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July 28, 2016

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VIA MAIL AND ELECTRONIC FILING

The Honorable Jeanne M. Cochran
Administrative Law Judge
Office of Administrative Hearings
PO Box 64620
St. Paul, MN 55164-0620

Re: Minnesota Energy Resources Corporation Rebuttal Testimony

In the Matter of a Petition by Minnesota Energy Resources Corporation for Evaluation and Approval of Rider Recovery for Its Rochester Natural Gas Extension Project
MPUC Docket Nos. G011/M-15-895 and G011/M-16-315
OAH Docket No. 68-2500-33191

Dear Judge Cochran:

Enclosed please find the Rebuttal Testimony and Schedules of Amber Lee, David Clabots, Lindsay Lyle, Sarah Mead, and Timothy Sexton filed on behalf of Minnesota Energy Resources Corporation in the above-referenced matter.

The following sets forth the Public and Trade Secret/Highly Sensitive Trade Secret versions by witness:

Witness	Public Volumes	Trade Secret/Highly Sensitive Trade Secret Volumes
Amber S. Lee	1 Public Volume (Testimony and Schedules)	No Trade Secret Volumes
David W. Clabots	1 Public Volume (Testimony)	No Trade Secret Volumes
Sarah R. Mead	2 Public Volumes (Volume 1: Testimony) (Volume 2: Public Schedules, SRM-R1 and SRM-R2 with all highly sensitive trade secret data	1 Highly Sensitive Trade Secret Volume (which includes the Highly Sensitive Trade Secret versions of Schedules SRM-R1 and SRM-R2)

	redacted)	
Lindsay K. Lyle	1 Public Volume (Testimony)	No Trade Secret Volumes
Timothy C. Sexton	2 Public Volumes (Volume 1: Testimony) (Volume 2: Public Schedules, TCS-R1, TCS-R2, and TCS-R3, with all trade secret and highly sensitive trade secret data redacted)	1 Trade Secret Volume (which includes the trade secret version of Attachment 3 to MERC's Supplemental Response to DOC IR No. 37, TCS-R1) 1 Highly Sensitive Trade Secret Volume (which contains the Highly Sensitive Trade Secret Attachments 1 and 2 to TCS-R1 and Highly Sensitive Trade Secret TCS-R3

These documents have been filed via the e-docket system and served as specified by the enclosed service list.

Certain information in this filing contains trade secret data as defined by Minn. Stat. § 13.37(1)(b), as well as highly-sensitive and confidential information that, if disclosed, would create a competitive advantage to parties receiving it. Specifically, the Highly Sensitive Trade Secret Volumes of the Rebuttal Testimonies of Timothy Sexton and Sarah Mead contain Highly Sensitive Trade Secret and Trade Secret Data pursuant to Minnesota Statutes § 13.37, subd. 1(b). The information designated as Highly Sensitive Trade Secret Information includes a comparative analysis of various bids reviewed in MERC's selection of resources. This information includes third-party confidential information. Further, MERC's competitors and suppliers would gain a competitive advantage if this information were publicly available. As a result of public availability, MERC and its customers would suffer in future resource procurements. The Trade Secret Volume of the Rebuttal Testimony of Timothy Sexton contains trade secret data as defined by Minn. Stat. § 13.37(1)(b), including confidential contractor and employee identification detail and rate information, and confidential and proprietary vendor data that is not generally known or readily ascertainable by others who could obtain financial advantage from its use.

Pursuant to the Highly-Sensitive Trade Secret Protective Order issued in this case, the Highly Sensitive Trade Secret Volumes of the Rebuttal Schedules of Timothy Sexton and Sarah Mead are being separately e-filed in Docket No. G-011/M-16-315. Redacted, public volumes are being filed in Docket No. G-011/M-15-895.

Please contact me at mkrikava@briggs.com or (612) 977-8566 if you have any questions regarding this filing.

Very truly yours,

/s/ Michael C. Krikava
Michael C. Krikava

Enclosures
Cc: Service List

In the Matter of a Petition by Minnesota Energy Resources Corporation for Evaluation and Approval of Rider Recovery for Its Rochester Natural Gas Extension Project	MPUC Docket No. G011/M-15-895 OAH Docket No. 68-2500-33191

CERTIFICATE OF SERVICE

I, Kristin M. Stastny, hereby certify that on the 28th of July, 2016, on behalf of Minnesota Energy Resources Corporation (MERC), I electronically filed a true and correct copy of the enclosed Rebuttal Testimony and Schedules of Amber Lee, David Clabots, Lindsay Lyle, Sarah Mead, and Timothy Sexton on www.edockets.state.mn.us. Said documents were also served via U.S. mail and electronic service as designated on the attached service list.

Dated this 28th day of July, 2016.

/s/ Kristin M. Stastny
Kristin M. Stastny

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Before the Office of Administrative Hearings
600 North Robert Street
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For the Minnesota Public Utilities Commission
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In the Matter of a Petition by Minnesota Energy Resources Corporation for Evaluation and Approval of Rider Recovery for Its Rochester Natural Gas Extension Project

MPUC Docket No. G011/M-15-895
OAH Docket No. 68-2500-33191
Exhibit _____

Rebuttal Testimony
Sales Forecast

July 28, 2016

Table of Contents

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is David W. Clabots. My business address is WEC Business Services, Inc. ("WBS"), 700 North Adams Street, P.O. Box 19001, Green Bay, Wisconsin 54307-9001.

Q. ARE YOU THE SAME DAVID CLABOTS WHO PROVIDED DIRECT TESTIMONY IN THIS PROCEEDING?

A. Yes. I provided Direct Testimony supporting Minnesota Energy Resource Corporation's ("MERC") demand forecasts that were used to establish the need for MERC's Rochester Natural Gas Extension Project ("Rochester Project" or "Project").

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. My Rebuttal Testimony responds to the various issues related to MERC's forecast that were raised in the Direct Testimonies of Department of Commerce, Division of Energy Resources ("Department") witness Adam Heinen and Office of Attorney General – Residential Utilities and Antitrust Division ("OAG") witness Dr. Julie Urban. I conclude, generally, that MERC's forecasting assumptions and methodology were reasonable and support implementation of the Project.

I agree with the Department's observation that MERC's forecast conclusions are generally appropriate and, in the event that the Destination Medical Center ("DMC") is implemented as planned, more optimistic growth projections are warranted.

Forecasting by its nature is not a precise science and, rather, represents the modeler's good-faith estimate of the future based on a set of inputs. MERC's forecast is a reasonable estimate of the future based on statistically significant inputs and consideration of relevant factors. The Department's forecast, while more conservative, is also a good-faith estimate of the future. While the more conservative, "status quo" growth projected in the Department's forecast could happen, MERC agrees with the Department that if more robust growth actually occurs, a project sized to lower growth projections would be insufficient. As a result, MERC agrees that it is more prudent to plan for the future based on more optimistic growth scenarios, particularly given a number of variables relevant to Rochester that have the potential to influence the pace of growth, to ensure that MERC has adequate capacity to serve future needs under all reasonable scenarios.

Q. ARE YOU SPONSORING ANY EXHIBITS WITH YOUR REBUTTAL TESTIMONY?

A. No.

II. RESPONSE TO DEPARTMENT WITNESS ADAM HEINEN

Q. WHAT DID THE DEPARTMENT CONCLUDE WITH RESPECT TO MERC'S PROPOSED NEED FOR THE ROCHESTER NATURAL GAS EXTENSION PROJECT?

A. Department witness Mr. Heinen concludes MERC's forecast is on the robust side of a range of reasonable results. Mr. Heinen indicates that he considers his forecast the lower bookend and MERC's forecast the higher bookend of a range of possibilities depending on the growth of the DMC project and Rochester Public Utility's ("RPU") expansion plans for increasing the use of natural gas for its electric generation. Based on his analysis, Mr. Heinen concludes that the "Rochester Area is constrained and that the size of the [P]roject, as proposed by the Company, is reasonable and represents the best means of meeting current and expected need in the Rochester area."[1]

Mr. Heinen requested that MERC provide a discussion on the increased demand that could result from a successful DMC initiative and RPU's use of natural gas for electric generation in our Rebuttal Testimony.[2] The following discussion responds to that request.

Q. DO YOU AGREE WITH THE DEPARTMENT'S CONCLUSIONS WITH RESPECT TO THE NEED FOR THE ROCHESTER PROJECT?

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[1] DOC Ex. __ at 58:20-23 (Heinen Direct).

[2] DOC Ex. __ at 19:7-13 (Heinen Direct).

A. Yes. I agree with Mr. Heinen's ultimate conclusions that (1) the Rochester Project is needed because the Rochester Area is capacity constrained and (2) the size of the proposed Project is reasonable and represents the best means of meeting current and expected need in the Rochester area. While the DOC and MERC used different data, approaches, models, and assumptions, in the end we both came to the same overall conclusion that the size of MERC's proposed Project is reasonable in light of the demonstrated need.[3]

Q. DO YOU AGREE WITH ALL OF THE DEPARTMENT'S CONCLUSIONS THAT LEAD UP TO MR. HEINEN'S RECOMMENDATION?

A. Generally speaking, yes. I agree with Mr. Heinen's conclusions that there is a range of statistically valid outcomes and that there are risks associated with these different outcomes. I agree that Mr. Heinen's forecast, based strictly on historical data and using no forward looking information, would be considered a "status quo" forecast or the low end of a range of possibilities. I do not agree that MERC's forecast is necessarily the high bookend of the range of possibilities but I accept that MERC's assumptions underlying its forecast were somewhat more optimistic.[4]

Q. WHAT AREAS OF THE DEPARTMENT'S CONCLUSIONS WOULD YOU LIKE TO ADDRESS?

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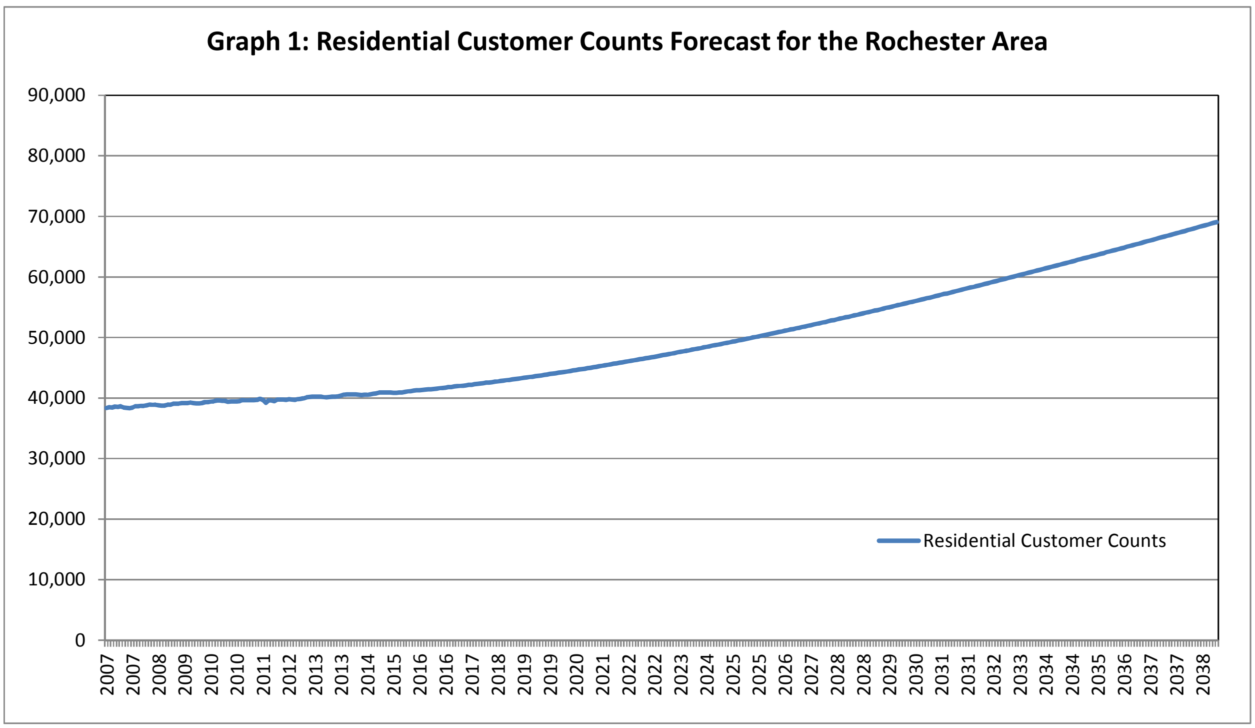
[3] DOC Ex. __ at 36:19 (Heinen Direct).

[4] DOC Ex. __ at 28:20-22 (Heinen Direct).

A. First, Graph 1 on page 15 of Mr. Heinen's Direct Testimony shows a graph of MERC's customer counts. Mr. Heinen may have been trying to show emphasis but all graphs should have a zero intercept or the scaling of the graph can cause the data to look over dramatic and potentially misleading. Graph 1 below is reproduced to include historical data back to 2007 and utilize a zero intercept, with the same forecast out to 2038. This reproduced graph illustrates that the results of MERC's customer count forecast are somewhat more moderate than the depiction in Graph 1 of Mr. Heinen's Direct Testimony would suggest.



Graph 1: Residential Customer Counts Forecast for the Rochester Area

Second, Mr. Heinen recommended that MERC address the DOC's concerns that MERC's customer count forecast is over forecasted. Mr. Heinen states that MERC's average growth rate for its customer count forecast for the period 2015 through 2038 is approximately 2.26% and that the highest growth rate assumed by the Rochester-Olmsted

Council of Governments ("ROCOG") for Olmsted County was approximately 1.50%.[5] That same report similarly shows that the ROCOG is projecting a growth rate of approximately 1.65% for Rochester and shows both Olmstead County and Rochester historically have had growth rates over a period of time as high as 2.53% and 2.83% respectively. MERC's forecasted growth rate is not that unusual considering the potential impact of a unique event like the expansion of the Mayo Clinic and the DMC project.

Q. ARE THERE OTHER FACTORS THAT COULD INFLUENCE THE FORECAST?

A. Yes, in addition to the DMC, RPU recently announced its intention to construct a new gas-fired generation in Rochester. This could further impact the need for additional gas capacity in the Rochester area.

Q. DID YOUR FORECAST SPECIFICALLY INCLUDE ASSUMPTIONS RELATING TO THE DMC OR RPU ISSUES YOU JUST MENTIONED?

A. As I stated in my Direct Testimony, MERC did not incorporate sales growth assumptions specific to the DMC program in its forecast. Rather, we used standard statistical methodologies based on historical data and accounting for standard economic and demographic variables. But MERC, as part of its forecasting process, did consider *a priori* information related to expected growth in the area in determining its final model. This *a priori* information included internal MERC projections of potential customer

[5] DOC Ex. __ at 15:8-15, 16:1-2 (Heinen Direct).

usage and peak day requirements based on summary demographic data from the ROCOG 2040 Long Range Plan. This information was used to corroborate the reasonableness of the results of the forecast modeling.

Likewise, MERC did not specifically model additional firm sales load for RPU to account for RPU's plans to use more natural gas for electric generation. Mr. Heinen recognizes in his Direct Testimony that the Rochester area is capacity constrained in terms of natural gas and given RPU's plans to use increasingly more natural gas for electric generation, it is important to ensure sufficient capacity for reliable natural gas and electric service.[6] MERC agrees.

Q. DO YOU WANT TO RESPOND TO OTHER CONCERNS RAISED BY MR. HEINEN?

A. Yes. Mr. Heinen raises a concern that MERC has two peak day demand forecasts.[7] MERC uses these two peak day forecasts for different purposes with different results: one short-term forecast for MERC's annual demand entitlement filing and one long-term forecast prepared to support MERC's Rochester Project. MERC sees no issue here as the two forecasts are for similar but different purposes. One forecast looks out one year and the other spans many years. Both are snap shots in time and are based on assumptions developed at the time they were prepared.

[6] DOC Ex. __ at 12:6-13 (Heinen Direct).

[7] DOC Ex. __ at 23:1-8 (Heinen Direct).

As Mr. Heinen indicates, MERC's 2015 demand entitlement filing, which was approved on April 28, 2016,[8] projected a peak demand of 106,050 Dth/day for the Rochester area. MERC is projecting peak demand of 89,251 Dth/day for the Rochester area in this proceeding and Mr. Heinen, in his own independent analysis, is forecasting consumption of 89,944 Dth/day.[9] Given this, Mr. Heinen states that the "base peak consumption used by MERC to establish need for this project was not unreasonable."[10] I agree.

Mr. Heinen also states, "Because the estimated base peak demand in the 2015 demand entitlement filing was greater than the base forecast in this proceeding, there is not a concern that the project proposed by MERC in this proceeding is oversized."[11] I would add that if the 106,050 Dth/day approved in MERC's 2015 demand entitlement filing is any indication, both MERC's and the DOC's forecasts in this proceeding may be conservative.

Also, Graph 4 on page 27 of Mr. Heinen's Direct Testimony shows a graph comparing the DOC's residential customer count forecast to MERC's. Again, Mr. Heinen may have been trying to show emphasis but in order to accurately reflect the results, a zero intercept

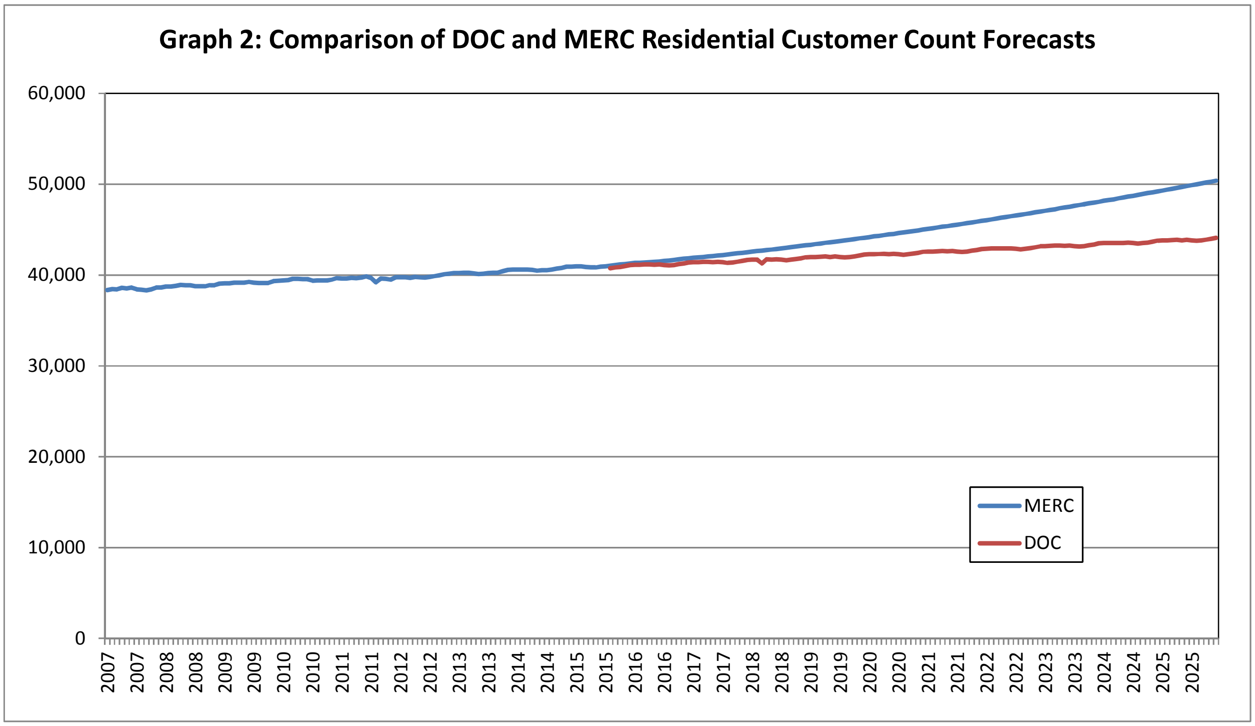
[8] *In the Matter of a Petition by Minn. Energy Res. Corp. (MERC-Consolidated, MERC-NNG, MERC-Albert Lea) for Approval of Changes in Contract Demand Entitlements for the 2015-2016 Heating Season Supply Plan Effective Nov. 1, 2015*, Docket Nos. G011/M-15-722, G011/M-15-723, G011/M-15-724, ORDER (Apr. 28, 2016).

[9] DOC Ex.__ at AJH-13 page 1 (Heinen Direct).

[10] DOC Ex. __ at 25:4-5 (Heinen Direct).

[11] DOC Ex. __ at 24:14-16 (Heinen Direct).

should be included; otherwise, the scaling of the graph can cause the data to look over dramatic and potentially misleading. Graph 2 below is restated to include historical data back to 2007, and the comparison of customer count forecasts out to 2025 which shows that the two forecasts are quite similar.



Finally, Mr. Heinen questions the likelihood that the DMC plan will be fully implemented.[12] I note that there is construction taking place in Rochester, roughly $150 million is currently committed to the DMC, and it is still early in the DMC timeline. So again, I agree with Mr. Heinen that his forecast is a “status quo or lower bound projection” and the growth that actually occurs is likely to be higher than his forecast projects.

[12] DOC Ex. __ at 28:3-6 (Heinen Direct).

III. RESPONSE TO OAG WITNESS DR. JULIE URBAN

Q. WHAT DOES THE OAG CONCLUDE WITH RESPECT TO THE NEED FOR THE ROCHESTER PROJECT?

A. OAG witness Dr. Julie Urban concludes MERC's forecasting is overly optimistic and not reasonable and, even assuming MERC's forecast was reasonable, the proposal for the Rochester Project provides too much capacity. As a result, Dr. Urban recommends that the Commission find MERC's proposal neither prudent nor reasonable and order MERC to find an alternate solution.

Q. DO YOU AGREE WITH THE OAG'S CONCLUSIONS REGARDING THE NEED FOR THE ROCHESTER PROJECT?

A. No, I do not agree. As discussed above, MERC has demonstrated that its forecast presented in this proceeding represents a reasonable scenario of overall growth for the Rochester area. While this growth level is not guaranteed, it is reasonable based on the statistically significant inputs used in MERC's forecasting model. Even under the Department's lower bound "status quo" demand forecast, MERC needs added capacity now to meet existing demand and will need significant new capacity over the next 20 years. I note that the OAG did not sponsor its own forecast in this proceeding.

Further, as discussed in the Direct Testimony of Department witness Adam Heinen, "construction of a smaller project includes the risk that growth will be higher than expected and future expansions will likely be required."[13] MERC witnesses Sarah Mead and Timothy Sexton have provided testimony supporting a conclusion that the alternative proposals presented by Northern Natural Gas ("NNG") would not have addressed the need for natural gas capacity in the Rochester area at a lower cost.

