansion Project					
OAG-155 Question 2					
Rochester Weather Normalized Calendar Sales Data					
Units: Therms					
Weather Normalized Calendar Sales Data					
	Residential	SC&I	LC&I	Total	% Chg
2007	33,617,022	839,311	14,799,596	49,255,929	
2008	34,431,489	880,932	15,106,799	50,419,220	2.36%
2009	35,410,050	1,016,451	15,112,268	51,538,769	2.22%
2010	33,655,403	1,060,105	14,473,411	49,188,919	-4.56%
2011	35,161,983	1,220,915	15,686,775	52,069,673	5.86%
2012	35,287,597	1,058,178	16,434,231	52,780,006	1.36%
2013	35,619,126	1,367,791	16,601,029	53,587,946	1.53%
2014	38,121,516	1,691,545	17,872,702	57,685,764	7.65%
2015	33,297,050	1,182,199	15,838,890	50,318,139	-12.77%
Average Annual Percentage Change					
					0.46%

3

⁴¹ MERC's response to OAG IR 155.6-5 (~~Rochester Revised with Rochester Weather and historical data 2.xlsx, Tab Subp.3A Annual Gas Consumption~~ OAG-155-5 Rochester WN Calendar Data-2.xlsx), attached as Schedule JAU-10.

1 One can see by looking at the historical data in Table 32, that even when using
2 weather normalized data, there are substantial swings in total sales from year to year with
3 no discernable trend. The year 2014 was extremely cold which is why there is a
4 substantial increase in sales between 2013 and 2014 and a steep decline from 2014 to
5 2015, despite the data being weather normalized. There could be a problem with the
6 weather normalization methodology.⁴² Using July and August to calculate Base Load
7 Sales may not be appropriate for a pipeline since there could be transport customers that
8 have high demand during these months to meet air conditioning needs. In response to
9 DOC IR 13, MERC reports that it has transport customers that are weather sensitive.⁴³
10 For example, MERC provides transport service to two natural gas generating units for
11 Rochester Public Utility and to the Franklin Heating Station.⁴⁴ Nonetheless, there is no
12 historical basis for the forecast of 1.5 percent average annual growth.

13 **3. Estimation of Residential Average Use**

14 **Q. What is your third concern with the sales forecasting?**

15 A. Another concern is the model used to estimate Residential Average Use. Unlike the
16 small commercial and industrial average use model, the residential average use model
17 does not include a time trend variable. This may be a problem in that one might expect
18 that the average residential average use would also be trending downward over time just
19 as it is in small commercial and industrial use. Including a time trend variable in the
20 regression analysis will allow us to discern whether this is the case and if the impact of
21 the downward trend is significant. Through an information request, I asked that a time

⁴² Direct Testimony of Mr. Harry W. John, *In the Matter of Minnesota Energy Resources Corporation for Authority to Increase Rates for Natural Gas Service in Minnesota*, Docket No. G011/GR-15-736, at 20 (Sept. 30, 2015).

⁴³ MERC's Response to DOC IR 13, attached as Schedule JAU-11.

⁴⁴ MERC's Responses to OAG IR 107 and 123, attached as Schedules JAU-12 and JAU-13.

1 trend variable be included in the equation estimating residential use per customer. The
2 results indicate that the time trend variable is negative and highly significant with a p-
3 value of 0.00 percent.⁴⁵ Including a time trend variable in the model estimating
4 residential use per customer results in a 1.34 percent increase in sales versus the 2.00
5 percent increase filed in the Petition based on the original estimation procedure.⁴⁶

6 **4. Use of “Prior Information”**

7 **Q. What is your fourth concern with the sales forecasting?**

8
9 A. Another major concern is that MERC “chose models that were on the robust side of valid
10 statistical models to incorporate the growth of the expected impact from the Mayo Clinic
11 expansion” for the Rochester Residential and SC&I forecast models.⁴⁷ The Rochester
12 Residential and Small C&I customer count models are based on “Prior Information.”
13 This means that the models are based not only on recent historical growth but on the
14 expectations of future growth based on information from MERC’s Gas Planning
15 Committee as well as other MERC staff.⁴⁸ As one can see in Table 43, the forecasted
16 average annual growth rate in sales of 2.15 percent for the residential class is well over
17 twice the historical average annual growth rate of 0.81 percent. Looking at Table 54, the
18 big percentage growth rates observed in 2010, 2012 and 2013 were the result of
19 customers moving from the LC&I customer class to the SC&I customer class.⁴⁹ So it is

⁴⁵ MERC’s Response to OAG IR 155.7-2, attached as Schedule JAU-14. The p-value is widely used in statistical hypothesis testing or to measure the statistical significance of the explanatory variable. The lower the p-value the less likely that residential average use has not been trending downward.