Q. DO YOU HAVE ANY COMMENTS ON THE DIRECT TESTIMONY OF OAG WITNESS DR. JULIE URBAN?

A. Yes. Dr. Urban raises five concerns regarding MERC's sales forecast. I will respond to each of her concerns.

Q. WHAT WAS DR. URBAN'S FIRST CONCERN WITH MERC'S SALES FORECAST?

A. Dr. Urban's first concern is that MERC's original sales forecast included a weather variable based on MERC's NNG virtual weather station, composed of locations throughout the state rather than Rochester weather.[14]

Q. DO YOU AGREE WITH THIS CONCERN?

A. No. The Department also inquired about our use of the weather variable and, in discovery, MERC reran the models at the Department's request to use Rochester-specific weather. The results of the revised models support the conclusion that this weather factor did not significantly impact the overall forecast. The difference in the overall growth rate

[13] DOC Ex. __ at 33:1-2 (Heinen Direct).

[14] OAG Ex. __ at 27-28 (Urban Direct).

was only 0.1%. MERC sees this as a refinement to the forecast but not as a "flaw" that would bring the legitimacy of the forecast into question.

Q. WHAT WAS DR. URBAN'S SECOND CONCERN WITH THE SALES FORECAST?

A. Dr. Urban's second concern is that MERC relied on only eight years of historical data to prepare its regression models.[15] Dr. Urban also raises concerns about MERC's weather normalization process and the use of July and August to calculate base load sales in its weather normalization process.

Q. HOW DO YOU RESPOND TO THESE CONCERNS?

A. As I stated in my Direct Testimony, MERC stopped using data from before 2007 due to concerns the OAG raised with the quality of data from Aquila, MERC's predecessor, in MERC's 2011 test year rate case, Docket No. G007, 011/GR-10-977. MERC used seven and one half years of historical data to prepare a ten-year forecast that was included in the Petition in this proceeding. MERC believes that the use of seven and one half years of data to prepare a ten-year sales forecast is adequate.

MERC also does not believe that the data constraints placed on the Company should prevent MERC from seeking approval of an extension project until it has sufficient history, whatever that may be. Waiting even longer to have more historical data could create more serious capacity constraints and reliability concerns.

[15] OAG Ex. __ at 28 (Urban Direct).

With respect to Dr. Urban's concerns regarding MERC's weather normalization process, MERC used actual sales, not weather normalized sales, in its regression models and weather was used as an independent variable in the models to help explain the variation in sales. The weather normalized sales Dr. Urban references in Table 2 of her Direct Testimony were prepared using a different methodology, separate from the regression models used to prepare the sales forecast used in the Petition.

Regarding the use of July and August to calculate base load sales, Dr. Urban asserts this "may not be appropriate for a pipeline since there could be transport customers that have high demand during these months to meet air conditioning needs."[16] Again, the weather normalized sales referenced in Table 2 of Dr. Urban's Direct Testimony were not used in the models to prepare the forecast. Additionally, the weather normalized sales in Table 2 were prepared by class, i.e., Residential, Small C&I, and Large C&I. The July and August sales used to calculate a base load were calculated for each class so no Interruptible, Joint, or Transport sales were included in these numbers.

Q. WHAT WAS DR. URBAN'S THIRD CONCERN WITH THE SALES FORECAST?

A. Dr. Urban raises a concern with the estimation of the Residential Use-Per-Customer ("UPC") model and suggests that a Time Trend variable should have been included.

[16] OAG Ex. __ at 29:6-8 (Urban Direct).

Q. HOW DO YOU RESPOND TO THIS CONCERN?

A. MERC's Residential UPC model was statistically significant as used in the Petition. Dr. Urban's reference to p-values, statistical significance, and growth rates is a bit misleading. Dr. Urban is indicating that for Residential sales the change in growth rate from 2.00% filed in the Petition to 1.34% is caused by the addition of a trend variable. The 2.00% is based on the forecast using the NNG virtual weather station and no Time Trend, and the 1.34% is based on the forecast using the Rochester weather data and a Time Trend. A more appropriate comparison would be using apples to apples Rochester weather data or 1.87% to 1.34%.[17]

In MERC's response to OAG Information Request No. 155.7, MERC included forecasts using Real Personal Income ("RPI") as a driver or trend variable rather than just a generic Time Trend variable. Generally speaking, MERC believes the use of an economic variable is better over a generic Time Trend in preparing a sales forecast. RPI was also highly significant with a p-value of 0.00% using Rochester weather and produced a forecast with a growth rate of 1.59% compared to 1.87% with no Time Trend variable. Again, this demonstrates that the impact of including a Time Trend variable is not as significant as Dr. Urban's Direct Testimony would suggest.

Q. WHAT WAS DR. URBAN'S FOURTH CONCERN WITH MERC'S SALES FORECAST?

[17] OAG Ex. __ at JAU-15 (MERC Response to OAG IR 155.7, Attachment OAG-155-7 Residential UPC Supplemental Response Attachment) (Urban Direct and Schedules).

A. Dr. Urban raises a concern with whether MERC's selection of more robust models in order to incorporate the anticipated growth related to the Mayo Clinic expansion and DMC project through MERC's consideration of "*a priori*" information is reasonable.[18]

Q. DO YOU HAVE ANY RESPONSE TO THIS CONCERN?

A. The use of *a priori* information in forecasting is not unusual, as I described at page 13 in my Direct Testimony. Using expert opinion or a forecaster's experience or judgment in preparing a forecast is important. A forecaster uses his or her experience to help determine how a model should be setup or to develop a selection of variables that would make sense to use. MERC's forecasts were developed with historical data, based on valid statistical modeling, and also considered *a priori* information to corroborate the reasonableness of the results of the forecast modeling. In this case, the *a priori* information was the consideration of the growth that will be created, to some degree, by the expansion of the Mayo Clinic and the DMC project. No specific data related to the DMC were used in the forecast modeling. Under the circumstances, it is reasonable to consider the Mayo Clinic's expansion plans and plans related to the DMC project in determining an appropriate forecast. Nothing like this has happened in recent history in terms of a large legislative proposal that was passed into state law. The goals of the DMC initiative are significant, and it is still early in the DMC process.

[18] OAG Ex. __ at 30 (Urban Direct).

Q. WHAT WAS DR. URBAN'S FIFTH CONCERN WITH MERC'S SALES FORECAST?

A. Dr. Urban expressed concern that "the Mayo Clinic Expansion and . . . the Development Plan for the DMC may not result in the kind of growth necessary to justify such a large expansion in capacity."[19]

Q. HOW DO YOU RESPOND TO THIS CONCERN?

A. Dr. Urban's "concern" here is simply to cast doubt with the recognition that the DMC initiative is not guaranteed. I agree that the DMC project "may" not be fully realized, and I point out that I did not use any specific DMC growth projections in MERC's forecast.

Furthermore, it is worth noting that Dr. Urban's concern that the Mayo Clinic expansion and DMC project "may" not result in as much growth as MERC has forecasted is possible. Conversely, the DMC project "may" also exceed expectations. If the Project is not approved and growth meets or exceeds MERC's forecast projections, MERC will be caught short of capacity with little or no time to react and no estimate of what the cost would be. The ability to provide adequate and reliable gas supply for gas customers and electric generation will be at risk. I agree with Mr. Heinen's observation that it is appropriate to plan for a future that may include increased demand based on future factors such as the DMC project.

[19] OAG Ex. __ at 32 (Urban Direct and Schedules).

Q. DO YOU HAVE ANYTHING ELSE TO ADD REGARDING THE OAG'S REVIEW OF MERC'S FORECAST?

A. I would just note that while Dr. Urban expresses concerns with MERC's modeling approach and forecasts, she does not produce models, forecasts, or a growth rate that she believes would be appropriate given the available data constraints, associated unknowns, and risks involved. The OAG asked MERC over 100 Information Requests in this matter and a substantial proportion of those requests were on the topic of forecasting and need. The OAG certainly had sufficient information to prepare a forecast that it believed was more representative of a potential future.

For all of the reasons discussed in this Rebuttal Testimony, as well as those reasons provided in my Direct Testimony, MERC has fully supported the need for the Rochester Project as proposed. I conclude that the concerns raised by the OAG with respect to MERC's forecast in this proceeding are without merit. MERC's forecasting assumptions and methodology were reasonable and support implementation of the Project. The potential risk that growth meets or exceeds MERC's forecast projections and MERC is unable to meet its firm natural gas customers' needs in the absence of the Project significantly outweighs the risk that actual growth in Rochester occurs more slowly than MERC has projected.

IV. CONCLUSION

Q. PLEASE SUMMARIZE YOUR TESTIMONY AS TO THE FORECASTING THAT WAS DONE TO SUPPORT THE ROCHESTER PROJECT.

A. MERC's forecast continues to reflect a reasonable scenario to represent overall growth projected in the Rochester area. While the growth level MERC has projected is not guaranteed, it is a reasonable projection based on statistically significant inputs and consideration of relevant factors. Such a level of sustained growth will result in the need for new capacity on the system over the next 20 years. Even under the Department's lower bound "status quo" demand forecast, MERC needs added capacity now to meet existing demand and will need significant new capacity over the next 20 years. While the Department's lower bound forecast results in higher reserve margins in the near term, the proposed capacity is reasonable and prudent under all of the circumstances. Further, in the reasonably likely event that forecast demand increases more rapidly than the Department's "status quo" forecast predicts due to the DMC initiative or other causes such as RPU's expanding need for gas-fired electric generation, having additional capacity on the system will provide MERC with the ability to respond to those circumstances.

Q. DOES THIS COMPLETE YOUR REBUTTAL TESTIMONY IN SUPPORT OF THE ROCHESTER PROJECT?

A. Yes, it does.

Rebuttal Testimony and Schedules
Amber S. Lee

Before the Office of Administrative Hearings
600 North Robert Street
St. Paul, Minnesota 55101

For the Minnesota Public Utilities Commission
121 Seventh Place East, Suite 350
St. Paul, Minnesota 55101

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

MPUC Docket No. G011/M-15-895
OAH Docket No. 68-2500-33191
Exhibit _____

Rebuttal Testimony
Policy and Rate Design

July 28, 2016

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Amber S. Lee. My business address is 1995 Rahncliff Court, Suite 200, Eagan, Minnesota 55122.

Q. ARE YOU THE SAME AMBER LEE THAT PROVIDED DIRECT TESTIMONY IN THIS PROCEEDING?

A. Yes. I provided Direct Testimony in support of Minnesota Energy Resources Corporation's ("MERC" or the "Company") request that the Minnesota Public Utilities Commission ("Commission") approve MERC's proposed Rochester Natural Gas Extension Project ("Rochester Project" or "Project"). My Direct Testimony covered a number of topics.

First, I described the Natural Gas Extension Project rider statute ("NGEP Rider Statute"), Minn. Stat. § 216B.1638, and how the Project satisfies its requirements and qualifies for partial rider recovery.

Second, I supported the Company's proposed rate design to charge all MERC customers (including firm, interruptible, and transportation customers) a fixed per-therm charge for the recovery of a portion of the MERC distribution system upgrade costs of the Project through a Natural Gas Extension Project ("NGEP") Rider.

I also proposed that the costs incurred under MERC's Precedent Agreement ("PA") with Northern Natural Gas ("NNG") could be recovered through the commodity portion of the NNG Purchased Gas Adjustment ("PGA") rate recovery mechanism. Under this proposal, firm and interruptible sales customers would be assessed charges for the NNG PA costs via the NNG PGA. That charge would not apply to transportation customers, however, because those customers purchase their natural gas commodity from a third party.

Finally, I covered a number of policy issues, including a discussion of the Destination Medical Center ("DMC") initiative and its potential impact on the Rochester Project.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. I respond to a number of issues raised in the Direct Testimonies of Department of Commerce, Division of Energy Resources ("Department") witnesses Susan Peirce and Adam Heinen and Minnesota Office of the Attorney General – Residential Utilities and Antitrust Division ("OAG") witness Dr. Julie Urban. I also respond to a number of requests for additional information in the Direct Testimonies of those witnesses. Specifically, my Rebuttal Testimony covers the following topics:

A. Rate Design: I respond to Ms. Peirce's recommendation that the rate design for the recovery of MERC's capital costs of the Project should be split equally between customers in the Rochester area and customers elsewhere on MERC's system, and I provide the rate and bill impact calculation Ms. Peirce requested.[1] I also respond to Mr. Heinen's recommendation that the NNG costs should be recovered via the NNG PGA and should be recovered from both firm and interruptible sales customers, as well as from transportation customers.[2]

B. NGEP Rider Statute: I respond to Mr. Heinen's and Dr. Urban's discussions regarding the applicability of the NGEP Rider Statute to this proceeding and the eligibility of MERC's Rochester Project costs for NGEP Rider recovery.[3] I concur with Mr. Heinen that the statute is applicable to MERC's request in this case. I also discuss how the statute calls for the Commission to make a prudence determination for the costs proposed to be incurred in furtherance of the Project.

C. DMC Issues: I respond to both Mr. Heinen's and Dr. Urban's discussions about the DMC initiative.[4] I also provide an update on MERC's efforts to obtain funding as part of that initiative.

D. Used and Useful: I respond to Dr. Urban's suggestion that MERC has not satisfied its burden of proving that the Rochester Project, as proposed, is a reasonable and prudent

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[1] DOC Ex. __ at 5:8-16 (Peirce Direct).

[2] DOC Ex. __ at 60:8-16 (Heinen Direct).

[3] DOC Ex. __ at 38:27-31 (Heinen Direct); OAG Ex. __ at 68:9-14 (Urban Direct).

[4] DOC Ex. __ at 54-58 (Heinen Direct); OAG Ex. __ at 30:4-31:9 (Urban Direct).

system addition in its entirety at this time.[5] I rebut Dr. Urban's suggestion that some portion of the Project could be found not to be "used and useful" for the provision of service.

E. Interruptible Rates: I provide the discussion requested by Dr. Urban regarding the "interruptible discount" and MERC's suggestions on how to handle interruptible customers in light of the capacity reserve margins associated with the Project.[6] I also address some of the implications of the Project on MERC's transportation customers.

MERC acknowledges that, in an environment of relatively high reserve margins, interruptible customers receive the lower interruptible rates while, as a practical matter, facing a reduced risk of actually being curtailed. MERC believes that it may be appropriate, on a going-forward basis, to review the criteria for eligibility for interruptible rates.

Q. ARE YOU SPONSORING ANY EXHIBITS WITH YOUR REBUTTAL TESTIMONY?

A. Yes. I am sponsoring the following:

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[5] OAG Ex. __ at 9:12-14 and 55:10-57:7 (Urban Direct).

[6] OAG Ex. __ at 61:18-21 (Urban Direct).

- Rebuttal Exhibit __ (ASL-R1) is MERC's Billing Impact Analysis for recovery of MERC's capital costs using a 50/50 split between the Rochester area customers and the rest of the customers on MERC's system;
- Rebuttal Exhibit __ (ASL-R2) is MERC's presentation to the City of Rochester and DMC Economic Development Agency on May 18, 2016, regarding MERC's application for DMC funding for the Rochester Project.
- Rebuttal Exhibit __ (ASL-R3) is the letter dated July 18, 2016, from the City of Rochester and DMC Economic Development Agency informing MERC that the Rochester Project is not eligible for DMC funding.
- Rebuttal Exhibit __ (ASL-R4) is MERC's response to OAG Information Request No. 106.
- Rebuttal Exhibit __ (ASL-R5) is MERC's response to OAG Information Request No. 187.

Q. ARE THERE OTHER MERC WITNESSES PROVIDING REBUTTAL TESTIMONY?

A. Yes. The following additional witnesses are also submitting Rebuttal Testimony on the following topics:

- **David Clabots** provides Rebuttal Testimony to Mr. Heinen's and Dr. Urban's discussions of MERC's demand forecast and the need for the Project.
- **Lindsay Lyle** provides Rebuttal Testimony to Mr. Heinen's discussion of cost caps and request for information about the amount of contingency built into MERC's capital budget for the Project. Ms. Lyle also responds to the OAG's

assertion that natural gas peaking facilities should have been explored as a viable alternative to the Project.

- **Sarah Mead** provides Rebuttal Testimony to Dr. Urban's discussion of gas supply issues, including the Request for Proposal ("RFP") process and MERC's development of the NNG PA as the best available long-term interstate pipeline capacity solution under the circumstances.
- **Timothy Sexton** provides Rebuttal Testimony responding to Dr. Urban's discussion of his independent analysis of the alternatives considered in the RFP.

II. REBUTTAL

A. Rate Design Issues

Q. PLEASE SUMMARIZE THE RATE DESIGN SECTION OF YOUR REBUTTAL TESTIMONY.

A. I respond to Ms. Peirce's recommendation to allocate half of the Rochester Project capital costs to the Rochester area customers and the other half to the rest of MERC's customers. MERC appreciates Ms. Peirce's recommendation but believes it is more consistent with the NGEP Rider Statute and Commission precedent for the capital costs of the Rochester Project to be spread evenly over MERC's entire system.

In addition, I respond to Mr. Heinen's recommendation to allocate the NNG costs to all customers including firm, interruptible, and transportation customers. MERC agrees that the cost of upgrades to MERC's distribution system should properly be spread across all classes of customers, whether firm or interruptible, system sales or transportation. However, MERC does have concerns with the Department's proposal that transportation customers should be charged for NNG capacity costs by MERC, given that many transportation customers are likely to pose a significant bypass risk and because transportation customers do not purchase either natural gas commodity or interstate pipeline capacity from MERC, but acquire it from a third party.

1. *Allocation of MERC Costs to Rochester Area Customers*

Q. PLEASE DESCRIBE HOW YOU UNDERSTAND MS. PEIRCE'S RATE DESIGN RECOMMENDATION REGARDING RECOVERY OF MERC'S CAPITAL COSTS.

A. Ms. Peirce recommends that the Commission: "Apportion at least 50 percent of the revenue deficiency to MERC's Rochester customers and the remaining amount to MERC's non-Rochester customers, calculated on a per therm basis for each group."[7] I interpret that to mean that Ms. Peirce is recommending that MERC's estimated capital cost of the Rochester Project (currently $44 million) be allocated on a 50/50 basis between the Rochester area and the rest of MERC's system. I also interpret her recommendation to be that all MERC customers incur the per-therm charge, including interruptible and transportation customers, as set forth in the NGEP Rider Statute.

[7] DOC Ex. __ at 5:8-10 (Peirce Direct).

Q. WHAT RATIONALE DOES THE DEPARTMENT PROVIDE FOR ITS RATE DESIGN RECOMMENDATION?

A. In her Direct Testimony, Ms. Peirce states:

> The Rochester Project would most directly benefit Rochester area customers, by improving reliability and allowing for additional growth with the addition of the proposed Destination Medical Center. . . . At the same time, customers outside the Rochester area would also benefit from improved reliability on MERC's system, as discussed in the testimony of Department Witness Michael Ryan.[8]

Q. DO YOU AGREE WITH THIS RATIONALE FOR ROCHESTER CUSTOMERS TO ABSORB A DISPROPORTIONATE SHARE OF THE COSTS OF MERC'S SYSTEM UPGRADES?

A. No. As I discussed in greater detail in my Direct Testimony, requiring a specific geographic area to absorb a disproportionate share of capital costs required to ensure system integrity and reliability would run contrary to the Commission's historic treatment of such project costs. Minnesota's long-standing policy has been to categorize system integrity and reliability expansions such as the Rochester Project as general rate base for the benefit of all customers, to be charged equally in base rates. Even assuming Ms. Peirce is correct in her conclusion that customers in the Rochester area will benefit from MERC's system upgrades to a greater degree than customers elsewhere on MERC's system, the primary purpose of the Project is ultimately to ensure continued adequate and reliable natural gas service to MERC's firm customers. Ultimately, the Project will

[8] DOC Ex. __ at 3-4 (Peirce Direct).

ensure MERC is able to continue to provide all of its Minnesota customers safe, adequate, and reliable natural gas service.

Q. HOW DO YOU INTERPRET MS. PEIRCE'S REFERENCES TO "ROCHESTER" IN HER RATE DESIGN PROPOSAL?

A. I interpret Ms. Peirce's references to "Rochester" to be synonymous with MERC's use of the term "Rochester area" throughout the Petition and Direct Testimony. As described in the Petition and in Mr. Clabots' Direct Testimony, MERC defines the Rochester area to comprise all of Olmstead County and the communities of Kasson and Blooming Prairie located in Dodge County, immediately west of Olmsted County.[9] For purposes of this Rebuttal Testimony, MERC will continue to use the same geographic configuration that has been used throughout this proceeding.

Q. DOES MERC AGREE WITH MS. PEIRCE'S RECOMMENDATIONS?

A. In part. MERC agrees that our capital costs for the Project should be allocated through a flat per-therm charge applicable to all customer classes. Such an allocation reflects the benefits to all of our customers and in my Direct Testimony I also concluded that it is fair and reasonable to spread the capital costs of the Project across all customer classes.[10]

[9] MERC Initial Petition at 20, § 4.3.1; MERC Ex. __ at 4:3-5 (Clabots Direct).

[10] MERC Ex. __ at 29:14-15 (Lee Direct).

MERC is concerned, however, with Ms. Peirce's proposed 50/50 split between the Rochester area and the rest of MERC's distribution system. Though the Commission can decide to allocate the costs of the Project in the way Ms. Peirce recommends, in my opinion, the even apportionment of costs set forth in my Direct Testimony is a more appropriate methodology under all of the circumstances.

Q. WHY DOES MERC DISAGREE WITH MS. PEIRCE'S RECOMMENDATION FOR A 50/50 SPLIT IN COSTS?

A. There are several reasons, the totality of which lead MERC to recommend against Ms. Peirce's proposed 50/50 split.

- First, spreading costs equally across all customers is consistent with Commission precedent that spreads system upgrade costs across the entire rate base and with the policy underlying the NGEP Rider Statute.
- Second, while customers in the Rochester area benefit from the Project, our customers in other locations also benefit from the Project, which justifies the sharing of costs.
- Third, a disproportionate split would effectively create separate rate zones within the MERC system. Generally, I believe it is better for a utility system to operate on a consolidated basis for the benefit of all customers. MERC has recently consolidated its operating companies and PGAs and prefers that this proceeding not distinguish a new rate zone that imposes rate disparities among our customers and adds administrative expense.

- Finally, allocating Project costs disproportionately to Rochester area customers imposes a potentially excessive cost burden on those customers.

I will expand on each of these reasons below.

Q. PLEASE EXPLAIN HOW COMMISSION PRECEDENT SUPPORTS THE EQUAL ALLOCATION OF COSTS TO ALL CUSTOMERS, REGARDLESS OF GEOGRAPHIC AREA.

A. MERC's proposed allocation across all MERC customers is consistent with past Commission precedent that generally treats system integrity and reliability projects as general rate base projects to be recovered from all customers through base rates. This policy has been the case even for projects that occur in a specific community or geographic region. As I discussed in my Direct Testimony, each year, MERC undertakes capital projects that repair, replace, or upgrade portions of the distribution system in various service areas across Minnesota to ensure continued safe and reliable natural gas service to all firm service customers.[11] Other Minnesota natural gas utilities similarly include such system integrity projects in rate base for recovery from all customers. These previous and ongoing system integrity projects that address aging infrastructure and system reliability issues have historically been included in rate base and spread across all MERC ratepayers regardless of the location of the specific project or the customers directly served by those projects. MERC's Phase II Rochester Project is essentially

[11] MERC Ex. __ at 22-25 (Lee Direct) ("For example, in MERC's 2010 rate case, Docket No. G007,011/GR-10-977, MERC included approximately $7 million in capital costs for 2010 and 2011 for main replacement in southeastern Minnesota in its rate base. Those capital costs were approved and recovered from all customers through base rates.").

analogous to any other system integrity and reliability project that the Commission has routinely and consistently approved for inclusion in rate base and recovery from all customers.

Further, to the extent the Rochester Project is unique in that it is also expanding MERC's natural gas distribution system in order to meet growing demand, the NGEP Rider Statute suggests a policy preference for spreading costs of the Rochester Project to all customers across MERC's system.

Q. PLEASE EXPLAIN YOUR RATIONALE THAT THE NGEP RIDER STATUTE SUPPORTS EQUAL COST ALLOCATION TO ALL OF MERC'S CUSTOMERS STATEWIDE.

A. Notably, the NGEP Rider Statute authorizes rider recovery from "all of the utility's customers, including transport customers."[12] I read this statutory wording as authorizing equal cost recovery from all customers, and this interpretation is consistent with the purpose for which the statute was recently adopted.

I read this statutory language as recognition that spreading costs broadly is consistent with the legislative goals of enhancing service to areas that currently lack adequate infrastructure. In enacting Minn. Stat. § 216B.1638, the Minnesota Legislature determined for the first time that natural gas extension and expansion projects did not

[12] Minn. Stat. § 216B.1638, subd. 2(a).

need to be self-supporting to be recovered across all customers. Instead, the NGEP Rider Statute authorized recovery of natural gas extension and expansion project costs from customers in other areas, in order to support infrastructure development. Adoption of the NGEP Rider Statute reflects a state priority to develop and expand access to natural gas in Minnesota. The creation of a separate Rochester area rate would be directly contrary to this legislative intent.

Q. PLEASE EXPLAIN YOUR RATIONALE THAT ALL CUSTOMERS BENEFIT FROM THE ROCHESTER PROJECT SO THAT IT IS REASONABLE THAT ALL CUSTOMERS PAY FOR IT EQUALLY.

A. All customers benefit from the addition of new customers; the Rochester Project will allow MERC to continue to add new customers and load in the southeastern area of Minnesota, which in theory will allow MERC to spread its costs over more customers and reduce costs for our existing customers.

Customers also benefit because the Rochester economy, dependent on a reliable natural gas supply, is an economic driver for the State of Minnesota as a whole. All Minnesota citizens will benefit from the continued growth of tax revenues from the Rochester area.

In addition, customers throughout the state could benefit from the availability of capacity that could obviate the need for future infrastructure upgrades on MERC's distribution system. For example, the robust construction contemplated with the Rochester Project provides all customers with the potential to avoid or defer construction elsewhere on the system. The NNG PA allows MERC to move up to 20 percent of its NNG capacity to alternative locations. Mr. Heinen correctly observes that the presence of excess capacity in and around Rochester may assist in mitigating other construction.[13] Indeed, he notes that it may be more cost effective for MERC to redirect excess capacity (at maximum rates) than it would be to build infrastructure projects elsewhere. MERC certainly will consider the viability and cost-effectiveness of redirecting excess capacity as an alternative to future construction projects. This feature provides benefits to all customers that suggest it is appropriate to spread costs across the entire rate base.

Q. PLEASE EXPLAIN YOUR RATIONALE THAT CREATING SEPARATE RATE ZONES WITHIN THE MERC SYSTEM SHOULD BE AVOIDED.

A. The Commission has stated a preference that MERC move toward a single, unified system. For example, in Docket No. G007,011/GR-10-977, the Commission approved MERC's proposal to consolidate four of its PGAs into one, concluding: "The consolidation proposal reasonably results in a system that more directly matches MERC's operations, and reduces MERC's costs of administering its PGA systems."[14]

Similarly, in approving MERC's purchase of the Albert Lea assets from Interstate Power & Light Company ("IPL"), the Commission was clear that it preferred, long term, to have

[13] DOC Ex. __ at 48:12-20 (Heinen Direct).

[14] *In the Matter of the Application of Minn. Energy Res. Corp. for Auth. to Increase Rates for Nat. Gas Serv. in Minn.*, Docket No. G007,011/GR-10-977, FINDINGS OF FACT, CONCLUSIONS, AND ORDER at 36 (July 13, 2012).

the former IPL customers become fully integrated into MERC's unified system.[15] While the Commission recognized that integrating the former IPL customers into MERC's rate structure would take some amount of transition, the Commission required that MERC work toward integration in its pending rate case, Docket No. G011/GR-15-736, and MERC has proposed a plan for the integration of the former IPL customers.

Avoidance of separate rate zones is also consistent with Minn. Stat. § 216B.03, which generally precludes rates that are "unreasonably preferential, unreasonably prejudicial, or discriminatory." This statute goes on to explicitly recognize: "For rate-making purposes a public utility may treat two or more municipalities served by it as a single class wherever the populations are comparable in size or the conditions of service are similar."

From the perspective of our customers, the conditions of service in Rochester following completion of the Rochester Project will be the same as the conditions of service offered to a comparable customer elsewhere in MERC's service territory; namely, all customers will have the opportunity to secure firm and reliable natural gas service. The customers in and around Rochester are not receiving a windfall or a benefit in comparison to other customers. Rather, MERC is working to upgrade its system so that customers within and around Rochester continue to receive the same service available to other customers within the State.

[15] *In the Matter of a Request for the Approval of the Asset Purchase and Sale Agreement between Interstate Power and Light Co. and Minn. Energy Res. Corp.*, Docket No. G001,G011/PA-14-107, ORDER APPROVING SALE SUBJECT TO CONDITIONS at 6 (Dec. 8, 2014).

Finally, the Department's rate design recommendation to allocate 50 percent of the costs to Rochester complicates the proposed rider mechanism and future base rate increases. The NGEP Rider Statute itself caps rider-eligible costs at up to 33 percent of project costs. The Department's proposed allocations would require separate per-therm rates for Rochester and non-Rochester customers and, similarly, future base rate increases would result in distinct impacts to the Rochester and non-Rochester customers and require separate distribution rates for those groups. In effect, the Department's proposal will require MERC to maintain two operating companies, with different rates and tariff sheets for Rochester and non-Rochester customers.

Because the Rochester Project constitutes a new initiative, in my opinion, it is more appropriate to charge the cost across the system on a unified basis from the beginning. I believe the creation of a functionally separate rate zone for Rochester is inconsistent with the goal of integrating customers of a single utility system into a common rate structure. Further, if the Commission adopts Ms. Peirce's 50/50 split, it raises the potential that at some point in the future, the Commission will be faced with the need to consolidate the customer base much like it is working through with the Albert Lea customers. I believe it is better to design rates across the entire rate base from the beginning.

Q. PLEASE EXPLAIN YOUR RATIONALE THAT THE 50/50 SPLIT WILL INCREASE THE COST BURDEN DISPROPORTIONATELY TO ROCHESTER AREA CUSTOMERS.

A. In her Direct Testimony, Ms. Peirce requested that MERC provide updated cost and rate impact tables using her proposed 50/50 rate allocation. The complete bill impact analysis is attached to my Rebuttal Testimony as Rebuttal Exhibit __ (ASL-R1). I reproduce the average annual rate impact for the years 2016 to 2025 below as Table 1 from that Exhibit to show a comparison of the bill impact under MERC's proposal as compared to Ms. Peirce's proposed 50/50 split.

Table 1. Comparison of Annual Average Bill Impact

	Equal Allocation	**50/50 Split**	
Rate Class	**All Customers**	**Rochester Area**	**Other Customers**
Residential	$0.94	$3.13	$0.55
GS Small C&I	$1.10	$3.67	$0.65
GS Large C&I	$9.39	$31.18	$5.53
Small Volume Interruptible Sales	$58.18	$193.23	$34.25
Small Volume Joint Sales	$58.98	$195.90	$34.72
Small Volume Interruptible Transport	$141.85	$471.16	$83.51
Small Volume Joint Transport	$102.74	$341.24	$60.48
Transportation for Resale	$288.60	$958.57	$169.90
Large Volume Interruptible Sales	$247.41	$821.75	$145.65
Large Volume Interruptible Transport	$1,796.77	$5,967.92	$1,057.75
Large Volume Joint Transport	$1,453.46	$4,827.64	$855.65
Super Large Volume Interruptible Transport	$16,998.16	$56,459.04	$10,006.74
Super Large Volume Joint Transport	$6,316.22	$20,979.20	$3,718.33

As can be seen, the 50/50 split substantially increases the bill impact to Rochester customers. On a percentage basis, the increase is over 300 percent for customers in the

Rochester area compared to MERC's proposed rate design. And because of the overall size of MERC's system, the bill impact to our other customers is substantially reduced, resulting in an impact of approximately only 50 percent of the increase MERC proposes. This Table suggests to me that spreading the cost of the Project over the entire rate base is an appropriate way to mitigate the rate increase for all customers.

2. *Allocation of NNG Costs to Transportation Customers*

Q. WHAT DOES THE DEPARTMENT RECOMMEND WITH RESPECT TO THE ALLOCATION OF NNG'S UPGRADE COSTS RELATED TO THE ROCHESTER PROJECT?

A. Department witness Adam Heinen recommended the following in his Direct Testimony:

> Since the costs of expanding NNG's capacity will be charged to MERC, and since such capacity will be used to serve MERC's sales customers *and* its transportation customers, it is important to ensure that costs of expanding NNG's capacity are appropriately charged to both sales and transportation customers, as required by the NGEP Statute. Further . . . all Rochester ratepayers are expected to benefit from the Project, the costs need to be charged to all customers – firm and interruptible, sales and transportation.[16]

Q. IS MR. HEINEN CORRECT IN HIS STATEMENT THAT THE ADDITIONAL CAPACITY FROM NNG'S UPGRADES "WILL BE USED TO SERVE MERC'S SALES CUSTOMERS *AND* ITS TRANSPORTATION CUSTOMERS"?

A. No. MERC will acquire 100 percent of the additional capacity added by NNG's pipeline upgrades for the Rochester Project for its system sales customers. Therefore, with the

[16] DOC Ex. __ at 49:22-50:4 (Heinen Direct).

exception of possible future capacity releases, transportation customers will not have access to the additional capacity.

Q. PLEASE DESCRIBE HOW YOU UNDERSTAND MR. HEINEN'S RECOMMENDATION REGARDING RATE DESIGN.

A. I understand Mr. Heinen's recommendation regarding rate design to propose that all customers on the NNG PGA, whether firm or interruptible, system sales or transportation, be charged to recover the NNG PA (pipeline capacity) costs. Although Mr. Heinen does not recommend a mechanism for the recovery of the NNG PA costs from transportation customers, Ms. Peirce states that the Department is recommending that the Commission "approve the recovery of NNG pipeline capacity costs through MERC's NNG PGA."[17]

Q. IS MR. HEINEN'S RECOMMENDATION DIFFERENT THAN WHAT MERC PROPOSED IN YOUR DIRECT TESTIMONY?

A. In only one respect, yes. My Direct Testimony raised the possibility of recovering the NNG capacity costs through the commodity portion of the NNG PGA.[18] As I noted in my Direct Testimony, while interstate pipeline capacity costs are generally recovered through the demand portion of the PGA, recovery through the commodity portion would

[17] DOC Ex. __ at 5 (Peirce Direct).

[18] MERC Ex. __ at 30:6-10 (Lee Direct).

allow MERC to recover a portion of those costs from interruptible system sales customers in addition to firm system sales customers.

I also noted in my Direct Testimony that because transportation customers do not purchase their natural gas commodity or interstate delivery services from MERC, those customers are not charged either the commodity or the demand portion of MERC's PGA. Therefore, under MERC's proposal, transportation customers would pay only for the per-therm charges related to the improvements to MERC's distribution system, but not any portion of the NNG upgrade costs.

Q. UNDER MR. HEINEN'S APPROACH, HOW WOULD TRANSPORTATION CUSTOMERS BE CHARGED?

A. Mr. Heinen's testimony did not propose a specific mechanism to allow for the recovery of the incremental NNG capacity costs from transportation customers. Sales customers (both firm and interruptible) can be charged under the PGA for a per-therm rate on the commodity portion of the PGA. This provides a simple mechanism to ensure that those customers pay a charge based on the gas they consume.

An equivalent charge for transportation customers could not be implemented through the PGA because transportation customers purchase their commodity and interstate pipeline capacity from a third party and therefore incur no charges under the PGA. A special mechanism would need to be designed to recover a portion of NNG capacity costs from transportation customers.

Q. DOES MERC HAVE ANY CONCERNS ABOUT MR. HEINEN'S RECOMMENDATION?

A. I primarily have two concerns. First, certain large transportation customers have the potential to bypass the MERC system entirely. Adding costs to such a transportation customer's bill could make bypass financially advantageous. If such a customer leaves MERC's system, it would result in their share of existing system costs, as well as the costs related to the Rochester Project, being reallocated to the remaining customers. I recommend that the Commission consider the risk of bypass and the potential that the loss of transportation load could simply shift the cost of the Rochester Project back to other customers.

Second, I note that transportation customers may be concerned with the fairness of being charged for NNG costs, in light of that fact that they purchase their natural gas commodity and interstate pipeline capacity from a third party. It is possible that transportation customers could perceive this as a double-payment of capacity costs -- first to their third-party supplier and second to MERC. Transportation customers do not pay commodity costs or interstate capacity costs to MERC; they pay those charges to the third party that provides capacity and supply. To the extent that the charges paid to the third party include a capacity component, there may be a concern that an additional charge applied to the transportation customer's retail bill to reflect MERC's NNG capacity costs would result in subsidization of system sales customers' costs by transportation customers.

Q. PLEASE GIVE AN EXAMPLE OF THE BYPASS RISK YOU RAISE.

A. Assume a customer consumes approximately 12 million therms per year on a transportation basis. Based on MERC's currently approved rates from Docket No. G011/GR-13-617, for the Super Large Interruptible CIP Exempt rate class, this customer would receive an annual bill of $55,920 ((12,000,000*$0.00420) + (12*$460)) from MERC. In the year 2020, under Mr. Heinen's recommendation, this same customer would incur a total obligation of approximately $228,003 ((12,000,000*$0.00420) + (12,000,000*$0.01434) + (12*$460)), or an increase of over 400 percent based upon MERC's current estimate of a per-therm rate to spread the cost across the entire NNG PGA (including transportation customers). Assuming the Commission found a way to impute this obligation to the transportation customer who purchases commodity and interstate transportation from a third party, this level of cost could be concerning.

I am concerned this additional charge may be sufficient to encourage such a customer to bypass MERC entirely. Even though the per-therm rate is relatively low, any volumetric charge imposed on transport customers will dramatically increase their current charges.

I also note that under MERC's proposal to recover a portion of MERC's Phase II capital costs through the rider as a per-therm charge, very large volume transportation customers will bear a significant portion of those costs, based on the fact that they consume a significant portion of MERC's total distribution throughput.

Q. CAN YOU PROVIDE FURTHER DISCUSSION OF THE ISSUE YOU RAISE REGARDING THE FACT THAT TRANSPORT CUSTOMERS DO NOT PURCHASE THEIR INTERSTATE CAPACITY OR NATURAL GAS COMMODITY FROM MERC?

A. As I note above, transportation customers purchase their natural gas commodity and interstate pipeline capacity from a third party, not from MERC. If MERC were to assess those customers for a portion of the NNG capacity costs related to the Rochester Project, we would essentially be charging customers for a service they do not receive from us. Because transport customers do not pay either the demand or commodity portion of the PGA, there is no real mechanism by which MERC could charge those customers for the incremental NNG capacity costs. This presents a real problem for designing a mechanism to charge transportation customers a volumetric charge under these circumstances.

Q. CAN YOU PROVIDE FURTHER EXPLANATION OF THE POTENTIAL DOUBLE CHARGING IF TRANSPORTATION CUSTOMERS ARE REQUIRED TO PAY A PORTION OF THE NNG CAPACITY COSTS?

A. As discussed above, MERC will acquire 100 percent of the additional capacity added by NNG's pipeline upgrades for the Rochester Project for its system sales customers. Therefore, with the exception of possible future capacity releases, transportation customers will not have access to the additional capacity. To the extent MERC releases excess capacity on the capacity release market, the price of that capacity would likely reflect, at least in part, the capacity costs MERC will pay to NNG. To the extent the released capacity is sold to a third-party marketer who then sells it to one of MERC's transportation customers, the cost of the released capacity would already reflect a portion of MERC's NNG capacity costs. I am concerned that a transport customer will perceive that it is being double charged for capacity in this circumstance. I can anticipate that transport customers may view this approach as inequitable.

Q. GIVEN THE CONCERNS YOU IDENTIFY, WHAT DO YOU RECOMMEND WITH RESPECT TO TRANSPORTATION CUSTOMERS PAYING A PORTION OF THE NNG CAPACITY COSTS?

A. Given the concerns I discuss above, I recommend that the incremental NNG capacity costs related to the Project be recovered through the commodity portion of the NNG-PGA, which will allow recovery from both firm and interruptible system sales customers. I do not recommend any separate recovery of NNG upgrade costs from transportation customers as those customers will likely already pay a portion of such costs for any capacity acquired via the capacity release market and will also pay a significant portion of the total MERC upgrade costs under MERC's proposal to recovery Project costs as a per-therm charge.

B. NGEP Rider Statute

Q. WHAT ISSUES DO YOU COVER IN THIS SECTION OF YOUR REBUTTAL TESTIMONY?

A. I respond to the Department's discussion of NGEP Rider eligibility and the inclusion of Project costs in future NGEP Rider filings. Mr. Heinen provides the Department's analysis of the applicability of the NGEP Rider Statute and he concludes that the Rochester Project constitutes an eligible project under the statute.[19] Mr. Heinen further states that a finding of prudence regarding specific costs cannot be fully made until those costs are incurred.[20] Mr. Heinen also describes the Department's position on cost discipline and concludes that the proposed $44 million cost estimate in MERC's Petition should act as a cap and that "[i]n the event that costs are greater than this cap, it is the Company's burden to show that these additional costs are reasonable."[21]

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[19] DOC Ex. __ at 36-38 (Heinen Direct). I note that Dr. Urban states at page 68, lines 9-14 of her Direct Testimony that the OAG is reserving the right to argue on brief that the NGEP Rider Statute does not apply. I am not responding to this statement, and MERC reserves the right to respond to any arguments made in the OAG's brief.

[20] DOC Ex. __ at 39-42 (Heinen Direct).

[21] DOC Ex. __ at 43: 15-16, 21-22 (Heinen Direct).

Finally, I respond to Mr. Heinen's observation that "[b]ased on a review of Attachment D to the initial filing and Ms. Lee's Direct Testimony, it was unclear if MERC intended to include only incremental costs in its rider recovery proposal."[22]

Q. DO YOU AGREE WITH MR. HEINEN THAT THE NGEP RIDER STATUTE APPLIES TO THE ROCHESTER PROJECT?

A. Yes. Mr. Heinen and MERC both agree that the NGEP Rider Statute applies to projects designed to extend natural gas service to an unserved or inadequately served area. Mr. Heinen and MERC further agree that the Rochester Project is designed to "adequately serve existing, or expected, end-use customers on a going forward basis."[23]

Q. DO YOU AGREE WITH MR. HEINEN'S TESTIMONY REGARDING THE PRUDENCE OF THE PROJECT AND RECOVERY OF PROJECT COSTS?

A. Not entirely. Mr. Heinen appears to say that the Commission should not make findings about the prudence of Project costs. However, that position appears inconsistent with language in the statute itself.

Q. PLEASE EXPLAIN.

A. Under the NGEP Rider Statute, "[t]he commission shall approve a … project if it determines that … (2) project costs are reasonable and prudently incurred." This

[22] DOC Ex. __ at 45 (Heinen Direct).

[23] DOC Ex. __ at 38:30-31 (Heinen Direct).

statutory language provides legislative guidance that the Commission is to assess proposed Project costs and make a finding on their prudence.

Q. DO YOU AGREE WITH MR. HEINEN'S STATEMENT THAT IT IS NOT POSSIBLE TO ASSESS THE PRUDENCE OF PROJECT COSTS PRIOR TO THOSE COSTS BEING INCURRED?

A. I appreciate Mr. Heinen's point that, prior to costs being incurred, it is not possible to know precisely how those costs were incurred and how the money was spent. I disagree, however, with the implication that this means that later cost recovery review starts over from scratch and allows a reexamination of the underlying costs. His position seems contrary to the statutory directive for the Commission to make a determination in this proceeding that "project costs are reasonable and prudently incurred."

Rather, under the statute, the Commission should make a finding that the proposed Project and the proposed Project costs are prudent as proposed. Therefore, when costs are incurred in furtherance of the Project, the Commission's review should properly be limited to (i) what costs were incurred; (ii) whether those costs were prudently incurred in furtherance of the Project; and (iii) whether any deviations from the proposed costs were justified under the circumstances.

In other words, in this instance, MERC has proposed the Rochester Project and estimated the cost to be approximately $44 million. If the Project is approved, that approval should include a finding that implementing the Project for approximately $44 million is reasonable and prudent. Then, when MERC seeks actual cost recovery, the review should be focused on (i) whether MERC adequately implemented the Project as approved; (ii) whether the costs incurred in furtherance of the Project were within the amount contemplated in the approval; and (iii) whether any cost deviations were justified under the circumstances.

Q. SHOULD THE $44 MILLION COST ESTIMATE BE CONSIDERED A HARD CAP ON COSTS?

A. No. The $44 million estimate should be considered the baseline against which actual circumstances should be measured. I agree with Mr. Heinen that the utility has the burden of proving that changed circumstances result in changed costs, but fundamentally, the utility should have the opportunity to prove that circumstances changed and resulted in cost changes that were reasonable.

Q. DO YOU KNOW OF ANY CIRCUMSTANCES THAT COULD LEAD TO COST CHANGES OF WHICH THE COMMISSION SHOULD BE AWARE?

A. The Rebuttal Testimony of Lindsay Lyle provides additional information for the record on potential modifications to the Project arising out of the companion Route Permit Application proceeding, Docket No. G011/PR-15-858. Depending on land use and geological makeup, it is possible the selection of the final route could result in changes to MERC's design and construction costs.

Q. ARE YOU PROVIDING INFORMATION RESPONSIVE TO MR. HEINEN'S QUESTION ABOUT THE AMOUNT OF CONTINGENCY INCLUDED IN THE $44 MILLION COST ESTIMATE?