⁴⁶ MERC’s Response to OAG IR 155.7, Attachment OAG-155-7 Residential UPC Supplemental Response.xlsx, attached as Schedule JAU-15.

⁴⁷ MERC’s Response to OAG IR 155 (question 7), attached as Schedule JAU-9.

⁴⁸ Petition, at 77.

⁴⁹ MERC’s Responses to DOC IRs 6–8, attached as Schedule JAU-16.

1 reserve margin up to five percent is considered to be reasonable.⁶³ In contrast, MERC is
2 requesting reserve margins of up to ten times this “reasonable” level. And the reserve
3 margin will be triple the “reasonable” level even 25 years from now.

4 MERC’s proposal seeks to put current ratepayers on the hook for infrastructure
5 upgrades and gas supply that will not be useful for decades, if they are ever necessary.⁶⁴

6 While I do not dispute that natural gas pipelines are “lumpy,” as MERC describes, there
7 is a difference between “lumpy” infrastructure investments and overbuilding the system.
8 This proposal goes beyond “lumpiness” and results in overbuilding.

9 **Q. Does MERC’s ability to use firm capacity at other delivery points change the**
10 **conclusion of the analysis?**

11 A. No. The Precedent Agreement between MERC and NNG allows MERC to utilize up to
12 20 percent of the total Rochester firm capacity at other delivery points on MERC’s
13 system. Although this provision enhances flexibility for MERC, this additional capacity
14 will increase the reserve margin for the rest of MERC’s NNG-PGA excluding Rochester,
15 and it is unlikely that such an increase in capacity for the entire NNG-PGA is necessary.
16 Table 7-6 presents this reserve margin over time for MERC’s total NNG-PGA. After
17 Phase II of the expansion is completed, the reserve margin remains at 24 percent to the
18 year 2040. The NNG design day provided by MERC remains constant over time.⁶⁵

⁶³ Department of Commerce Comments, *A Request by Minnesota Energy Resources Corporation for Approval of a Change in Demand Entitlements for its ~~Cusomters~~ Customers Served off of the Northern Natural Gas Company System Effective in the Purchased Gas Adjustment on November 1, 2015*, Docket No. G-011/M-15-723, at 6 (Oct. 15, 2015).

⁶⁴ This problem could be exacerbated even further because MERC’s proposal accelerates payments for the infrastructure by using a rider which is proposed to end in 2025, as well as an RFP that concentrates all of the NNG infrastructure costs into the first 25 years of a project with 50 years of useful life. MERC’s response to OAG IR 140, attached as Schedule JAU-21. In addition to requiring current ratepayers to pay for infrastructure before it is useful, this approach can create some intergenerational problems.

⁶⁵ MERC’s response to OAG IR 162, attached as Schedule JAU-22.

List of Schedules

#	Description
1	<i>Curriculum Vitae</i> of Dr. Julie Urban
2	MERC's Response to OAG IR 134
3	MERC's IR Response to DOC IR 15 (with attachment)
4	MERC's Request for Proposal
5	Responses to MERC's RFP (Highly Sensitive Trade Secret, available only in 16-315)
6	Summary of RFP Responses (Highly Sensitive Trade Secret, available only in 16-315)
7	Precedent Agreement between MERC and NNG (Trade Secret)
8	MERC's Response to DOC IR 25
9	MERC's Response to OAG IR 155
10	MERC's Response to OAG IR 155.6-5
11	MERC's Response to DOC IR 13
12	MERC's Response to OAG IR 107 (Trade Secret data excised)
13	MERC's Response to OAG IR 123
14	MERC's Response to OAG IR 155.7-2
15	MERC's Response to OAG IR 155.7 (Residential UPC Supplemental Response)
16	MERC's Responses to DOC IRs 6-8
17	MERC's Response to OAG IR 125
18	MERC's Response to OAG IR 199 (with attachment)
19	MERC's Response to OAG IR 195
20	MERC's Response to OAG IR 117
21	MERC's Response to OAG IR 140
22	MERC's Response to OAG IR 162 (with attachment)
23	MERC's Response to OAG IR 147
24	MERC's Response to OAG IR 189
25	MERC's Response to OAG IR 176
26	Maryland Public Service Commission's Report on BG&E's Peak-Shaving Facilities
27	MERC's Response to OAG IR 161
28	MERC's Response to OAG IR 148
29	MERC's Response to DOC IR 33
30	MERC's Response to OAG IR 171 (with attachment)
31	MERC's Response to OAG IR 173 (with attachment)
32	MERC's Response to OAG IR 156 (Trade Secret data excised)
33	Correspondence from Rochester Public Utilities
34	MERC's Response to OAG IR 139
35	MERC's Response to OAG IR 126 & 127
36	MERC's Response to OAG IR 170