A. No. Ms. Lyle provides that information in her Rebuttal Testimony.

Q. ARE THE COSTS MERC IS PROPOSING TO RECOVER THROUGH THE NGEP RIDER CONSISTENT WITH MINN. STAT. § 216B.1638?

A. Yes, as Mr. Heinen notes in his Direct Testimony at page 45, Minn. Stat. § 216B.1638, subd. 3(d) provides:

> The revenue deficiency from a natural gas extension project recoverable through a rider under this section must include the currently authorized rate of return, incremental income taxes, incremental property taxes, incremental depreciation expense, and any incremental operation and maintenance costs.

MERC proposes only to include those incremental income taxes, incremental property taxes, and incremental depreciation expense as permitted under the NGEP Rider Statute. Additionally, MERC initially calculated a projected revenue deficiency for NGEP Rider recovery in its Initial Filing based on $5,000 annual operations and maintenance ("O&M") expense beginning in 2017, inflated 3 percent annually thereafter. This "incremental O&M" calculation was a highly conservative calculation based on a minimum of anticipated employee hours for O&M related to the Project. Though MERC agrees with Mr. Heinen that calculation of a true incremental O&M is uncertain, these costs are appropriate for rider recovery.

C. DMC Issues

Q. WHAT ISSUES DO YOU COVER IN THIS SECTION OF YOUR REBUTTAL TESTIMONY?

A. I respond to Mr. Heinen's and Dr. Urban's discussions of (i) the applicability of the DMC initiative to this Project; (ii) the availability of funding for aspects of the Rochester Project as part of the DMC initiative; and (iii) MERC's efforts to obtain funding from the DMC.[24]

Q. PLEASE SUMMARIZE YOUR UNDERSTANDING OF THE DEPARTMENT'S AND THE OAG'S TESTIMONY ABOUT THE DMC INITIATIVE.

A. Both agencies provide a discussion of how the DMC initiative might impact demand growth in Rochester. The Department correctly observes that MERC did not include DMC-related growth in our demand forecast, while the OAG incorrectly assumes that the Company's forecast is based on the assumption that the DMC initiative will be successful. Ultimately, MERC agrees with the Department that the potential for DMC-related growth could be viewed as a possible contingency that has the potential to significantly increase demand from the base case forecast.

Both agencies discuss the potential applicability of DMC funding to the Rochester Project. The Department correctly concludes that, under the DMC statute, it is highly

[24] *See* DOC Ex. __ at 11, 19-20, 28, 50-58 (Heinen Direct); OAG Ex. __ at 31, 64-67 (Urban Direct).

unlikely that MERC is entitled to receive funding from the DMC. MERC's efforts to pursue funding have confirmed that the DMC initiative is not a source of funding that MERC can rely upon for the Rochester Project.

Finally, the OAG provides observations about MERC's efforts to seek funding. MERC respectfully disagrees with the OAG's implications that MERC did not actively pursue funding and submits that MERC made good-faith efforts to obtain funding from the DMC.

Q. DID MERC INCLUDE DMC-RELATED GROWTH IN ITS FORECAST?

A. No. The OAG is incorrect in Dr. Urban's assumption that MERC's forecast included growth related to the DMC initiative.[25] As MERC provided in Mr. Clabots' Direct Testimony and in discovery, our forecasts were based on historical growth projections and statistically-significant future growth projections that did not include an additional growth factor specific to the DMC initiative.[26]

By contrast, Mr. Heinen for the Department correctly observes that MERC did not include a DMC factor in its forecast.[27]

[25] OAG Ex. __ at 26:14-16, 31:1-31 (Urban Direct).

[26] *See* MERC Ex. __ at 14:7-15 (Clabots Direct); OAG Ex. __ at JAU-9 (Urban Direct) (MERC's Response to OAG IR 155).

[27] DOC Ex. __ at 19:8-20:20 (Heinen Direct).

Mr. Clabots' Rebuttal Testimony provides additional discussion about MERC's forecasting and the impact of the DMC initiative on the proposed Rochester Project.

Q. HOW SHOULD THE COMMISSION CONSIDER THE IMPACT OF THE DMC INITIATIVE ON THE ROCHESTER PROJECT?

A. MERC believes that the Rochester Project is a reasonable and prudent system addition separate from the DMC initiative. MERC currently lacks adequate capacity in the Rochester area to reliably meet firm customer demand so we must add capacity in the near term. The proposed Project is a reasonable and prudent response to that shortfall and projected system growth, without regard to the DMC initiative.

Further, MERC agrees with Mr. Heinen's observation that MERC's customer growth projections "represented the higher range of expected growth for the Rochester area" and that if the DMC initiative is successful, significant new growth will occur.[28] Though success of the DMC initiative cannot be guaranteed, MERC agrees that the potential for such growth is a further justification for the design of the Project.

Q. DO YOU BELIEVE THAT MERC IS ELIGIBLE TO RECEIVE DMC FUNDING FOR THE COSTS ASSOCIATED WITH THE ROCHESTER PROJECT?

A. No. I agree with Mr. Heinen's conclusion that it does not appear that the Rochester Project meets the specific DMC criteria for funding. Mr. Heinen points out that the

[28] DOC Ex. __ at 20:15-16 (Heinen Direct).

Rochester Project is not proposed to be implemented within one of the "development districts" that are set aside for DMC funding. Though the eligibility criteria appear to be narrowly defined and construed, I agree it appears the Rochester Project does not meet the eligibility criteria under the DMC initiative.

Q. CAN YOU PROVIDE AN UPDATE ON MERC'S EFFORTS TO PURSUE DMC FUNDING?

A. In April 2016, MERC made an application for DMC funding pursuant to the DMC guidelines. On May 18, 2016, representatives of MERC met with DMC representatives in Rochester to discuss MERC's proposal. A copy of the presentation given at the May 18, 2016, meeting is included as Exhibit __ (ASL-R2) to my Rebuttal Testimony.

On July 18, 2016, the City of Rochester and the Destination Medical Center Economic Development Agency sent a letter in response to MERC's application for funding, thanking MERC for its application and stating that "[b]ecause the Project does not fall within the development district boundaries, it is not eligible for funding." A copy of the July 18, 2016, letter is attached to my Rebuttal Testimony as Exhibit __ (ASL-R3). This letter and the rationale for denying funding are entirely consistent with Mr. Heinen's analysis that the Project is not eligible for DMC funding.

Q. HOW DO YOU RESPOND TO THE OAG'S CRITICISMS ABOUT MERC'S EFFORTS TO SEEK DMC FUNDING?

A. I respectfully disagree with these criticisms. MERC diligently pursued DMC funding. Though our efforts were ultimately unsuccessful, this was not because of a lack of effort. Rather, we were unsuccessful because the design of the DMC plan does not support funding a project like the Rochester Project.

Q. HOW DO YOU RESPOND TO MR. HEINEN'S RECOMMENDATION THAT MERC PURSUE DMC FUNDING FOR FUTURE DISTRIBUTION PROJECTS OCCURRING WITHIN THE DMC DEVELOPMENT DISTRICTS?[29]

A. MERC agrees that we should and will pursue DMC funding for future distribution projects that are located within the DMC development districts. I expect that this will result in a series of fairly small DMC funding requests to support costs associated with specific development projects located within the DMC "development districts."

D. Prudent Selection

Q. WHAT ISSUES DO YOU COVER IN THIS SECTION OF YOUR REBUTTAL TESTIMONY?

A. I primarily respond to Dr. Urban's alternative recommendation that if the Commission approves the Project it should conclude that some portion of the Project is not "used and useful" and therefore not eligible for rate recovery until demand growth actually matches the capacity of the system.[30]

[29] DOC Ex. __ at 57:12-58:1 (Heinen Direct).

[30] OAG Ex. __ at 55:15-56:7 (Urban Direct).

Q. HOW DO YOU RESPOND TO THE OAG'S ALTERNATIVE RECOMMENDATION?

A. I disagree with this recommendation and believe it is inconsistent with both established ratemaking concepts and the NGEP Rider Statute. As discussed in more detail in the Rebuttal Testimonies of Ms. Mead and Mr. Sexton, the Project, as proposed, would not result in MERC unduly overbuilding the system. I believe the Commission should determine if the Rochester Project, as proposed, is a reasonable and prudent system addition. If so, it should be eligible for cost recovery. Neither general principles nor the NGEP Rider Statute support the notion of partial approval or a finding of partial prudence.

If the Commission does not agree that the Rochester Project is a prudent system addition, then it should deny approval of the Project. The type of partial approval suggested in Dr. Urban's testimony should not be adopted.

As discussed in MERC's response to OAG Information Request No. 106, which is attached to my Rebuttal Testimony as Rebuttal Exhibit __ (ASL-R4), if the Commission disapproves (or only partially approves) cost recovery for MERC's Phase II Rochester Project, MERC would not move forward with Phase II as currently defined, and would take actions necessary to avoid additional costs to the extent possible. In that scenario, MERC likely would be unable to reliably serve its existing firm customers in and around

Rochester and would need to notify the City of Rochester and customers about the limitations on natural gas service.

Q. DO YOU BELIEVE THAT THE ROCHESTER PROJECT, AS PROPOSED, IS A REASONABLE AND PRUDENT SYSTEM ADDITION?

A. Yes. I agree with Mr. Heinen's conclusion that the Rochester Project, as proposed, is a prudent system addition at this time. The evidence in this record shows that MERC needs additional capacity in the Rochester area. That need is immediate and growing, regardless of whether the DMC initiative is successful, and if that initiative is successful, the demand will grow significantly. The Rochester Project is an appropriate way to meet that demand and the Project, as proposed, does not result in MERC unduly overbuilding the system. Though the Rochester Project results in somewhat higher reserve margins in the near term, that in and of itself does not mean the Project is imprudent. In this regard, it is important to put the costs of the anticipated reserve margin into context, as discussed in Mr. Heinen's Direct Testimony. According to the Department's analysis, the average amount of excess capacity will cost approximately $3 million, which is approximately 2.5 percent of total PGA costs incurred for the MERC-NNG PGA system.[31]

The OAG's alternative recommendation to partially approve the Project implies the ability to precisely predict the future and obtain the exact amount of capacity needed. By its nature, forecasting does not lend itself to precision and the record we have developed

[31] *See* DOC Ex. __ at 35-36 (Heinen Direct).

shows that the proposed project design is more appropriate than any identified alternatives. Given the demonstrated need for the Project and evaluation of available alternatives, the Project should be approved in its entirety.

Q. WHAT ARE THE ACCOUNTING IMPLICATIONS OF THE OAG'S RECOMMENDATION?

A. Dr. Urban requests that MERC provide a discussion of the accounting treatment for the type of partial approval she supports. MERC respectfully disagrees with such a request, as the accounting treatment of such an outcome does not address the fundamental problem with the OAG's proposal.

MERC believes that the Rochester Project is prudent and should be approved as proposed. The Project provides significant benefits to existing customers both in Rochester and elsewhere on MERC's system. Notably, the Department agrees with that fundamental recommendation.

Essentially, the OAG's alternative recommendation constitutes a "partial" approval that does not reflect the value of the Project to MERC's customers. In my opinion, the OAG's alternative recommendation is not supported by the record and is not consistent with the NGEP Rider Statute or general ratemaking principles. Moreover, this recommendation is not realistic.

Q. WHY DOES PARTIAL APPROVAL NOT WORK?

A. The OAG seeks to deny immediate rate recovery for a portion of the Project that is designed for ratepayer benefits at this time. I do not believe that the "used and useful" analysis described by Dr. Urban is the correct analysis. To the contrary, the question before the Commission is whether the proposed Project costs are prudent. If so, they should be approved. If not, the Project should be denied. Holding a portion of the Project hostage is inconsistent with the need to provide the Rochester area with sufficient capacity to meet current and future needs.

As discussed in MERC's response to OAG Information Request No. 187, which is attached to my Rebuttal Testimony as Rebuttal Exhibit __ (ASL-R5), MERC disagrees with the OAG's position that the addition of increased capacity, as proposed, results in unneeded pipeline capacity. To the contrary, given consideration of the specific factors relevant in Rochester, the short-term capacity reserve margin that will result under the proposed Project is prudent and reasonable.

Q. WHAT ARE THE IMPLICATIONS OF THE OAG'S ALTERNATIVE?

A. This recommendation would be the equivalent of denying the Project. As noted above, if the Commission disapproves cost recovery for MERC's Rochester Phase II Project, MERC would not move forward with the Project as defined, but would notify the City of Rochester about limitations on natural gas service resulting from the lack of increased capacity on the interstate pipeline and MERC's distribution system serving Rochester.

Denial of the Project would likely result in MERC being unable to reliably serve its existing firm customers in and around Rochester. As discussed in Rebuttal Exhibit __ (ASL-R4), MERC would need to incur at least some additional costs to terminate the Project in the event the Commission denies the Petition, and the costs of such efforts are uncertain. Appropriate next steps to properly address the lack of adequate capacity to ensure continued reliable natural gas service in and around Rochester would also be uncertain. If Commission approval is not obtained, the NNG PA will effectively terminate and the benefits negotiated thereunder would likely be difficult to renegotiate under future conditions. To the extent a secondary bid process was required, it is likely MERC would be unable to meet firm customers' natural gas demand in the event of a design day.

E. Interruptible and Transportation Customer Issues

Q. WHAT ISSUES DO YOU COVER IN THIS SECTION OF YOUR REBUTTAL TESTIMONY?

A. Both Mr. Heinen and Dr. Urban discuss the fact that deploying the Rochester Project will make it less likely that interruptible customers will, in fact, be interrupted as a result of the higher reserve margins that will result in the near term from implementation of the Project.[32] Dr. Urban requests that the Company provide a discussion of the "interruptible discount" and asks whether an interruptible rate continues to make sense in an environment where the reserve margin is high enough to make it unlikely that

[32] DOC Ex. __ at 59:22-60:5 (Heinen Direct); OAG Ex. __ at 61:8-62:5 (Urban Direct).

interruptible customers will actually be interrupted. Mr. Heinen suggests that MERC may be able to mitigate capacity costs by being proactive in finding potential purchasers of firm capacity from the electric industry as natural gas becomes a more attractive generation resource.[33]

Q. HOW DO YOU RESPOND TO THIS DISCUSSION?

A. I agree that the Rochester Project impacts the capacity situation in the Rochester area -- both with respect to MERC's distribution and the interstate pipeline capacity -- and once the Project is deployed, the likelihood of curtailment will be lower for the near term. I also agree that this situation makes it more likely that interruptible customers will receive the benefit of firmer service than they would if the Project is not deployed. In fact, as a result of the current negative reserve margins, our interruptible customers are at heightened risk of curtailments -- a situation that would change significantly as a result of deployment of the Rochester Project, at least in the near term.

I note that while the chance of curtailment will decrease if the Rochester Project is approved, the interruptible customers still bear the risk that they will be interrupted due to force majeure events, distribution system constraints, or even gas supply constraints. Though the additional interstate capacity and MERC's distribution upgrades associated with the Rochester Project should reduce the likelihood of curtailments, it is important to recognize the Project does not eliminate all risk of interruption and the interruptible

[33] DOC Ex. __ at 59:22-60:2 (Heinen Direct).

customers have a lower priority of service than firm customers during a curtailment event.

Q. DOES MERC HAVE MECHANISMS AVAILABLE TO INCREASE FIRM SALES TO UTILIZE SOME OF THE RESERVE MARGIN CREATED BY THE PROJECT?

A. To some degree, yes. MERC will work with our interruptible customers to find cost effective ways to transition them to firm service to the extent feasible. Under MERC's current tariffs, however, we are somewhat limited in our ability to require interruptible customers to switch to firm service. This is particularly true for very large customers who typically have relied on both interruptible and transportation service for large industrial operations.

Q. IS NATURAL GAS DESIGNATED FOR ELECTRIC GENERATION SERVED ON A FIRM OR INTERRUPTIBLE BASIS?

A. I am not an expert in the rules governing natural gas-fired electric power generation plants. I am generally aware that the system adequacy requirements of the Mid-Continent Independent System Operator, Inc. ("MISO") impose requirements for the firmness of natural gas for electric generation. I have been advised that natural gas-fired electric power generation plants can be accredited with interruptible gas service under some circumstances with potentially adverse consequences if the generator is curtailed due to an interruption. I note that electric "peaking" facilities are expected to run less than 5 percent of the hours of the year and typically run only on the hottest days of the year. Thus, they are typically operational at a time when natural gas is not being used for space heat and is readily available.

Q. RPU ANNOUNCED ITS PLAN TO BUILD A NEW ELECTRIC GENERATION FACILITY IN ROCHESTER. DO YOU KNOW WHAT TYPE OF FACILITY IT IS?

A. I understand it is a 50 MW combustion turbine peaking facility. A more complete description of RPU's plans can be found in MERC's response to OAG IR-156, which is attached to Dr. Urban's testimony as Schedule JAU-32.

Q. CAN MERC DICTATE THE TYPE OF SERVICE RPU TAKES FOR ITS PROPOSED NEW ELECTRIC GENERATOR?

A. No.

Q. WHAT TYPE OF SERVICE ARE YOU EXPECTING RPU TO TAKE FOR THE PROPOSED NEW ELECTRIC GENERATOR?

A. Schedule 32 to Dr. Urban's testimony provides this information on page 2. This information is designated as Trade Secret.

Q. DO RPU'S PLANS IMPACT MERC'S PROPOSED PROJECT?

A. As discussed in the Rebuttal Testimony of Mr. Clabots, MERC did not specifically model additional firm capacity sales for RPU that would account for RPU's plans to increase natural gas usage for its electric generation. Because RPU is primarily a transportation customer with respect to its generation assets, it does not purchase its interstate natural gas capacity or commodity from MERC. I discuss a number of concerns related to the proposal to charge transportation customers for the NNG capacity costs earlier in my testimony and those concerns would certainly apply to RPU. Of particular note, the proposed location of RPU's new electric generator is very close to the NNG pipeline, making bypass a significant possibility.

With respect to RPU's plans to increase its reliance on natural gas for generation, whether or not the gas used by RPU is firm or interruptible, sales or transportation, it represents a potentially significant additional increment of throughput in Rochester. Assuming RPU does not elect to bypass MERC's system, all MERC customers would benefit from RPU sharing in system costs, including the costs of MERC's Rochester Project upgrade. Additionally, under MERC's proposal to structure the Project Rider recovery as a per-therm charge, RPU, as a very large volume user, would contribute a significant amount to the Project costs.

MERC generally agrees that consideration of RPU's potential increased future natural gas needs is important in this proceeding, but notes that under existing tariffs, MERC is unable to dictate whether RPU takes service as a firm, interruptible, sales, or transport customer.

Q. HOW SHOULD MERC REACT TO THE RESERVE MARGIN RESULTING FROM THE ROCHESTER PROJECT?

A. I recommend that MERC's tariffs be reviewed to ensure that interruptible customers are not allowed to "free ride" on the system, but that they are paying their appropriate share given their lower priority of service. At the present time, MERC's tariffs generally do not discourage customers from electing interruptible service. Tariff amendments could be considered to restrict a customer's ability to select interruptible service in an environment where reserve margins are high.

Q. DO YOU RECOMMEND THAT SUCH TARIFF CHANGES BE CONSIDERED AS PART OF THIS PROCEEDING?

A. No. I recommend that MERC address these issues in its next rate case or in a separate docket designed to address that issue. At that time, all issues concerning the tariff can be considered as a whole and the Commission can decide how to proceed with this issue in light of all other tariff issues that may be presented.

III. CONCLUSION

Q. DO YOU HAVE ANY FINAL COMMENTS REGARDING THE TESTIMONY OF THE DEPARTMENT AND THE OAG?

A. Yes. MERC appreciates the thorough and constructive review of the Project conducted by both the Department and the OAG. The discovery process helped to explore the details of the Project and to refine MERC's proposal. Based on the development of the record in this case, I continue to believe MERC has fully supported the need for the Rochester Project as proposed, as well as the reasonableness of the NNG proposal to provide the necessary additional capacity to the system

We understand the Department's position that MERC's forecast can be considered an appropriate "bookend" to judge the Project and we agree that either MERC's or the Department's forecast supports a finding that the Project is needed. We are also gratified that the Department found the structure of the Project to be appropriate, that MERC's selection process was appropriate, and that the Project is a reasonable and prudent choice for all of MERC's customers.

And while MERC disagrees with some of the conclusions drawn by the OAG, we appreciate the effort that went into that analysis. The OAG helps provide the Commission with a robust record with which to make its ultimate decision.

There is significant factual, legal, and policy support for the Commission to determine MERC's Rochester Project, as proposed, is reasonable and that MERC took a prudent approach to defining the necessary scope of the Project and contracting with NNG for the reasonable additional capacity. MERC has supported a finding that MERC's Rochester Project costs are eligible for recovery through base rates and the NGEP Rider. Further, it is reasonable and appropriate for all of the Phase II Project costs to be recovered from all MERC ratepayers through base rates and the NGEP Rider and for the NNG capacity costs to be recovered from all firm and interruptible customers through the commodity portion of the NNG PGA.

Q. DOES THIS COMPLETE YOUR REBUTTAL TESTIMONY?

A. Yes, it does.

Rebuttal Schedules—Amber S. Lee

Exhibit	Description
ASL-R1	Billing Impact Analysis for Recovery of MERC's Capital Costs Using 50/50 Split Between Rochester Area Customers and All Other MERC Customers
ASL-R2	MERC Presentation to City of Rochester and DMC Economic Development Agency (May 18, 2016)
ASL-R3	Letter from City of Rochester and DMC Economic Development Agency to MERC (July 18, 2016)
ASL-R4	MERC's Response to OAG Information Request No. 106
ASL-R5	MERC's Response to OAG Information Request No. 187

Total Sales

Calendar Year	Residential	Small Commercial	Large Commercial	Interruptible	Transport	Total	Project Revenue Deficiency	33% of Costs collected via Rider	Per Therm Increase
2015	184,857,746	16,277,661	94,911,212	39,304,173	420,478,597	755,829,389			
2016	180,058,591	15,400,725	92,185,856	38,867,169	419,336,787	745,849,128	$ 81,481	$ 27,160	$ 0.00004
2017	181,355,952	15,390,801	91,884,493	38,706,144	420,181,708	747,519,098	$ 201,038	$ 67,013	$ 0.00009
2018	183,538,494	15,462,028	91,884,490	38,871,437	420,747,755	750,504,204	$ 1,310,600	$ 436,867	$ 0.00058
2019	185,831,010	15,536,790	91,884,490	38,962,623	421,050,270	753,265,183	$ 2,359,549	$ 786,516	$ 0.00104
2020	189,055,268	15,680,809	92,182,442	39,088,551	421,510,625	757,517,695	$ 2,871,298	$ 957,099	$ 0.00126
2021	190,720,756	15,692,795	91,884,490	39,283,772	421,725,375	759,307,188	$ 3,473,581	$ 1,157,860	$ 0.00152
2022	193,306,819	15,772,468	91,884,490	39,537,310	422,221,573	762,722,660	$ 3,984,439	$ 1,328,146	$ 0.00174
2023	195,980,466	15,852,578	91,884,490	39,774,459	422,686,511	766,178,504	$ 4,125,365	$ 1,375,122	$ 0.00179
2024	199,610,865	16,000,595	92,182,442	39,983,994	423,267,780	771,045,676	$ 3,530,619	$ 1,176,873	$ 0.00153
2025	201,571,550	16,011,644	91,884,490	40,123,880	423,376,934	772,968,498	$ 2,945,676	$ 981,892	$ 0.00127

Rochester Area Sales Only

Calendar Year	Residential	Small Commercial	Large Commercial	Interruptible	Transport	Total	Project Revenue Deficiency	33% of Costs collected via Rider	Per Therm Increase
2015	37,139,770	1,803,050	18,719,350	2,081,000	42,432,110	102,175,280			
2016	37,296,950	1,812,270	18,753,400	1,983,640	43,397,200	103,243,460	$ 40,741	$ 13,580	$ 0.00013
2017	37,859,050	1,836,610	18,902,860	2,042,230	44,861,070	105,501,820	$ 100,519	$ 33,506	$ 0.00032
2018	38,499,170	1,867,810	19,052,320	2,077,390	46,146,320	107,643,010	$ 655,300	$ 218,433	$ 0.00203
2019	39,210,090	1,902,470	19,201,770	2,098,490	47,094,900	109,507,720	$ 1,179,775	$ 393,258	$ 0.00359
2020	39,986,080	1,939,190	19,351,230	2,111,160	47,859,690	111,247,350	$ 1,435,649	$ 478,550	$ 0.00430
2021	40,822,380	1,977,340	19,500,690	2,118,750	48,675,920	113,095,080	$ 1,736,791	$ 578,930	$ 0.00512
2022	41,714,850	2,016,650	19,650,150	2,123,310	49,562,830	115,067,790	$ 1,992,220	$ 664,073	$ 0.00577
2023	42,659,740	2,056,920	19,799,600	2,126,050	50,456,550	117,098,860	$ 2,062,683	$ 687,561	$ 0.00587
2024	43,653,650	2,098,030	19,949,060	2,127,690	51,357,250	119,185,680	$ 1,765,310	$ 588,437	$ 0.00494
2025	44,693,390	2,139,890	20,098,520	2,128,680	52,291,120	121,351,600	$ 1,472,838	$ 490,946	$ 0.00405

NON-Rochester Area Sales Only

Calendar Year	Residential	Small Commercial	Large Commercial	Interruptible	Transport	Total	Project Revenue Deficiency	33% of Costs collected via Rider	Per Therm Increase
2015	147,717,976	14,474,611	76,191,862	37,223,173	378,046,487	653,654,109			
2016	142,761,641	13,588,455	73,432,456	36,883,529	375,939,587	642,605,668	$ 40,741	$ 13,580	$ 0.00002
2017	143,496,902	13,554,191	72,981,633	36,663,914	375,320,638	642,017,278	$ 100,519	$ 33,506	$ 0.00005
2018	145,039,324	13,594,218	72,832,170	36,794,047	374,601,435	642,861,194	$ 655,300	$ 218,433	$ 0.00034
2019	146,620,920	13,634,320	72,682,720	36,864,133	373,955,370	643,757,463	$ 1,179,775	$ 393,258	$ 0.00061
2020	149,069,188	13,741,619	72,831,212	36,977,391	373,650,935	646,270,345	$ 1,435,649	$ 478,550	$ 0.00074
2021	149,898,376	13,715,455	72,383,800	37,165,022	373,049,455	646,212,108	$ 1,736,791	$ 578,930	$ 0.00090
2022	151,591,969	13,755,818	72,234,340	37,414,000	372,658,743	647,654,870	$ 1,992,220	$ 664,073	$ 0.00103
2023	153,320,726	13,795,658	72,084,890	37,648,409	372,229,961	649,079,644	$ 2,062,683	$ 687,561	$ 0.00106
2024	155,957,215	13,902,565	72,233,382	37,856,304	371,910,530	651,859,996	$ 1,765,310	$ 588,437	$ 0.00090
2025	156,878,160	13,871,754	71,785,970	37,995,200	371,085,814	651,616,898	$ 1,472,838	$ 490,946	$ 0.00075

Total Sales

	Average Annual Use	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025		
MERC distribution Per Therm		$ 0.00004	$ 0.00009	$ 0.00058	$ 0.00104	$ 0.00126	$ 0.00152	$ 0.00174	$ 0.00179	$ 0.00153	$ 0.00127		

	Average Annual Use	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Annual Average	Monthly Average
Residential	867	$ 0.03	$ 0.08	$ 0.50	$ 0.91	$ 1.10	$ 1.32	$ 1.51	$ 1.56	$ 1.32	$ 1.10	$ 0.94	$ 0.08
GS Small C&I	1,015	$ 0.04	$ 0.09	$ 0.59	$ 1.06	$ 1.28	$ 1.55	$ 1.77	$ 1.82	$ 1.55	$ 1.29	$ 1.10	$ 0.09
GS Large C&I	8,633	$ 0.31	$ 0.77	$ 5.03	$ 9.01	$ 10.91	$ 13.16	$ 15.03	$ 15.49	$ 13.18	$ 10.97	$ 9.39	$ 0.78
Small Volume Interruptible Sales	53,503	$ 1.95	$ 4.80	$ 31.14	$ 55.86	$ 67.60	$ 81.59	$ 93.17	$ 96.03	$ 81.66	$ 67.96	$ 58.18	$ 4.85
Small Volume Joint Sales	54,241	$ 1.98	$ 4.86	$ 31.57	$ 56.64	$ 68.53	$ 82.71	$ 94.45	$ 97.35	$ 82.79	$ 68.90	$ 58.98	$ 4.91
Small Volume Interruptible Transport	130,459	$ 4.75	$ 11.70	$ 75.94	$ 136.22	$ 164.83	$ 198.94	$ 227.17	$ 234.15	$ 199.12	$ 165.72	$ 141.85	$ 11.82
Small Volume Joint Transport	94,486	$ 3.44	$ 8.47	$ 55.00	$ 98.66	$ 119.38	$ 144.08	$ 164.53	$ 169.58	$ 144.22	$ 120.02	$ 102.74	$ 8.56
Transportation for Resale	265,416	$ 9.67	$ 23.79	$ 154.50	$ 277.13	$ 335.34	$ 404.73	$ 462.17	$ 476.36	$ 405.11	$ 337.15	$ 288.60	$ 24.05
Large Volume Interruptible Sales	227,533	$ 8.29	$ 20.40	$ 132.45	$ 237.58	$ 287.48	$ 346.96	$ 396.21	$ 408.37	$ 347.29	$ 289.03	$ 247.41	$ 20.62
Large Volume Interruptible Transport	1,652,444	$ 60.17	$ 148.14	$ 961.88	$ 1,725.39	$ 2,087.81	$ 2,519.80	$ 2,877.44	$ 2,965.77	$ 2,522.18	$ 2,099.08	$ 1,796.77	$ 149.73
Large Volume Joint Transport	1,336,714	$ 48.68	$ 119.83	$ 778.10	$ 1,395.72	$ 1,688.90	$ 2,038.34	$ 2,327.65	$ 2,399.11	$ 2,040.27	$ 1,698.01	$ 1,453.46	$ 121.12
Super Large Volume Interruptible Transport	15,632,819	$ 569.27	$ 1,401.43	$ 9,099.83	$ 16,322.89	$ 19,751.57	$ 23,838.34	$ 27,221.78	$ 28,057.47	$ 23,860.90	$ 19,858.17	$ 16,998.16	$ 1,416.51
Super Large Volume Joint Transport	5,808,885	$ 211.53	$ 520.75	$ 3,381.34	$ 6,065.30	$ 7,339.34	$ 8,857.91	$ 10,115.14	$ 10,425.67	$ 8,866.30	$ 7,378.95	$ 6,316.22	$ 526.35

Rochester Area Only Sales

	Average Annual Use	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025		
MERC distribution Per Therm		$ 0.00013	$ 0.00032	$ 0.00203	$ 0.00359	$ 0.00430	$ 0.00512	$ 0.00577	$ 0.00587	$ 0.00494	$ 0.00405		

	Average Annual Use	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Annual Average	Monthly Average
Residential	867	$ 0.11	$ 0.28	$ 1.76	$ 3.11	$ 3.73	$ 4.44	$ 5.00	$ 5.09	$ 4.28	$ 3.51	$ 3.13	$ 0.26
GS Small C&I	1,015	$ 0.13	$ 0.32	$ 2.06	$ 3.65	$ 4.37	$ 5.20	$ 5.86	$ 5.96	$ 5.01	$ 4.11	$ 3.67	$ 0.31
GS Large C&I	8,633	$ 1.14	$ 2.74	$ 17.52	$ 31.00	$ 37.14	$ 44.19	$ 49.82	$ 50.69	$ 42.62	$ 34.93	$ 31.18	$ 2.60
Small Volume Interruptible Sales	53,503	$ 7.04	$ 16.99	$ 108.57	$ 192.14	$ 230.15	$ 273.88	$ 308.77	$ 314.15	$ 264.15	$ 216.45	$ 193.23	$ 16.10
Small Volume Joint Sales	54,241	$ 7.13	$ 17.23	$ 110.07	$ 194.79	$ 233.33	$ 277.66	$ 313.03	$ 318.48	$ 267.80	$ 219.44	$ 195.90	$ 16.32
Small Volume Interruptible Transport	130,459	$ 17.16	$ 41.43	$ 264.73	$ 468.50	$ 561.19	$ 667.82	$ 752.90	$ 766.01	$ 644.09	$ 527.79	$ 471.16	$ 39.26
Small Volume Joint Transport	94,486	$ 12.43	$ 30.01	$ 191.73	$ 339.31	$ 406.45	$ 483.67	$ 545.29	$ 554.79	$ 466.49	$ 382.26	$ 341.24	$ 28.44
Transportation for Resale	265,416	$ 34.91	$ 84.29	$ 538.59	$ 953.15	$ 1,141.73	$ 1,358.66	$ 1,531.75	$ 1,558.42	$ 1,310.40	$ 1,073.78	$ 958.57	$ 79.88
Large Volume Interruptible Sales	227,533	$ 29.93	$ 72.26	$ 461.72	$ 817.10	$ 978.77	$ 1,164.73	$ 1,313.13	$ 1,335.99	$ 1,123.36	$ 920.52	$ 821.75	$ 68.48
Large Volume Interruptible Transport	1,652,444	$ 217.35	$ 524.80	$ 3,353.20	$ 5,934.17	$ 7,108.27	$ 8,458.81	$ 9,536.50	$ 9,702.53	$ 8,158.35	$ 6,685.21	$ 5,967.92	$ 497.33
Large Volume Joint Transport	1,336,714	$ 175.83	$ 424.53	$ 2,712.51	$ 4,800.33	$ 5,750.11	$ 6,842.60	$ 7,714.37	$ 7,848.69	$ 6,599.55	$ 5,407.88	$ 4,827.64	$ 402.30
Super Large Volume Interruptible Transport	15,632,819	$ 2,056.27	$ 4,964.83	$ 31,722.72	$ 56,139.73	$ 67,247.27	$ 80,023.91	$ 90,219.30	$ 91,790.08	$ 77,181.43	$ 63,244.90	$ 56,459.04	$ 4,704.92
Super Large Volume Joint Transport	5,808,885	$ 764.07	$ 1,844.84	$ 11,787.61	$ 20,860.55	$ 24,987.92	$ 29,735.50	$ 33,523.93	$ 34,107.61	$ 28,679.28	$ 23,500.71	$ 20,979.20	$ 1,748.27

NON-Rochester Area Sales

	Average Annual Use	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
MERC distribution Per Therm		$ 0.00002	$ 0.00005	$ 0.00034	$ 0.00061	$ 0.00074	$ 0.00090	$ 0.00103	$ 0.00106	$ 0.00090	$ 0.00075

		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Annual Average	Monthly Average
Residential	867	$ 0.02	$ 0.05	$ 0.29	$ 0.53	$ 0.64	$ 0.78	$ 0.89	$ 0.92	$ 0.78	$ 0.65	$ 0.55	$ 0.05
GS Small C&I	1,015	$ 0.02	$ 0.05	$ 0.34	$ 0.62	$ 0.75	$ 0.91	$ 1.04	$ 1.08	$ 0.92	$ 0.76	$ 0.65	$ 0.05
GS Large C&I	8,633	$ 0.18	$ 0.45	$ 2.93	$ 5.27	$ 6.39	$ 7.73	$ 8.85	$ 9.14	$ 7.79	$ 6.50	$ 5.53	$ 0.46
Small Volume Interruptible Sales	53,503	$ 1.13	$ 2.79	$ 18.18	$ 32.68	$ 39.62	$ 47.93	$ 54.86	$ 56.67	$ 48.30	$ 40.31	$ 34.25	$ 2.85
Small Volume Joint Sales	54,241	$ 1.15	$ 2.83	$ 18.43	$ 33.13	$ 40.16	$ 48.59	$ 55.62	$ 57.46	$ 48.96	$ 40.87	$ 34.72	$ 2.89
Small Volume Interruptible Transport	130,459	$ 2.76	$ 6.81	$ 44.33	$ 79.69	$ 96.60	$ 116.88	$ 133.77	$ 138.19	$ 117.77	$ 98.29	$ 83.51	$ 6.96
Small Volume Joint Transport	94,486	$ 2.00	$ 4.93	$ 32.10	$ 57.72	$ 69.96	$ 84.65	$ 96.88	$ 100.09	$ 85.29	$ 71.19	$ 60.48	$ 5.04
Transportation for Resale	265,416	$ 5.61	$ 13.85	$ 90.18	$ 162.14	$ 196.53	$ 237.78	$ 272.14	$ 281.15	$ 239.59	$ 199.97	$ 169.90	$ 14.16
Large Volume Interruptible Sales	227,533	$ 4.81	$ 11.87	$ 77.31	$ 139.00	$ 168.48	$ 203.84	$ 233.30	$ 241.02	$ 205.39	$ 171.43	$ 145.65	$ 12.14
Large Volume Interruptible Transport	1,652,444	$ 34.92	$ 86.24	$ 561.47	$ 1,009.44	$ 1,223.60	$ 1,480.40	$ 1,694.33	$ 1,750.41	$ 1,491.67	$ 1,245.00	$ 1,057.75	$ 88.15
Large Volume Joint Transport	1,336,714	$ 28.25	$ 69.76	$ 454.19	$ 816.57	$ 989.81	$ 1,197.54	$ 1,370.60	$ 1,415.96	$ 1,206.66	$ 1,007.12	$ 855.65	$ 71.30
Super Large Volume Interruptible Transport	15,632,819	$ 330.37	$ 815.86	$ 5,311.77	$ 9,549.77	$ 11,575.78	$ 14,005.17	$ 16,029.12	$ 16,559.62	$ 14,111.81	$ 11,778.19	$ 10,006.74	$ 833.90
Super Large Volume Joint Transport	5,808,885	$ 122.76	$ 303.16	$ 1,973.76	$ 3,548.53	$ 4,301.36	$ 5,204.08	$ 5,956.14	$ 6,153.27	$ 5,243.70	$ 4,376.57	$ 3,718.33	$ 309.86

MINNESOTA ENERGY RESOURCES®

Rochester Natural Gas Pipeline Project

Presentation to Destination Medical Center Corporation
and the City of Rochester

May 18, 2016

Agenda

- Introductions
- Overview
- Need for Project
- Request for Funding
- Next Steps
- Questions/Discussion

About Minnesota Energy Resources

- Business
  - Natural gas distribution operations
  - Regulated public utility
  - 87 years of operation
  - 226 employees
- Market
  - Approximately 230,000 customers in 177 communities
  - Sole retail provider to Rochester and surrounding communities

Project Overview

- Upgrade existing Rochester distribution system
  - Phase I completed in 2015 for $5.6 million
- Expand system to meet existing needs and growth
  - Phase II estimated at $44 million – construction 2017-22
- Add wholesale capacity – Northern Natural Gas
  - Significant capacity increase – long-term solution
  - Capital costs estimated at $55-60 million

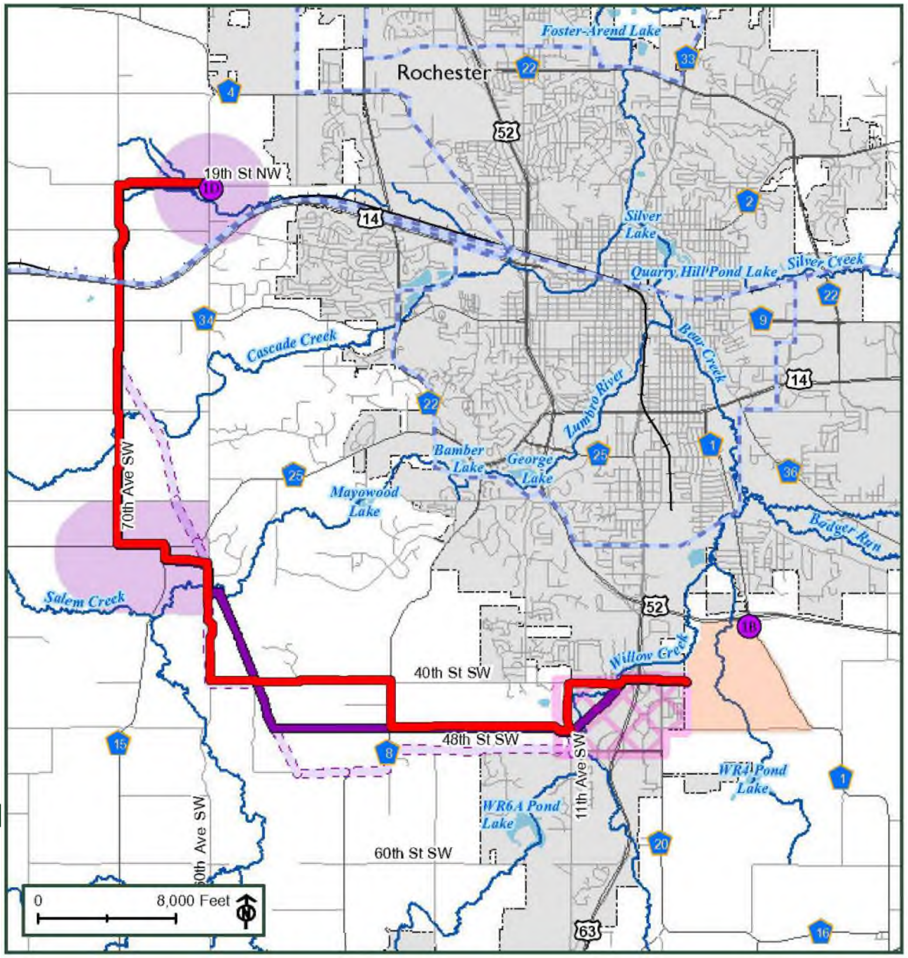
Project Overview

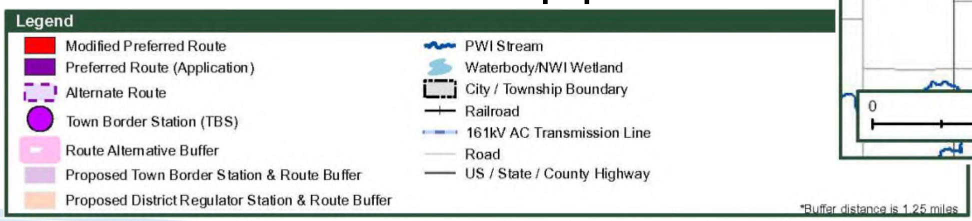
- Phase II located west and south of Rochester – supports entire City and DMC Districts
- 13-mile pipeline ties City together
  - Increases capacity and improves interface
  - Standardizes pressures
  - Improves ability to move natural gas to growth areas

MINNESOTA ENERGY RESOURCES

Proposed Project Route

- Solid purple line – preferred route in application
- Dashed line – route segment alternatives in application
- Solid red line – modified preferred route in scoping comments
- 5.1 miles of 16-inch pipe
- 8.0 miles of 12-inch pipe





MINNESOTA ENERGY RESOURCES

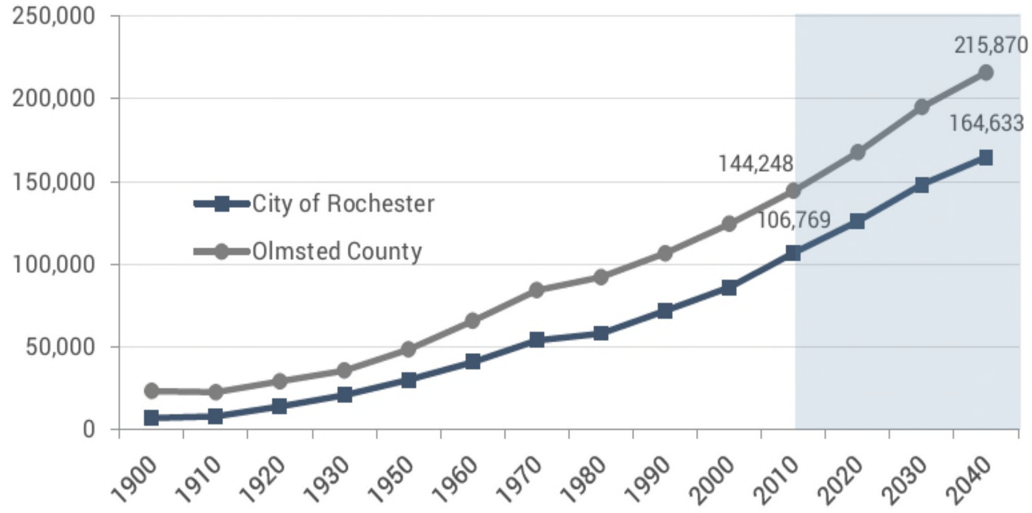
Need for the Project

- Existing firm capacity completely subscribed
- Additional capacity needed to serve growth
- Increasing incidences of curtailing interruptible customers such as St. Mary's
- Polar vortex in January 2014 stretched system to the limit

Rochester Growth to Date

- Current Growth
  - City of Rochester-27% growth in population 2000-2012

FIGURE 1.14: POPULATION TRENDS



Source: U.S. Decennial Census and Rochester-Olmsted Planning Department projections

Population Growth Increases Demand

- Customer count projected to grow from 44,062 in 2015 to 53,469 in 2025 (20 percent increase)

- Corresponding 20 percent demand increase means 103.6 million therms in 2015 to 123.7 million in 2025

DMC will be major driver of future growth

- Projected to create 35-45,000 jobs over next 20 years
- 2,200 to 3,100 new housing units in DMC Districts
- Retail demand in DMC Districts from 2015 to 2039 is 206,000-348,000 square feet
- Seven new hotels projected in DMC Districts 2014-34