**State Of Minnesota
Office Of The Attorney General
Utility Information Request**

**OAG No. 155.5
Replaces 155.6**

Requested from: **MPUC Docket No.** G011/GP-15-895

David Kult

*In the Matter of the Petition of Minnesota
Energy Resources Corporation for Evaluation
and Approval of Rider Recovery for its
Rochester Natural Gas Extension Project.*

By: Ryan Barlow
Telephone: (651) 757-1473

Date of Request: May 12, 2016
Due Date: May 24, 2016

For all responses show amounts for Total Company and the Minnesota jurisdictional retail unless indicated otherwise. Total Company is meant to include costs incurred for both regulated and non-regulated operations.

Re: IR 155 Question 2 Attachment Excel File "Rochester WN Calendar Sales Data"

The Company provided sales data based on the Rochester weather station in the above referenced IR response. Provide the following information:

1. Confirm whether the weather normalization was conducted to normalize from year to year or across the months of each year. If the data was normalized across months, provide weather normalized sales data in therms for Residential, SC&I, and LC&I from 2007 to 2015 that is weather normalized from year to year.
2. Provide calendar sales data in therms for interruptible and transport customers from 2007 to 2015.

MERC Response:

1. Each month was weather normalized using a mathematical use per degree day approach. Per MERC's May 18th phone call with the OAG please see Excel file: OAG-155-5 Annual Base Load for WN Calculations.xlsx.
2. Please see Excel file: OAG-155-5 Rochester WN Calendar Data-2.xlsx.

Response by David Clabots
Title Senior Projects Specialist
Department Finance
Telephone 920-433-1355

MERC Rochester Pipeline Expansion Project

OAG-155.5 Question 2

Rochester Weather Normalized Calendar Sales Data

Units: Therms

Weather Normalized Calendar Sales Data					
	Residential	SC&I	LC&I	Interruptible	Transport
2007	33,617,022	839,311	14,799,596	3,441,644	38,523,794
2008	34,431,489	880,932	15,106,799	3,483,920	34,597,018
2009	35,410,050	1,016,451	15,112,268	3,395,593	39,553,706
2010	33,655,403	1,060,105	14,473,411	2,923,720	39,746,885
2011	35,161,983	1,220,915	15,686,775	2,827,514	38,590,434
2012	35,287,597	1,058,178	16,434,231	1,900,678	42,095,612
2013	35,619,126	1,367,791	16,601,029	2,685,061	38,172,017
2014	38,121,516	1,691,545	17,872,702	1,835,438	43,832,113
2015	33,297,050	1,182,199	15,838,890	1,654,265	44,094,815

* Interruptible and Transport are not weather normalized.

**BEFORE THE MINNESOTA OFFICE OF THE ADMINISTRATIVE HEARINGS
600 North Robert Street
St. Paul, Minnesota 55101**

**FOR THE MINNESOTA PUBLIC UTILITIES COMMISSION
121 7th Place East
Suite 350
St. Paul, Minnesota 55101-2147**

**MPUC Docket No. G-011/GP-15-895
OAH Docket No. 68-2500-33191**

**In the Matter of the Petition of Minnesota Energy Resources Corporation
for Evaluation and Approval of Rider Recovery for its
Rochester Natural Gas Extension Project**

**REBUTTAL TESTIMONY AND EXHIBITS OF MINNESOTA OFFICE OF THE
ATTORNEY GENERAL – ANTITRUST AND UTILITIES DIVISION**

WITNESS:

JULIE A. URBAN

July 28, 2016

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expansion.”⁴ So, in conclusion, even if the sales forecast itself was not adjusted to reflect *a priori* information, that information was used as a benchmark for reasonableness. I do not think that this is an appropriate benchmark and that the sales forecast of 1.5 percent average annual growth is too high. The expected impact of the Mayo Clinic expansion is speculative and there is no historical basis for the forecast result. As pointed out in my Direct Testimony, the historical average annual growth rate in sales for firm customers from 2007 to 2015 has been ~~zero from 2007 to 2015~~ 50.46 percent.⁵ See Table 1 below.