Brentwood Development

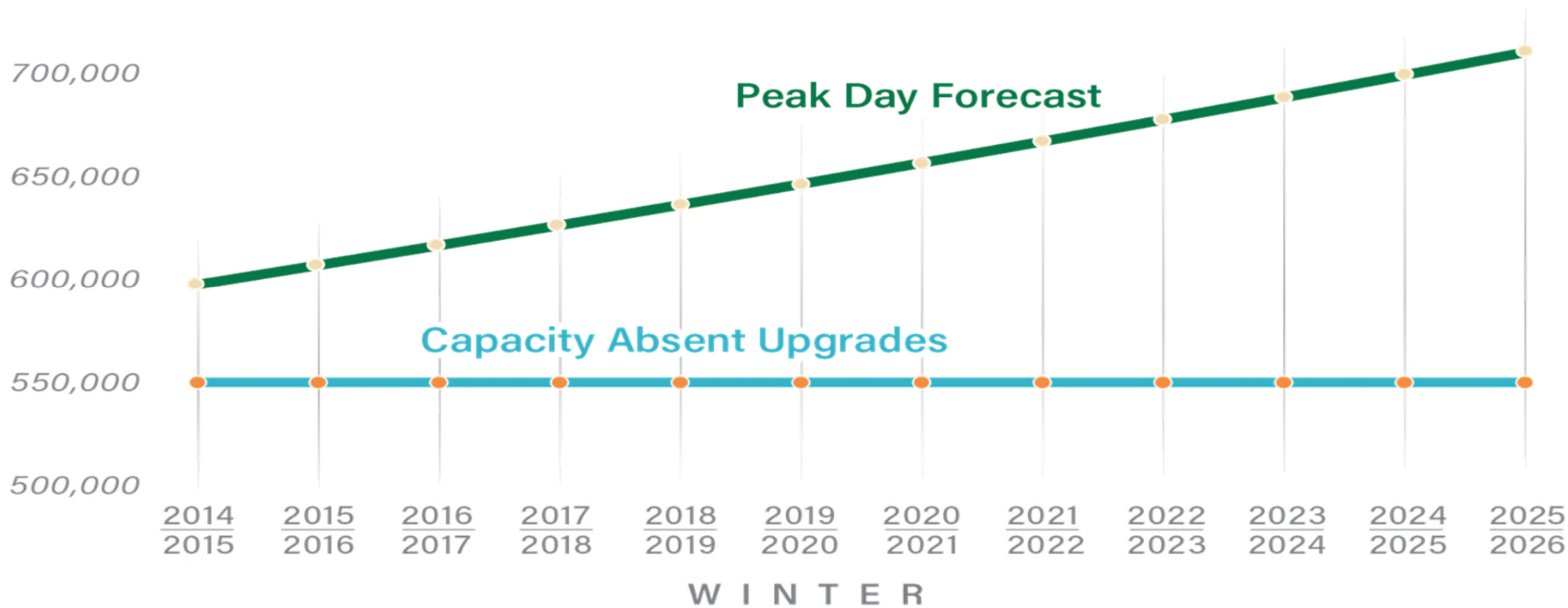
- Recently proposed $100 million housing and commercial development on Second Street SW
- 13 story building; underground parking; 359 housing units, and 20,000 square feet of commercial space

MINNESOTA ENERGY RESOURCES

Other Developments in DMC Districts

- **Broadway At Center**
  - 24-story development of hotel, apartments, and retail
  - New load of 25.2 mcfh (approx. 272 dkth/day)
- **501 on First**
  - Luxury apartments and retail
  - New load of 20.4 mcfh (approx. 240 dkth/day)
- **Civic Center Addition**
  - Existing load of 17.9 mcfh
  - New load of 22.75 mcfh (approx. 300 dkth/day)
- **H3 building**
  - New restaurant
  - New load of 4.5 mcfh (approx. 57 dkth/day)

Current Capacity vs. Peak Demand



MINNESOTA ENERGY RESOURCES

Project needed to achieve DMC goals and vision

- Project location outside Development Districts minimizes impacts within Districts
- Project indispensable to serve growth within Districts and spurred by overall DMC initiative

Project needed to achieve DMC goals and vision

- Success of DMC dependent on ensuring adequate natural gas service. Examples:
  - Current capacity inadequate to provide firm service to new development in and out of Districts
  - Banks require “letter to serve” as part of financing
  - Increasing impact to interruptible customers

Request for Funding

- Submitted application on April 15th
- Requested $5 million in funding from DMCC and City to offset costs

Next Steps and Questions

July 18, 2016

Amber Lee
Minnesota Energy Resources Corporation
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Eagan, MN 55122

Rory Lenton
Minnesota Energy Resources Corporation
1995 Rahncliff Court, Suite 200
Eagan, MN 55122

Lindsay Lyle
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Michael Krikava
Briggs and Morgan, P.A.
2200 IDS Center
80 South 8th Street
Minneapolis, MN 55402

RE: Application for Funding for the Rochester Natural Gas Extension Project

Dear Ms. Lee and Messrs. Lenton, Lyle and Krikava:

On behalf of the City of Rochester (the "City") and the Destination Medical Center Economic Development Agency (the "DMC EDA") we are writing in response to the application for Five Million Dollars ($5,000,000) in funding for the Rochester natural gas extension project (the "Project") proposed by Minnesota Energy Resources Corporation ("MERC").

Thank you for the correspondence from David G. Kult, dated April 18, 2016, describing the Project, as well as the meeting we had with you on May 18, 2016. During the May 18th meeting, we had the opportunity to discuss the Project thoroughly, as well as the Destination Medical Center initiative and enabling law.

As we discussed, in order for a project to qualify as a public infrastructure project or an expenditure that can be certified for state infrastructure aid under the enabling law, it must be located in the City and within the development district (Minnesota Statutes Section 469.47, Subdivision 1). On April 23, 2015, the Destination Medical Center Corporation adopted a development plan, which included the boundaries of a development district. Because the Project does not fall within the development district boundaries, it is not eligible for funding.

On behalf of the City and the DMC EDA, we want to thank you again for your application and for taking time to discuss the Project with us. We wish you success in your endeavors.

Gary Neumann
Assistant City Administrator
City of Rochester

Lisa M. Clarke
Executive Director
Destination Medical Center
Economic Development Agency

OAG No. 106

State Of Minnesota
Office Of The Attorney General
Utility Information Request

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 P. Barlow	**Date of Request:**	November 4, 2015
Telephone:	(651) 757-1473	**Due Date:**	November 17, 2015

<u>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.</u>

Reference: Petition.

If MERC does not receive approval to recover the costs of Phase II of the Rochester Project, what will MERC do? In providing your answer, indicate whether MERC would incur any costs to back out of Phase II of the Rochester Project. Produce all relevant documents.

<u>RESPONSE</u>:

If the Commission disapproved cost recovery for Phase II, MERC would not move forward with Phase II as currently defined, and would take the actions necessary to avoid additional costs. We would still need to move forward with certain components of Phase II, however. For example, we would still need to rebuild existing TBS 1D to enable MERC to regulate its operating pressure, and to upgrade the reliability of the TBS generally, including its odorization equipment.

The actions taken to avoid additional costs would include terminating the NNG precedent agreement for additional capacity, curtailing the environmental and legal consultant work on our Phase II rider recovery petition and route permit application, shutting down all internal MERC activities in support of moving Phase II forward, and notifying the City of Rochester about the

Response by: <u>Amber S. Lee</u>
Title: <u>Regulatory and Legislative Affairs Manager</u>
Department: <u>Minnesota Energy Resources Corporation</u>
Telephone: <u>(651) 322-8965</u>

limitations on natural gas service resulting from the lack of increased capacity on the interstate pipeline system and MERC TBS system serving the Rochester area.

The additional costs that would be incurred to shut down Phase II are hard to estimate given the range of activities supporting Phase II and the uncertainty associated with predicting how quickly MERC could bring all these activities to a halt.

Response by: Amber S. Lee
Title: Regulatory and Legislative Affairs Manager
Department: Minnesota Energy Resources Corporation
Telephone: (651) 322-8965

OAG No. 187

State Of Minnesota
Office Of The Attorney General
Utility Information Request

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: Joseph A. Dammel
Telephone: (651) 757-1061

Date of Request: May 6, 2016
Due Date: May 18, 2016

<u>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.</u>

Re: Mead Direct, at 27.

MERC states that the "major expansion of the pipeline system into the Rochester area" is "larger than we need in the near term."

Provide a citation or citations to the Commission policy, statute, or rule that supports cost recovery of unneeded pipeline capacity. Define "near term."

MERC Response:

For context, it is important to review this complete paragraph of Ms. Mead's Direct Testimony which states that: "NNG advised us that the only available alternative [to expand capacity] was to make a major expansion of the pipeline system into the Rochester area. This proposal, while larger than we needed in the near term, compared favorably against other proposals that would have required an equivalent major expansion by building a new pipeline into the area."

MERC disagrees with the premise of this question that the expansion of the pipeline results in "unneeded pipeline capacity." First, as described throughout Ms. Mead's testimony, MERC is currently operating with negative reserve margins in Rochester. Thus, adding capacity to the pipeline system is the only feasible way to address this situation. The current NNG system is fully subscribed making it necessary for NNG to upgrade its main transmission pipeline system to provide that new capacity.

Response by: <u>**Amber S. Lee**</u>
Title: <u>**Regulatory and Leg. Affairs Mgr.**</u>
Department: <u>**Regulatory Affairs**</u>
Telephone: <u>**651-322-8965**</u>

Second, interstate pipeline development, like other large infrastructure projects, is by its nature "lumpy" – it is difficult to make capacity additions that exactly match increased customer demand, particularly when construction is needed to provide the additional capacity. Rather, capacity expansions require additions that may temporarily exceed customer demand.

Third, smaller incremental upgrades to the NNG system would have been substantially more expensive as described at length in the Direct Testimony of expert witness Timothy Sexton who concludes that the selected pipeline configuration was the most appropriate option available to meet the need. The selected option also provides the opportunity to support long-term demand growth.

In light of the above, the higher short-term capacity reserve margin is prudent and reasonable.

Response by: **Amber S. Lee**
Title: **Regulatory and Leg. Affairs Mgr.**
Department: **Regulatory Affairs**
Telephone: **651-322-8965**

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For the Minnesota Public Utilities Commission
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In the Matter of a Petition by Minnesota Energy Resources Corporation for Evaluation and Approval of Rider Recovery for Its Rochester Natural Gas Extension Project

MPUC Docket No. G011/M-15-895
OAH Docket No. 68-2500-33191
Exhibit _____

Rebuttal Testimony
Distribution Design and Engineering

July 28, 2016

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Lindsay K. Lyle. My business address is 1995 Rahncliff Court, Suite 200, Eagan, Minnesota 55122.

Q. ARE YOU THE SAME LINDSAY LYLE THAT FILED DIRECT TESTIMONY IN THIS CASE ON BEHALF OF MINNESOTA ENERGY RESOURCES CORPORATION ("MERC")?

A. Yes.

Q. WHAT TOPICS DID YOU COVER IN YOUR DIRECT TESTIMONY?

A. My Direct Testimony supported the engineering and construction details of the upgrades to MERC's distribution system. I also provided information about the Rochester Natural Gas Extension Project ("Rochester Project" or "Project") costs and issues relating to the corresponding Route Permit Application ("RPA") proceeding for the Project, Docket No. G011/GP-15-858.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. My Rebuttal Testimony responds to specific issues raised in the Direct Testimony of Department of Commerce, Division of Energy Resources ("Department") witness Adam Heinen. I also respond to a specific engineering issue raised in the Direct Testimony of

Minnesota Office of the Attorney General – Residential Utilities and Antitrust Division ("OAG") witness Dr. Julie Urban. Specifically, the issues I address are:

1. At pages 40-47, Mr. Heinen discusses the Department's policy on the treatment of cost estimates in infrastructure development proceedings. In response to that testimony, I provide an update on MERC's cost estimates for the Rochester Project, in light of changes being considered in the RPA proceeding.
2. Mr. Heinen, at page 43 of his Direct Testimony, specifically requests that MERC provide rebuttal testimony on the approximately $7 million contingency as part of the cost of the Project. I respond to his request.
3. At pages 51-54 of her Direct Testimony, Dr. Urban raises concerns whether "peak shaving" might have been an appropriate alternative to consider in lieu of adding capacity to the system. I describe how peak shaving does not solve the capacity shortfall MERC is experiencing in the Rochester area and is not a viable alternative.

Q. ARE YOU SPONSORING ANY EXHIBITS WITH YOUR DIRECT TESTIMONY?

A. No.

II. RESPONSE TO DEPARTMENT WITNESS ADAM HEINEN

A. MERC's Project Cost Estimate

Q. HOW DO YOU RESPOND TO MR. HEINEN'S DISCUSSION OF THE DEPARTMENT'S POLICY ON COST CAPS FOR CAPITAL PROJECTS?

A. I discuss the nature of the estimate underlying MERC's proposal and the potential that ultimate costs could vary from that estimate. MERC witness Amber Lee discusses MERC's view of the policy behind the Department's testimony in her Rebuttal Testimony, including the burden of proof for the utility to support changed costs from initial estimates.

Q. WHAT IS THE CURRENT COST ESTIMATE FOR MERC'S WORK ON THE ROCHESTER PROJECT?

A. MERC continues to support the approximately $44 million estimate we put forward in the Petition.

Q. HOW SHOULD THE COMMISSION VIEW THAT COST ESTIMATE?

A. It is a good-faith estimate of the capital cost of the Project made up of reasonable inputs and engineering analysis and is based on the facts known to MERC at the time the estimate was made. I do not view the estimate as a firm or fixed price and it should not be considered a guaranteed or not-to-exceed estimate. This is particularly the case under the current circumstances where certain underlying facts can change from the time the estimate was prepared to the time of actual construction.

Q. WHAT ARE THE FACTS AND CIRCUMSTANCES THAT COULD CHANGE?

A. The Project was engineered and estimated based upon MERC's proposed configuration and, in particular, based on the route MERC initially proposed. The engineering and estimate were based on a fairly high-level analysis and were not "final design" or a firm estimate. Nevertheless, I believe that the estimate was reasonable based on the facts we assumed when it was prepared.

Q. ARE THERE CIRCUMSTANCES THAT COULD AFFECT FINAL COSTS?

A. Yes. Certain facts could not be definitively known at the time the estimate was prepared. These facts include engineering and design details that could be impacted by the selection of a final route or other location changes.

Q. PLEASE DESCRIBE HOW CHANGES TO THE LOCATION OF THE PROJECT COULD AFFECT FINAL COSTS.

A. At this time, the final route is unknown. Until that final route is determined (in Docket No. G011/GP-15-858), it is not possible to fully complete the final design to conform the Project to the final route. Further, no easements have yet been acquired because we do not yet have a final route.

It is possible that the final route selection could require us to revise or at least refine the engineering analysis and design of the Project. While MERC remains reasonably comfortable with the $44 million estimate, it is important for the Commission to recognize that design changes resulting from routing choices could impose additional costs on MERC that are, effectively, out of MERC's control.

Further, if the final route selection by the Commission in Docket No. G011/GP-15-858 results in more challenging topography or the need to condemn property, cost changes are certainly possible, depending on the character of the land ultimately impacted by the final choice. I note that with the many subdivisions being developed at the end of the proposed route, MERC could experience higher easement costs because the land market value could increase. This possibility is an unavoidable consequence of the fact that MERC does not have the ability to get easements until the final route has been determined.

B. Contingency

Q. WHAT DO YOU COVER IN THIS SECTION OF YOUR REBUTTAL TESTIMONY?

A. In his Direct Testimony, Mr. Heinen notes that he is "unclear if this contingency factor is reasonable or comparable to similar project[s]," and requests that MERC provide rebuttal testimony addressing this issue.[1]

Q. WHAT IS THE GENESIS OF THE $7 MILLION CONTINGENCY?

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[1] DOC Ex. __ at 43 (Heinen Direct).

A. This contingency level represents 20 percent of MERC's total proposed Rochester Phase II Project costs.

Q. DO YOU VIEW A 20 PERCENT CONTINGENCY TO BE EXCESSIVE?

A. No. Twenty percent is the standard contingency that MERC uses in capital cost estimates. It is the same contingency level we have used in other recent projects. For example, Phase I of the Rochester Project, which was implemented in 2015, utilized a 20 percent contingency.

Further, it is my understanding that 20 percent is a reasonable contingency level that has been used by others in the natural gas construction arena. For instance, I understand that 20 percent contingency is common for the WEC Energy Group companies, of which MERC is now a member. In totality, I do not believe this level of contingency is excessive but rather reflects MERC's normal business practice, standard to the industry.

III. RESPONSE TO OAG WITNESS DR. JULIE URBAN REGARDING PEAK SHAVING ALTERNATIVE

Q. WHAT DO YOU COVER IN THIS SECTION OF YOUR REBUTTAL TESTIMONY?

A. In her Direct Testimony, Dr. Urban raises concerns about whether "peak shaving" might have been an appropriate alternative to consider in lieu of adding capacity to the system. I address that concern here.

Q. WHAT IS PEAK SHAVING?

A. Peak-shaving systems are systems that allow natural gas utilities to minimize the impact of unpredictable shifts in daily or hourly consumption, as well as other unexpected supply constraints, by augmenting natural gas fuel supply during times of high demand. During periods of extreme usage, peaking facilities, as well as other sources of temporary storage, can be utilized to supplement system and underground storage supplies. Peak-shaving facilities include technologies such as synthetic natural gas ("SNG," also known as propane-air) or liquefied natural gas ("LNG"). As described by the U.S. Energy Information Administration,

> A local natural gas distribution company (LDC) relies on supplemental supply sources (underground storage, LNG, and propane) and uses linepacking to "shave" as much of the difference between the total maximum user requirements (on a peak day or shorter period) and the baseload customer requirements (the normal or average) daily usage. Each unit "shaved" represents less demand charges (for reserving pipeline capacity on the trunklines between supply and market areas) that the LDC must pay. The objective is to maintain sufficient local underground natural gas storage capacity and have in place additional supply sources such as LNG and propane air ***to meet large shifts in daily demand***, thereby minimizing capacity reservation costs on the supplying pipeline.[2]

The use of peaking facilities is essentially a risk-management calculation to account for large shifts in daily or hourly demand. The cost of installing these facilities is such that the incremental cost per unit is expensive.

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[2] U.S. Energy Information Administration, About U.S. Natural Gas Pipelines – Transporting Natural Gas (available at http://www.eia.gov/pub/oil_gas/natural_gas/analysis_publications/ngpipeline/process.html) (emphasis added).

Q. COULD MERC HAVE AVOIDED THE NEED TO ADD CAPACITY TO THE SYSTEM IN THE ROCHESTER AREA BY ADDING PEAK-SHAVING EQUIPMENT?

A. Definitely not. Peak shaving simply does not solve the capacity constraints MERC is experiencing in the Rochester area, and as a result, would not be a viable alternative.

Q. WHY DOES PEAK SHAVING NOT SOLVE THE CAPACITY SHORTFALL?

A. First, peaking facilities are used, as Dr. Urban notes, to meet the "needle peaks" of gas demand[3] -- such facilities are not intended to meet base load demand. This means that they will not address the need for added capacity to serve overall increasing customer needs. Given the forecasted demand growth in and around Rochester, the addition of peak-shaving facilities would not be a reasonable alternative to meet MERC's need.

A thorough evaluation of peak-shaving alternatives to the Rochester project was not undertaken because use of peak-shaving facilities would not effectively serve the deficit we have in the Rochester area. In general, a peak-shaving facility such as a propane-air facility is intended to provide supplemental fuel supply for a very short period of time, during a system peak. In contrast, MERC's demonstrated need in the Rochester area is not only to meet peak demand but also to meet projected growth in base demand. While a peak-shaving facility may be considered an economic alternative in situations where

[3] OAG Ex. __ at 52 (Urban Direct).

additional capacity is needed on a short-term basis to meet peaks in demand, regular use of a peak-shaving facility to meet base demand is not a viable or economic alternative.

Second, as discussed in Dr. Urban's Direct Testimony,[4] MERC faces not only an interstate capacity shortfall in the Rochester area but also capacity constraints within MERC's natural gas distribution system. As noted in MERC's Initial Petition, MERC's distribution system in the Rochester area is already at capacity. Solutions such as propane-air, compressed natural gas, and the like will not increase capacity of the already-constrained distribution system. Dr. Urban's observation that "[i]t also appears that peak-shaving facilities can help alleviate distribution capacity concerns in some instances, depending on the design of the facility and the configuration of the distribution system," is not applicable with respect to MERC's Rochester distribution system. Given the design of the distribution system in and around Rochester, peak-shaving facilities simply could not address MERC's distribution system constraints.

Ultimately, given MERC's projected growth in demand in the Rochester area, as well as MERC's need to increase both interstate capacity (i.e., natural gas supply delivered to the Town Border Stations) and MERC's own distribution system capacity (i.e., ability to deliver reliable natural gas service to firm customers on the distribution system), peak-shaving facilities were not a viable alternative to the Rochester Project that warranted further consideration.

[4] OAG Ex. __ at 53 (Urban Direct).

IV. CONCLUSION

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes, it does.

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

MPUC Docket No. G011/M-15-895
OAH Docket No. 68-2500-33191
Exhibit _____

Rebuttal Testimony
Natural Gas Supply

July 28, 2016

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Sarah R. Mead. My business address is WEC Business Support, Inc. ("WBS"), 700 North Adams Street, Green Bay, Wisconsin 54307.

Q. ARE YOU THE SAME SARAH MEAD THAT FILED DIRECT TESTIMONY IN THIS CASE ON BEHALF OF MINNESOTA ENERGY RESOURCES CORPORATION ("MERC")?

A. Yes. I provided Direct Testimony in support of MERC's request that the Minnesota Public Utilities Commission ("Commission") find MERC's proposed Rochester Natural Gas Extension Project ("Rochester Project" or "Project") to be a reasonable and prudent system addition to MERC's overall gas distribution system. My Direct Testimony focused on issues relating to natural gas supply to support our customers in Minnesota.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. As in Direct Testimony, my Rebuttal Testimony focuses on issues of gas supply. Both the Minnesota Office of the Attorney General – Residential Utilities and Antitrust Division ("OAG") witness Dr. Julie Urban and Department of Commerce, Division of Energy Resources ("Department") witness Adam Heinen provide testimony relating to the development of the Rochester Project, its choice among alternatives that were considered, and the expansion of interstate natural gas pipeline capacity provided by Northern Natural Gas ("NNG") in support of the Project. Specifically, my Rebuttal Testimony discusses the following:

1. At pages 12 and 19-20 of his Direct Testimony, Mr. Heinen asks that MERC provide Rebuttal Testimony addressing the possible need for increased use of firm natural gas to produce electricity, in light of Rochester Public Utilities' ("RPU") announced plans to add new gas-fired generation in Rochester. I provide testimony responding to this issue in part, and Mr. Clabots and Ms. Lee also provide Rebuttal Testimony on this topic.
2. At pages 33-35 of his Direct Testimony, Mr. Heinen discusses the potential for undertaking a project that only provides a 25-35,000 Dth/day increase in capacity (as opposed to the larger Project MERC chose). I respond to this discussion and describe that a smaller project would have, long term, been more expensive and would have raised the risk of future capacity shortfall, depending upon how demand grows in the future.
3. At pages 47-48 of his Direct Testimony, Mr. Heinen notes that, in his experience, other Minnesota utilities have engaged in longer-term capacity release contracts, which may allow for greater revenue than standard short-term capacity release contracts. Mr. Heinen concludes that for MERC, since there is a relatively high reserve margin for an extended period of time, it is possible that longer-term capacity release agreements could be beneficial to ratepayers. I respond to this discussion and conclude MERC will commit to evaluate the availability and feasibility of entering into longer-term capacity release contracts.
4. At page 48 of his Direct Testimony, Mr. Heinen observes that redirecting excess capacity from Rochester may be less expensive than adding capacity elsewhere, even

if redirecting the capacity is in excess of the 20 percent MERC is allowed to redirect at no additional cost under the Precedent Agreement ("PA"). I provide a response to this and conclude that MERC will commit to analyzing redirecting excess capacity from the Rochester Project prior to proposing capacity increase projects elsewhere on the NNG system.

5. At pages 18-19 and again at pages 35-41 of her Direct Testimony, Dr. Urban raises concerns over MERC's selection of the NNG expansion and suggests MERC could have adopted a smaller incremental approach to the Project. I provide rebuttal to these points and conclude that MERC is not overbuilding the system and that the Project, as proposed, is a reasonable and prudent way to provide adequate long-term capacity for MERC's customers in Rochester and throughout the overall system.

6. At pages 41-50 of her Direct Testimony, Dr. Urban criticizes MERC's Request for Proposal ("RFP") for seeking interstate pipeline capacity. I provide a response to this, pointing out the unique circumstances that allowed us to leverage our relationship with NNG and inject meaningful price competition for interstate pipeline capacity. The timing of the RFP and the expiration of our legacy contract with NNG allowed MERC to extract significantly-improved terms in the PA that provide significant benefits to customers.

Q. ARE YOU SPONSORING ANY EXHIBITS WITH YOUR REBUTTAL TESTIMONY?

A. Yes, I am sponsoring the following:

- Rebuttal Exhibit __ (SRM-R1) (Public and Highly Sensitive Trade Secret versions), which are revisions to OAG Ex. __ JAU-6 to Dr. Julie Urban's Direct Testimony.
- Rebuttal Exhibit __ (SRM-R2) (Public and Highly Sensitive Trade Secret versions), which is a comparison of NNG Proposals 2.0 and 2.3 to the negotiated PA with NNG.

II. RESPONSE TO DEPARTMENT WITNESS ADAM HEINEN

A. Increased Need for Firm Natural Gas for Electric Generation

Q. WHAT INFORMATION DID THE DEPARTMENT REQUEST MERC PROVIDE IN REBUTTAL TESTIMONY REGARDING THE POSSIBLE NEED FOR INCREASED USE OF FIRM NATURAL GAS TO PRODUCE ELECTRICITY?

A. Department witness Mr. Heinen concludes, in his Direct Testimony, that MERC's "over-forecasting" could be considered to be a placeholder for MERC's lack of inclusion of the growth associated with the DMC and possible "need for increased use of firm natural gas to produce electricity, which MERC's forecast may encompass." Mr. Heinen requested that MERC address these issues in Rebuttal Testimony. Mr. Heinen also notes, at page 12 of his Direct Testimony, that "[g]iven . . . RPU's plan to use increasingly more natural gas for electric generation, and the importance of ensuring reliable natural gas and electric service, . . . RPU's needs are an important factor to consider in this proceeding. [I]t is unclear how RPU intends to procure service, but it was announced recently that RPU plans to rebuild its Westside Energy Station and use natural gas as its fuel source."

Q. WHAT IS MERC'S CURRENT RELATIONSHIP WITH RPU?

A. RPU is a natural gas customer of MERC. Information related to RPU's historic natural gas usage (average quantity and classes of service) can be found in MERC's response to OAG Information Request No. 156, which is attached to Dr. Urban's Direct Testimony as Schedule JAU-32.

Q. PLEASE EXPAND ON THE ADDITIONAL GENERATING CAPACITY RPU HAS PROPOSED.

A. Although MERC is not directly involved with RPU's plans for the additional generation, MERC does have some general knowledge of the new plant RPU is proposing to build. This new plant is expected to be a 50 MW (approximate) natural gas-fired combustion turbine peaking unit that will be located in the northwestern part of Rochester. MERC anticipates that this new unit will interconnect to the TBS 1D. A more complete description of RPU's plans can be found in MERC's response to OAG Information Request No. 156, which is attached to Dr. Urban's Direct Testimony as Schedule JAU-32. This facility is also in very close proximity to the NNG pipeline and RPU could possibly bypass MERC to connect directly to the NNG pipeline.

Q. IS THE POSSIBILITY OF RPU USING ADDITIONAL NATURAL GAS FOR GENERATION RELEVANT TO THE COMMISSION'S CONSIDERATION OF MERC'S ROCHESTER PROJECT?

A. As discussed in the Rebuttal Testimony of Mr. Clabots, MERC did not specifically model additional firm capacity sales for RPU that would account for RPU's plans to increase natural gas usage for its electric generation. Because RPU is primarily a transportation customer with respect to its generation assets, it does not purchase its interstate natural gas capacity or commodity from MERC. With respect to RPU's plans to increase its reliance on natural gas for generation, whether or not the gas used by RPU is firm or interruptible, sales or transportation, it represents a potentially significant additional increment of throughput on the NNG system in Rochester. MERC generally agrees that consideration of RPU's potential increased future natural gas needs is important in this proceeding, but notes that under existing tariffs, as discussed in more detail in the Rebuttal Testimony of Ms. Lee, MERC is unable to dictate whether RPU takes service as a firm, interruptible, sales, or transport customer.

B. Evaluation of Smaller Incremental Capacity Projects

Q. DID THE DEPARTMENT CONDUCT AN ANALYSIS OF POSSIBLE SMALLER PROJECTS TO INCREASE CAPACITY?

A. Yes. At pages 33-35 of his Direct Testimony, Mr. Heinen discusses his analysis of reserve margin assuming 25,000 Dth/day and 35,000 Dth/day incremental capacity projects.

Q. WHAT DOES MR. HEINEN CONCLUDE REGARDING THESE SMALLER CAPACITY ALTERNATIVES?

A. Mr. Heinen concludes that, based on his analysis of smaller incremental capacity increases, such smaller projects would result in smaller amounts of excess capacity and less associated revenues to be recovered from ratepayers. However, Mr. Heinen also concluded that the smaller alternatives would only be viable under lower growth scenarios, that if system peak demand is higher, investment in additional upgrades would be required, and such future upgrades would result in additional, significant costs to MERC's ratepayers. Based on his analysis, Mr. Heinen concludes "that the size of MERC's proposed Project [is] reasonable."[1]

Q. DID MERC CONDUCT AN ANALYSIS TO EVALUATE THE RELATIVE COST OF A PHASED APPROACH, USING A SMALLER CAPACITY INCREASE TO MEET IMMEDIATE AND SHORT-TERM NEED?

A. Yes, as discussed on page 35 of Mr. Heinen's Direct Testimony, MERC conducted an analysis to evaluate the relative costs of a phased approach using smaller capacity increases in its Supplemental Response to Department Information Request No. 37, which is attached to Mr. Sexton's Rebuttal Testimony. In particular, Mr. Sexton, MERC's independent consultant, created a "good faith estimate" at the Department's request for the costs reflective of those projects that might have been incurred to expand NNG's system to support MERC requirements assuming MERC had initiated a series of smaller incremental expansions. Based on that analysis, MERC concluded that "the total

[1] DOC Ex. __ at 36 (Heinen Direct).

costs associated with an incremental approach to adding capacity, or future capacity upgrades, will likely result in higher total costs to ratepayers than the project as proposed. In addition, the Company noted that limiting expansion capacity to 30,000 Dth/day instead of the proposed 45,000 Dth/day resulted in a Net Present Value ["NPV"] $1 million higher than the costs of the proposed project."[2]

Q. WHAT DID MR. SEXTON CONCLUDE?

A. The conclusion of Mr. Sexton's evaluation was that "even if the incremental expansions are stopped at 30,000 Dth/day, the NPV of overall costs would still remain approximately $1 million higher than the acquisition of 45,000 Dth/day of capacity from NNG as included with the filed project." Based on his analysis, Mr. Sexton provided evidence that an incremental or smaller capacity project would result in greater costs for lower capacity volumes.

Q. DO YOU HAVE ANY ADDITIONAL INFORMATION TO PROVIDE REGARDING MERC'S EVALUATION OF PURSUING A SMALLER CAPACITY INCREASE IN ROCHESTER TO MEET CUSTOMER NEED?

A. Yes. First, I agree with Department witness Mr. Heinen's conclusion that while MERC could have sought a smaller solution to the immediate and short-term future forecasted deficiencies of capacity in the Rochester area, such smaller project would have come with

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[2] DOC Ex. __ at 35 and AJH-19 (Heinen Direct)

significant risk that demand growth would outpace the available additional capacity, resulting in the need for even more expensive additional incremental capacity to be added. In addition, I note that if a smaller project was pursued, the RFP would not have attracted any non-incumbent third-party service providers to submit proposals for the additional capacity and, as a result, would have significantly limited MERC's negotiating power with NNG.

C. Evaluation of Available Alternatives to Utilize Excess Capacity

Q. WHAT DOES THE DEPARTMENT CONCLUDE REGARDING THE POSSIBILITY OF MITIGATING EXCESS CAPACITY COSTS?

A. Department witness Mr. Heinen concludes that the capacity costs that result from the Rochester Project's reserve margin are not significant when compared to annual commodity and demand costs. In particular, Mr. Heinen states that "the average amount of excess capacity may cost approximately $3 million, which means that excess capacity costs may approach 2.5 percent of total PGA costs incurred . . . for the MERC-NNG PGA system."[3] Nevertheless, Mr. Heinen recommends that MERC should take whatever reasonable steps possible to lower costs.[4] Mr. Heinen proposes capacity release and the possibility of redirecting excess capacity to alternate delivery points as potential means to mitigate the cost of excess capacity.

[3] DOC Ex. __ at 35-36 (Heinen Direct).

[4] DOC Ex. __ at 46 (Heinen Direct).

Q. WHAT DOES THE DEPARTMENT CONCLUDE REGARDING CAPACITY RELEASE?

A. Mr. Heinen states that, in general, the revenue associated with standard short-term capacity release contracts is typically minor compared to the original purchase price of the capacity. Mr. Heinen goes on to state that longer-term capacity release may be an option and could potentially generate more revenue than a short-term capacity release contract.[5] Mr. Heinen also notes that in response to Department Information Request No. 26, MERC stated that it would consider longer-term capacity release agreements on a case-by-case basis.[6]

Q. DOES MERC COMMIT TO ACTIVELY RELEASING EXCESS CAPACITY WHEN AVAILABLE?

A. Yes, MERC is active on the release market and is committed to continue to release capacity into the market when it deems that there is not an operational need for it. Additionally, as indicated in MERC's response to Department Information Request No. 26, MERC will evaluate the availability and feasibility of entering into longer-term capacity release contracts.

Q. WHAT DOES THE DEPARTMENT CONCLUDE REGARDING THE POSSIBILITY OF MERC MOVING EXCESS CAPACITY TO ALTERNATE DELIVERY POINTS?

[5] DOC Ex. __ at 47-48 (Heinen Direct).

[6] DOC Ex. __ at 48 and AJH-23 (Heinen Direct).

A. Department witness Mr. Heinen concludes that although MERC is limited to 20 percent deliverability of the total Rochester area capacity without penalty, MERC can move additional capacity at the maximum rate. Mr. Heinen further notes that it is possible that paying the maximum rate for any volumes above 20 percent may be cheaper than procuring additional entitlements to serve need in other parts of the MERC system and concludes that the Department will revisit this issue when additional capacity is needed in other parts of MERC's system to ensure MERC ratepayers receive the lowest-priced entitlements possible.

Q. HOW DOES MERC RESPOND?

A. MERC agrees that it is possible that the maximum rate negotiated under the PA for the delivery of Rochester capacity in excess of 20 percent to alternative delivery points could be less than the cost of procuring additional entitlements through separate contracts. MERC commits to evaluate the relative cost of this alternative when evaluating future entitlement contracts.

III. RESPONSE TO OAG WITNESS DR. JULIE URBAN

Q. WHAT DOES THE OAG CONCLUDE REGARDING MERC'S EVALUATION OF ALTERNATIVES TO THE CONTRACT WITH NNG?

A. OAG witness Dr. Urban concludes, at page 19 of her Direct Testimony, that it does not appear from the record that MERC gave consideration to any of NNG's phased proposals. Additionally, Dr. Urban concludes, at page 35 of her Direct Testimony, that the incremental capacity of 45,000 Dth/day for Rochester is far too high and that ratepayers will be receiving essentially no benefit from this reserve margin.

Q. HOW DO YOU RESPOND TO DR. URBAN'S CRITICISMS?

A. First, I note that MERC did fully evaluate the phased proposals presented by NNG. As I discussed above, based on Mr. Sexton's evaluation of alternative phased proposals, the agreement actually negotiated with NNG resulted in the lowest NPV of costs relative to reasonable alternatives and includes two phases at fixed and known rates. Additionally, as discussed in my Direct Testimony, the PA MERC negotiated with NNG will result in significant benefits to MERC ratepayers. Further, as discussed above, I agree with Department witness Mr. Heinen's conclusion that while MERC could have sought a smaller solution to the immediate and short-term future forecasted deficiencies of capacity in the Rochester area, such a smaller project would have come with significant risk that demand growth would outpace the available additional capacity, resulting in the need for even more expensive additional incremental capacity to be added. Additionally, if such a smaller project were pursued, the RFP would not have attracted any non-incumbent third-party service providers to submit proposals for the additional capacity and, as a result, would have significantly limited MERC's negotiating power with NNG.

Q. PLEASE DISCUSS SOME OF THE BENEFITS INCLUDED IN MERC'S CURRENT PA WITH NNG.

A. It is important to note MERC requested fixed-rate competitive bids from multiple parties for specific expansion volumes. NNG's winning bid provided MERC with the lowest cost alternative, providing significant savings versus all competitive alternatives. This competitive process allowed MERC to negotiate additional favorable terms including fixed rates for all existing and expansion Rochester entitlement. These fixed rates will not increase in the event NNG's maximum tariff rates increase, in the event actual construction costs exceed estimated amounts, or in the event the required facilities increase due to additional parties requesting capacity. Additionally, MERC is assured that it will receive its full requested Rochester and Southeastern Minnesota expansion entitlement, which will not be allocated or reduced regardless of the outcome of any potential future open season. As an additional benefit, MERC will have the ability to use up to 20 percent of the total Rochester existing and expansion entitlement and 100 percent of the Southeastern Minnesota expansion entitlement (nearly 53 percent of the total expansion volume) on an alternative basis to locations throughout MERC's service area on NNG's system. This flexibility can only be provided as a result of NNG's unique system and results in significant additional benefits to all of MERC-NNG customers that a higher cost bypass lateral could not match.

Q. PLEASE DETAIL THE BENEFITS OF THE CAPPED OR FIXED RATE INCLUDED IN MERC'S CURRENT PA WITH NNG.

A. The PA with NNG capped or fixed the capacity costs at the current maximum tariff rates for all of the Rochester capacity, not just the additional or incremental capacity, resulting in a significant benefit in the form of price certainty. Tariff rates are impacted by items such as the Natural Gas Act Section 4 or Section 5 general rate proceeding at the Federal Energy Regulatory Commission, company specific asset tracking mechanisms, or pretrial settlements. If NNG's tariff rates were to increase in the future, MERC would not pay the upcharge for the deliveries to Rochester or the deliveries to alternative areas within NNG allowed under the PA.

If MERC elected to deliver more than the 20 percent of its Rochester entitlements to an alternative area, such deliveries would be charged at then-current maximum rates posted in NNG's tariff. For example, if NNG had a rate case in 2020 and the rates increased by 10 cents, MERC would not pay that additional 10 cents on any of the capacity scheduled to Rochester or up to 20 percent of that capacity scheduled elsewhere.

Q. DOES MERC BELIEVE IT COULD HAVE NEGOTIATED SIMILAR BENEFITS WITH AN ALTERNATIVE OR REDUCED CAPACITY PROJECT?

A. No, MERC does not believe it would have been able to negotiate all the benefits it currently has under the NNG PA if it had initially sought a smaller capacity project. Similarly, MERC does not believe it would have been able to achieve all of the benefits that are provided under the PA if it had pursued a contract with one of the other bidders who responded to the RFP. Based on a variety of factors, as discussed in greater detail in the Rebuttal Testimony of Mr. Sexton, MERC believes that an RFP requesting smaller incremental capacity would not have attracted any non-incumbent third-party service providers to submit proposals for the additional capacity and, as a result, would have significantly limited MERC's negotiating power with NNG. Additionally, there is no guarantee that MERC would have been able to negotiate a fixed rate for all of its Rochester capacity under an alternative or reduced capacity project. In fact, many of the phased proposals from NNG did not fix the capacity costs in the second phase of the project, which would have posed a significant risk to ratepayers.

Q. DOES MERC AGREE WITH DR. URBAN'S CONCERNS OVER THE SIZE OF THE PROJECT?

A. No, MERC does not agree with Dr. Urban's concerns. As stated on page 35, lines 7–10 of Mr. Heinen's Direct Testimony discussing MERC's analysis of alternatives, "the total costs associated with an incremental approach to adding capacity, or future capacity upgrades, will likely result in higher total costs to ratepayers than the project as proposed." Mr. Heinen concludes, "[g]iven this analysis by the Company, it is reasonable to assume that a future upgrade to serve Rochester area customers will result in additional, significant costs to MERC ratepayers."

Mr. Sexton prepared a good-faith estimate of incremental capacity assuming MERC only acquired 30,000 Dth/day of additional capacity instead of the 45,000 Dth/day level of the current Project. The conclusion of this evaluation was that "even if the incremental expansions are stopped at 30,000 Dth/day, the NPV [net present value] of overall costs would still remain approximately $1 million higher than the acquisition of 45,000 Dth/day of capacity from NNG as included with the filed project."[7]

Q. ON PAGE 22, LINE 21 OF DR. URBAN'S DIRECT TESTIMONY, SHE IMPLIES THAT MERC PREFERS A 1/20 HOURLY TAKE FIRM ENTITLEMENT. IS THIS ACCURATE?

A. No, MERC's preference is a 1/16 firm hourly flow rate as it allows for additional hourly flexibility. In fact, the current PA with NNG includes a 1/16 hourly firm flow rate and NNG's tariff is at 1/16. MERC does not currently have any contracts with NNG that vary from the tariff hourly firm take.

Q. DID YOU REVIEW DR. URBAN'S NON-PUBLIC, HIGHLY SENSITIVE TRADE SECRET EXHIBIT JAU-6?

A. Yes. I reviewed Highly Sensitive Trade Secret Exhibit JAU-6 to Dr. Urban's Direct Testimony.

Q. WHAT DO YOU CONCLUDE REGARDING EXHIBIT JAU-6?

A. Based on my review, it appears that Dr. Urban's Exhibit JAU-6 to her Direct Testimony omits several proposals, such as Proposal 3.0 at hourly takes of 1/16 and Proposal 4.2 with Phase 1a. There are also some corrections to be made to JAU-6, which I have

[7] *See* DOC Ex. __ at AJH-19 (Heinen Direct) (MERC's Supplemental Response to Department Information Request No. 37).

included in **Highly Sensitive Trade Secret** Rebuttal Exhibit __ (SRM-R1) to my Rebuttal Testimony. I have shaded the updates to JAU-6.

Q. WHAT DO YOU CONCLUDE BASED ON YOUR CORRECTIONS AND INCLUSION OF MISSING PROPOSALS IN DR. URBAN'S EXHIBIT JAU-6?

A. MERC agrees with Dr. Urban that "some detail is lost when reducing the information to a spreadsheet."[8] Furthermore, it shows the complexity of multiple bids from NNG and that MERC did not select any one of these specifically, but was instead able to negotiate the current PA to the benefit of MERC's ratepayers. Ultimately, the final PA was a hybrid that maximized benefits to customers at reasonable costs.

Q. WHAT DOES DR. URBAN CONCLUDE REGARDING NNG'S PROPOSALS 2.0 AND 2.3?

A. At page 21 of her Direct Testimony, Dr. Urban concludes that "[b]oth of these options would permit MERC to increase supply to deal with short- and mid-term demand, while preserving options to deal with long-term demand if it materializes."

Q. HOW DO NNG PROPOSALS 2.0 and 2.3 COMPARE TO THE CURRENT PA?

A. I have summarized the differences between the negotiated PA and NNG Proposal 2.0 and Proposal 2.3 in Rebuttal Exhibit __ (SRM-R2) (Public and Highly Sensitive Trade Secret

[8] OAG Ex. __ at 18 (Urban Direct).

versions). Because it was unclear if Dr. Urban was evaluating the upfront or phased proposals, both are included. It should be noted that NNG has not evaluated the applicability of the proposals following the change to a 2018 in-service date; however, it is expected that the compression costs will have increased and that additional looping would be required on the Rochester 1D branch line, as was the case in the delay of the final proposal. For Phased Proposal 2.0 and Phased Proposal 2.3, the second phase was not required and the second phase costs were indicative only.

Q. DOES THE CONTRACT BETWEEN MERC AND NNG DIRECTLY REFLECT A SPECIFIC PROPOSAL PRESENTED BY NNG IN RESPONSE TO MERC'S RFP?

A. No, a summary review of the PA demonstrates that the ultimate agreement that was reached with NNG does not match any one proposal submitted by NNG in response to MERC's RFP. MERC was able to negotiate with NNG to achieve a hybrid of proposals to include features from various proposals that benefit MERC's ratepayers. Ultimately, the PA includes a more phased approach, but ensures that the necessary capacity will be available in time to meet projected need.

Q. WOULD IT HAVE BEEN PRUDENT FOR MERC TO HAVE SELECTED JUST ONE OF THE PROPOSALS AS OFFERED BY NNG?

A. No. Mechanically, selecting one proposal would not have been in the best interest of the ratepayers and would have resulted in an inferior project compared to the current PA. The negotiated PA is superior to any individual offering. Many individual proposals were rejected by MERC because the capacity at a town border station ("TBS") would not have been delivered at the correct pressure for MERC's system and was not operationally feasible. The current PA has the best possible benefit to ratepayers.