Table 1⁶

Historical Rochester Annual Gas Consumption by Ultimate Consumers					
Calendar Sales: Units MCF			Revised with Rochester weather		
		Small	Large		Percentage
Year	Residential	Commercial	Commercial	Total	Change
2007	3,365,431	83,859	1,469,313	4,918,603	
2008	3,705,225	95,485	1,613,473	5,414,183	10.1%
2009	3,526,467	101,010	1,499,955	5,127,432	-5.3%
2010	3,374,777	99,720	1,426,417	4,900,914	-4.4%
2011	3,464,782	122,001	1,548,654	5,135,437	4.8%
2012	2,861,123	84,553	1,346,091	4,291,767	-16.4%
2013	3,824,179	147,097	1,760,247	5,731,523	33.5%
2014	4,238,355	190,538	1,971,412	6,400,305	11.7%
2015	3,191,334	117,200	1,529,603	4,838,137	-24.4%
Average Annual Percentage Change from 2007 and 2015					(0.00204)

⁴ MERC’s Response to OAG 155 (question 7), attached to Urban Direct as Schedule JAU-9.

⁵ Urban Direct, at 28.

⁶ MERC’s response to OAG IR 155.6-5 (~~Rochester Revised with Rochester Weather and historical data 2.xlsx, Tab Subp.3A Annual Gas Consumption~~ OAG-155-5 Rochester WN Calendar Data-2.xlsx), Schedule JAU-10.

MERC Rochester Pipeline Expansion Project					
OAG-155 Question 2					
Rochester Weather Normalized Calendar Sales Data					
Units: Therms					
Weather Normalized Calendar Sales Data					
	Residential	SC&I	LC&I	Total	% Chg
2007	33,617,022	839,311	14,799,596	49,255,929	
2008	34,431,489	880,932	15,106,799	50,419,220	2.36%
2009	35,410,050	1,016,451	15,112,268	51,538,769	2.22%
2010	33,655,403	1,060,105	14,473,411	49,188,919	-4.56%
2011	35,161,983	1,220,915	15,686,775	52,069,673	5.86%
2012	35,287,597	1,058,178	16,434,231	52,780,006	1.36%
2013	35,619,126	1,367,791	16,601,029	53,587,946	1.53%
2014	38,121,516	1,691,545	17,872,702	57,685,764	7.65%
2015	33,297,050	1,182,199	15,838,890	50,318,139	-12.77%
Average Annual Percentage Change					
					0.46%

One can see in the table that there is considerable fluctuation in the annual percentage change in firm demand since 2007, even in the weather normalized data. There is no indication of an upward trend in firm demand. In fact, total firm demand in 2015 is lower than it was in 2007.

Q. Do you have any additional comments regarding Mr. Heinen's analysis?

A. Yes. Both Mr. Heinen of the DOC and I have expressed concern over the Company's forecast of sales growth for residential customers. A monthly customer count model and a use-per-customer model was used to derive residential sales.

Q. Summarize Mr. Heinen's critique of the Company's customer count model for residential customers.

A. Utilizing population forecasts from the Rochester-Olmsted Council of Governments ("ROCG"), and historical data from the U.S. Census and Minnesota State Demographic Center in his analysis, Mr. Heinen concludes that MERC's average growth rate is similar

1 to the household growth rate for the Rochester Area during the 1990s but significantly
2 higher than the household growth rate over the past 10 years.⁷ In addition, Mr. Heinen
3 points out that MERC's forecasted annual growth rate for Residential customer count of
4 2.26 percent far exceeds the rate of population growth predicted by the ROCG. The
5 ROCG predicts an annual growth rate of 1.65 percent from 2010 to 2020 and 1.64
6 percent for 2020–2030.⁸ Mr. Heinen proposes his own model to forecast residential
7 customer count.

8 **Q. Explain Mr. Heinen's suggested methodology to forecast residential customer.**

9 A. As Mr. Heinen points out, the Company's model resulted in constant use per customer in
10 the forecasting period. Since use per customer is assumed to remain constant, customer
11 counts are the driver of forecasted sales growth. Mr. Heinen used OLS regression
12 analysis as the basis for forecasting firm customer counts. His model incorporated
13 historical customer counts and a single autoregressive term. Mr. Heinen points out that
14 the trend factor included in the Company's model introduced upward bias in their
15 forecast. His model results in a 0.75 percent annual growth rate in retail customer counts
16 versus the Company's estimate of 1.89 percent.

17 **Q. Do you agree with Mr. Heinen's concerns regarding customer counts?**

18 A. Yes, I do. Mr. Heinen identified a valid concern and his alternate forecast is a reasonable
19 way to address that problem. While I agree with Mr. Heinen's concerns, I want to clarify
20 that I have an additional concern with MERC's residential forecast. While I agree with

⁷ Heinen Direct, at 15-18.

⁸ Clabots Direct, MERC Ex._DWC-2, at 7.