Q. BECAUSE THE PROJECT BETWEEN MERC AND NNG DOES NOT DIRECTLY REFLECT A SPECIFIC PROPOSAL FROM NNG, SHOULD MERC HAVE CONDUCTED A NEW RFP?

A. No. MERC firmly believes, given that NNG presented the most competitive bid in the RFP process and given the additional benefits MERC was able to negotiate in the PA, it is not unreasonable that alternative bidders were not allowed to rebid or refresh the initial bids as they were not competitive. In fact, Department witness Michael Ryan concludes on page 14, lines 17–19 in his Direct Testimony that "MERC's RFP process was fair and reasonable, and that MERC negotiated reasonable provisions for ratepayers not only in Rochester, but in other areas of MERC's system as well."

Q. WHAT DOES DR. URBAN CONCLUDE REGARDING MERC'S ANALYSIS OF RFP BID ALTERNATIVES?

A. At page 46 of her Direct Testimony, Dr. Urban concludes "[r]egardless of Mr. Sexton's NPV methodology, I believe that it is more concerning that MERC did not direct Mr. Sexton to include an evaluation of all of the RFP responses."

Q. HAVE YOU REVIEWED MR. SEXTON'S TESTIMONY AND ANALYSIS AND DO YOU AGREE WITH HIS CONCLUSIONS?

A. Yes, I have reviewed Mr. Sexton's testimony and agree with his conclusions. I also agree that his analysis and approach are reasonable. The reason Mr. Sexton considered certain bid responses in his analysis is discussed in greater detail in Mr. Sexton's Rebuttal Testimony. In particular, as discussed in the Rebuttal Testimony of Mr. Sexton, his Independent Bid Evaluation compared the lowest-cost proposals from each bidder that conformed to the requirements of the RFP and MERC's operational requirements.

IV. CONCLUSION

Q. PLEASE SUMMARIZE YOUR POSITION ON THE GAS SUPPLY PICTURE FOR THE ROCHESTER PROJECT.

A. I conclude that MERC's proposal to add interstate pipeline capacity to the system is necessary. The natural gas pipeline system in and around Rochester has already exceeded peak demand, leaving MERC to operate precariously with a negative capacity reserve margin in Rochester and potential reliability problems into the future without adding interstate pipeline capacity. I further conclude that the Rochester Project (including associated NNG upgrades) is appropriate to increase capacity in and around Rochester. Further, the proposed NNG upgrades and the terms and conditions of the PA are reasonable and cost-effective under the circumstances and represent a reasonable way to increase interstate pipeline capacity into Rochester.

Q. DOES THIS COMPLETE YOUR REBUTTAL TESTIMONY?
A. Yes, it does.

PUBLIC DOCUMENT
HIGHLY-SENSITIVE TRADE SECRET
INFORMATION HAS BEEN EXCISED

HIGHLY SENSITIVE TRADE SECRET INFORMATION FILED ONLY IN DOCKET NO. G-011/M-16-315

Rebuttal Schedules
Sarah R. Mead

Before the Office of Administrative Hearings
600 North Robert Street
St. Paul, Minnesota 55101

For the Minnesota Public Utilities Commission
121 Seventh Place East, Suite 350
St. Paul, Minnesota 55101

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

MPUC Docket No. G011/M-15-895
OAH Docket No. 68-2500-33191
Exhibit _____

Rebuttal Schedules
Sarah R. Mead

July 28, 2016

PUBLIC DOCUMENT
HIGHLY-SENSITIVE TRADE SECRET
INFORMATION HAS BEEN EXCISED

HIGHLY SENSITIVE TRADE SECRET INFORMATION FILED ONLY IN DOCKET NO. G-011/M-16-315

Exhibit	Description
SRM-R1-PUBLIC	Revisions to OAG Ex. __ JAU-6 to Julie Urban's Direct Testimony
SRM-R2-PUBLIC	Comparison of NNG Proposals 2.0 and 2.3 to NNG PA

PUBLIC DOCUMENT-- HIGHLY SENSITIVE TRADE SECRET DATA HAS BEEN EXCISED

Exhibit __ (SRM-R1)
MPUC Docket No. G011/M-15-895
OAH Docket No. 68-2500-33191
Mead Rebuttal Schedules-PUBLIC

[HIGHLY SENSITIVE TRADE SECRET DATA BEGINS

										<- Flipped Order ->					
										Was "M"	Was "K"	Was "L"	New	New	New
	TBS 1B	TBS 1D	New TBS	Up-Front Service	Deferred Increase	Deferred Total Service	Pressure	Up-Front Capital Cost	Up-Front Annual Reservation Cost	Up-Front Reservation Rate	Deferrred Capital Cost	Total Capital Cost	Total Annual Reservation Cost	Total Reservation Rate	Notes
Proposal 1.0	18,462 Dth/day	36,707 Dth/day	100,000 Dth/day	155,169 Dth/day	-	-	600 New / 400 1D / 72 1B	[redacted]	[redacted]						
Proposal 1.0a	18,462 Dth/day	36,707 Dth/day	100,000 Dth/day	155,169 Dth/day	-	-	600 New / 400 1D / 72 1B								
Proposal 1.1	18,462 Dth/day	36,707 Dth/day	45,000 Dth/day	100,169 Dth/day	-	-	600 New / 400 1D / 72 1B								
Proposal 2.0	27,462 Dth/day	72,707 Dth/day	-	100,169 Dth/day	-	-	600 psig								
Proposal 2.1	18,462 Dth/day	81,707 Dth/day	-	100,169 Dth/day	-	-	600 1D / 400 1B								
Proposal 2.2	18,462 Dth/day	81,707 Dth/day	-	100,169 Dth/day	-	-	450 1D / 400 1B								
Proposal 2.3	53,462 Dth/day	46,707 Dth/day	-	100,169 Dth/day	-	-	400 psig								
Phased 2.0	18,462 Dth/day	58,457 Dth/day	-	76,919 Dth/day	23,250 @ TBS 1B	100,169	600 psig								
Phased 2.3	18,462 Dth/day	46,707 Dth/day	-	65,169 Dth/day	35,000 @ TBS 1B	100,169	400 psig								
Proposal 3.0 @ 1/20	18,462 Dth/day	81,707 Dth/day	-	100,169 Dth/day	-	-	500 psig								
Proposal 4.0 @ 1/20	-	40,707 Dth/day	59,462 Dth/day	100,169 Dth/day	-	-	500 psig								
Phased 4.1	28,462 Dth/day	44,207 Dth/day	-	72,669 Dth/day	27,500 @ New	100,169	500 psig								
Phased 4.2	28,462 Dth/day	44,207 Dth/day		72,669 Dth/day	27,500 @ New	100,169	500 psig								

...HIGHLY SENSITIVE TRADE SECRET DATA ENDS]

PUBLIC DOCUMENT
HIGHLY-SENSITIVE TRADE SECRET
INFORMATION HAS BEEN EXCISED

HIGHLY SENSITIVE TRADE SECRET INFORMATION FILED ONLY IN DOCKET NO. G-011/M-16-315

COMPARISON OF NNG PROPOSALS 2.0, 2.3, AND PRECEDENT AGREEMENT

Upfront Proposal 2.0 vs. Precedent agreement

[HIGHLY SENSITIVE TRADE SECRET DATA BEGINS…

[redacted]

…HIGHLY SENSITIVE TRADE SECRET DATA ENDS]

- Increases initial reserve margin
- Does not include Southeastern Minnesota
- Does not include 20% alternate usage

Phased Proposal 2.0 vs. Precedent agreement

[HIGHLY SENSITIVE TRADE SECRET DATA BEGINS…

[redacted]

…HIGHLY SENSITIVE TRADE SECRET DATA ENDS]

- Increases initial reserve margin
- Does not include Southeastern Minnesota
- Does not include discounted extension option
- Does not include 20% alternate usage

Upfront Proposal 2.3 vs. Precedent agreement

- Places 35,000 Dth/day at Rochester 1B which could not be utilized without significant modifications to MERC's system

**PUBLIC DOCUMENT
HIGHLY-SENSITIVE TRADE SECRET
INFORMATION HAS BEEN EXCISED**

HIGHLY SENSITIVE TRADE SECRET INFORMATION FILED ONLY IN DOCKET NO. G-011/M-16-315

  - o Capacity delivered at Rochester 1B is at reduced pressure of 400 psig
- Does not include cost increases from delay to 2018

[HIGHLY SENSITIVE TRADE SECRET DATA BEGINS…

[redacted]

…HIGHLY SENSITIVE TRADE SECRET DATA ENDS]

- Increases initial reserve margin
- Does not include Southeastern Minnesota
- Does not include discounted extension option
- Does not include 20% alternate usage

<u>Phased Proposal 2.3 vs. Precedent agreement</u>

[HIGHLY SENSITIVE TRADE SECRET DATA BEGINS…

[redacted]

…HIGHLY SENSITIVE TRADE SECRET DATA ENDS]

- Does not include Southeastern Minnesota
- Does not include discounted extension option
- Does not include 20% alternate usage

PUBLIC DOCUMENT
TRADE SECRET AND HIGHLY-SENSITIVE TRADE SECRET
INFORMATION HAS BEEN EXCISED

HIGHLY SENSITIVE TRADE SECRET INFORMATION FILED ONLY IN DOCKET NO. G-011/M-16-315

Before the Office of Administrative Hearings
600 North Robert Street
St. Paul, Minnesota 55101

For the Minnesota Public Utilities Commission
121 Seventh Place East, Suite 350
St. Paul, Minnesota 55101

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

MPUC Docket No. G011/M-15-895
OAH Docket No. 68-2500-33191
Exhibit _____

Rebuttal Schedules
Timothy C. Sexton

July 28, 2016

PUBLIC DOCUMENT
TRADE SECRET AND HIGHLY-SENSITIVE TRADE SECRET INFORMATION HAS BEEN EXCISED

HIGHLY SENSITIVE TRADE SECRET INFORMATION FILED ONLY IN DOCKET NO. G-011/M-16-315

<u>Exhibit</u>	<u>Description</u>
TCS-R1-PUBLIC	MERC's Response to Department Information Request No. 37, including Supplemental Response
TCS-R2- PUBLIC	MERC's Response to OAG Information Request No. 204
TCS-R3-PUBLIC	Independent NNG Bid Comparison

State of Minnesota

DEPARTMENT OF COMMERCE
DIVISION OF ENERGY RESOURCES

Nonpublic [ ]
Public [x]

Utility Information Request

Docket Number: G011/M-15-895 Date of Request: 4/29/2016

Requested From: Minnesota Energy Resources Corporation Response Due: 5/11/2016

Analyst Requesting Information: Adam Heinen

Type of Inquiry:

[ ]......Financial	[ ]......Rate of Return	[ ]......Rate Design
[ ]......Engineering	[ ]......Forecasting	[ ]......Conservation
[ ]......Cost of Service	[ ]......CIP	[ ]......Other:

If you feel your responses are trade secret or privileged, please indicate this on your response.

Request No.	
37	Subject: NNG Upgrade Costs Reference: Sexton Direct, Page 17 A. Please provide cost estimates for an incremental approach to expanding capacity in the Rochester Area. B. Please provide cost estimates for using looping to meet expected demand in the Rochester Area. If this information has already been provided in written comments or in response to an earlier DOC information request, please identify the specific comment cite(s) or DOC information request number(s). **MERC Response:** A. As stated on lines 10-12 on Page 17 of the Direct Testimony of Timothy Sexton, MERC cannot specify exactly which expansion facilities NNG would ultimately install to support an incremental approach. Rather, any incremental facility expansion facility project and the estimated cost of such incremental expansion would be as

Response by: Timothy Sexton

Title: Consultant

Department: Gas Supply Consulting

Telephone: (281) 558-0735 (Ext.2)

List sources of information:

designed by NNG based upon conditions existing at the time that each tranche of incremental expansion is initiated.

In order to develop incremental expansion projects, NNG would develop project designs based upon a myriad of factors including: (a) the quantity of capacity requested by its customers for each tranche of incremental capacity, (b) NNG facilities in service at the time that each incremental expansion is requested, and (c) capacity contracted on its system at the time each incremental expansion is requested.

As these conditions are unknown, and as design decisions would be as determined by NNG, MERC cannot develop a cost estimate associated with an incremental approach undertaken by NNG to expand capacity to the Rochester Area.

B. MERC does not have information related to NNG's costs to loop its system to meet expected demand in the Rochester Area. MERC utilized a competitive RFP process to evaluate the lowest cost alternatives to meet long term demand. NNG's response was to utilize compression to expand its mainline to meet MERC's demand requirement. As detailed in the testimony, NNG's proposal was the most cost effective alternative among the bid proposals to meet long term Rochester demand requirements.

Response by: Timothy Sexton

Title: Consultant

Department: Gas Supply Consulting

Telephone: (281) 558-0735 (Ext.2)

List sources of information:

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HIGHLY SENSITIVE TRADE SECRET INFORMATION TO BE FILED ONLY IN DOCKET NO. G-011/M-16-315

State of Minnesota

DEPARTMENT OF COMMERCE
DIVISION OF ENERGY RESOURCES

Nonpublic [ ]
Public [X]

Utility Information Request

Docket Number: G011/M-15-895 Date of Request: 4/29/2016

Requested From: Minnesota Energy Resources Corporation Response Due: 5/11/2016

Analyst Requesting Information: Adam Heinen

Type of Inquiry:

[ ] Financial	[ ] Rate of Return	[ ] Rate Design
[ ] Engineering	[ ] Forecasting	[ ] Conservation
[ ] Cost of Service	[ ] CIP	[ ] Other:

If you feel your responses are trade secret or privileged, please indicate this on your response.

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37	Subject: NNG Upgrade Costs Reference: Sexton Direct, Page 17 A. Please provide cost estimates for an incremental approach to expanding capacity in the Rochester Area. B. Please provide cost estimates for using looping to meet expected demand in the Rochester Area. If this information has already been provided in written comments or in response to an earlier DOC information request, please identify the specific comment cite(s) or DOC information request number(s).

Response by:	Timothy Sexton (Incremental Approach)	Response by: Lindsay K. Lyle (Other Projects)
Title:	Consultant	Engineering Manager
Department:	Gas Supply Consulting	Minnesota Energy Resources Corporation
Telephone:	(281) 558-0735 (Ext.2)	(651) 322-8909

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HIGHLY SENSITIVE TRADE SECRET INFORMATION TO BE FILED ONLY IN DOCKET NO. G-011/M-16-315

MERC Response:

A. This portion of the Supplemental Response was prepared by Timothy Sexton:

As stated on lines 10-12 on Page 17 of the Direct Testimony of Timothy Sexton, MERC cannot specify exactly which expansion facilities NNG would ultimately install to support an incremental approach. Rather, any incremental facility expansion facility project and the estimated cost of such incremental expansion would be as designed by NNG based upon conditions existing at the time that each tranche of incremental expansion is initiated.

In order to develop incremental expansion projects, NNG would develop project designs based upon a myriad of factors including: (a) the quantity of capacity requested by its customers for each tranche of incremental capacity, (b) NNG facilities in service at the time that each incremental expansion is requested, and (c) capacity contracted on its system at the time each incremental expansion is requested.

As these conditions are unknown, and as design decisions would be as determined by NNG, MERC cannot develop a cost estimate associated with an incremental approach undertaken by NNG to expand capacity to the Rochester Area.

B. MERC does not have information related to NNG's costs to loop its system to meet expected demand in the Rochester Area. MERC utilized a competitive RFP process to evaluate the lowest cost alternatives to meet long term demand. NNG's response was to utilize compression to expand its mainline to meet MERC's demand requirement. As detailed in the testimony, NNG's proposal was the most cost effective alternative among the bid proposals to meet long term Rochester demand requirements.

SUPPLEMENTAL RESPONSE (June 9, 2016)

Response by:	Timothy Sexton (Incremental Approach)	Response by: Lindsay K. Lyle (Other Projects)
Title:	Consultant	Engineering Manager
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In informal discussions with the Department of Commerce("DOC"), MERC was requested to develop a "good faith estimate" of costs reflective of those that might have been incurred to expand NNG's system to support MERC requirements assuming that MERC had initiated a series of smaller incremental expansions to meet long term growth requirements.

As described below in this supplemental response, and based upon the assumptions and analysis described, an incremental approach to adding capacity would have added approximately $8 million net present value ("NPV") of additional costs compared to the approach taken. In light of the overall system configuration and the work that needed to be undertaken to increase capacity into the Rochester area, it would have been infeasible to avoid these excess costs, even if MERC had sought somewhat less capacity overall. Most notably, the pipeline and ancillary work on NNG's system would have been required in any reasonable scenario. Further, adding incremental compression using smaller units is likely about double the cost (on a per unit basis) of adding a single large compressor and would have resulted in substantially similar overall costs even if MERC had sought less capacity overall that required less compression.

Finally, by picking a robust capacity level, MERC achieves longer-term benefits for its customers at a reasonable cost and increases overall customer reliability without incurring excess costs. In fact, if MERC had considered a smaller phased-in approach to reduce the long-term capacity to, for example, 30,000 Dth/day, it would have resulted in a project that was actually slightly more expensive, than the chosen 45,000 Dth/day increase. In other words, stopping at 30,000 Dth/day would have cost more and resulted in less benefits to MERC's customers.

Phased In Approach Based Upon NNG Alternative Bid Proposals

In addition to its bid proposals to provide 45,000 Dth/day in one tranche as requested in MERC's RFP, NNG also provided MERC with bid proposals designed to provide MERC with an incremental Phased Approach adding the requested capacity in multiple tranches over time.

A review of the bid proposals provided by NNG led MERC to conclude that, in addition to providing enhanced capacity rights versus the Phased proposals, the Upfront proposals provided superior economic results for MERC and its customers.

As an example, within its Supplemental Proposal dated February 18, 2015, NNG provided an "Upfront Proposal 4.0" which provided 45,000 Dth/day of incremental delivery capacity to MERC at Rochester, which when combined with MERC's existing delivery capacity to

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Rochester provided for a total delivery capacity of 100,169 Dth/day at the initiation of the project. In addition, within this same Supplemental Proposal, NNG also provided a "Phased Proposal 4.2" which provided 17,500 Dth/day of incremental capacity in the first year of the project and 27,500 Dth/day of incremental capacity in the year 2022. Each of these two proposals contained fixed transportation service rates providing MERC and its customers with rate certainty for the capacity segments.

Based upon rates quoted by NNG, the Phased Proposal 4.2 ultimately led to a higher NPV of service costs over the contract term than did the Upfront Proposal 4.0. The attached ***Highly Sensitive Trade Secret Attachment_1_DOC_37_Supplement*** provides a comparison of these costs associated with each proposal. The Highly Sensitive Trade Secret Version of Attachment_1_DOC_37_Supplement is designated as a Highly-Sensitive Trade Secret in its entirety. This information includes third-party confidential information and MERC's competitors and suppliers could gain competitive advantage if this information were publicly available. This attachment shall be treated in accordance with the Highly-Sensitive Trade Secret Protective Order dated April 14, 2016.

Based upon the facts that: (a) the Phased In Proposal 4.2 ultimately led to higher costs for MERC and its customers than the Upfront Proposal 4.0; and (b) the Phased in Proposal 4.2 provided lower capacity quantities during the initial years of the project term, overall the Phased Proposal 4.2 was not competitive with the Upfront Proposal 4.0.

Pipeline Looping versus Mainline Compression

Within both of the aforementioned proposals from NNG, Phased Proposal 4.2 and Upfront Proposal 4.0, NNG designed facilities such that mainline capacity expansions were provided via the installation of incremental compression. In order to explore alternatives, NNG also reviewed the potential to expand its system using pipeline loops of its mainline rather than compression additions.

Specifically, NNG provided a Phased Proposal 4.1 that included pipeline loops as a means to expand its mainline. However Phased Proposal 4.1, which provided the same physical expansion capacity in each of the two phases of the project as provided by each of the two phases of Phased Proposal 4.2, resulted in a capital cost that was 15-20% higher than Phased Proposal 4.2.

This result, with the compression based Proposal 4.2 having a lower capital requirement than the pipeline based Proposal 4.1, is consistent with general industry trends as the cost

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of adding compression is generally a lower cost option than adding loop with pipeline loop added only after the ability to expand via compression is exhausted.

As an aside, I did not include Phased Proposal 4.1 in the comparative analysis versus the alternative Upfront Proposal 4.0 and Phased Proposal 4.2 for two reasons. First, based upon a comparison of capital requirements, Phased Proposal 4.1 was clearly an inferior option versus Phased Proposal 4.2 so the comparison is largely unnecessary. Second, unlike Phased Proposal 4.2, NNG did not quote a fixed rate for the second phase of Phased Proposal 4.1. Rather, NNG simply stated that the rate applicable to the second phase of the project would be based upon a calculated Discounted Capital Recovery Rate to be determined based upon actual installation costs at the time the project was initiated. Thus, in addition to being more expensive, this alternative would have exposed MERC to an uncapped exposure moving forward.

Incremental Expansions to Achieve Added 45,000 Dth/day of Capacity

This section of the Supplemental Response provides a “good faith estimate” of costs that would reasonably be expected to be incurred to initiate a series of small scale capacity expansions to meet MERC’s long term capacity requirements at Rochester.

As mentioned in its initial response to DOC IR-37, MERC cannot say with certainty what facilities would have been installed by NNG utilizing an incremental approach due to the facts that:

- facility selection and optimization are developed by NNG at its sole discretion at the time that each incremental expansion is initiated;
- required facilities for each incremental expansion would be dependent upon the facilities that NNG had in operation and contractual obligations that NNG had in place at the time of any requested incremental expansion; and
- required facilities for each incremental expansion would be subject to regulatory processes including FERC open season requirements, which could lead to demand requirements in excess of MERC’s then current incremental requirement.

Nevertheless, based upon a general knowledge of the system and an understanding of the types of upgrades required to support an incremental approach, we have reviewed potential facility requirements and facility costs to develop a good faith estimate of potential costs associated with an incremental expansion approach.

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In preparing this good faith estimate, simplifying assumptions were made to aid in development of the estimate and comparisons:

- This analysis assumes that NNG's facilities and contractual obligations remain static during the period of the incremental expansions. It is important to recognize that this assumption may not be true in practice and, in fact, it is likely that third party customers will acquire expansion capacity on NNG's mainline between the proposed incremental expansions undertaken by MERC. As a result, the lowest cost incremental expansion opportunities may not be available at the time each increment is requested by MERC and, as a result, incremental project expansion costs would be even higher than depicted herein.
- Using an incremental approach could, in fact, expose MERC to the risk of changing contractual terms. As noted in the Direct Testimony of Timothy Sexton, MERC negotiated significant advantageous terms in its Precedent Agreement with NNG, terms which may or may not have been available using an incremental approach.
- Further, in order to ensure a consistent platform for expansions, the facilities included within NNG's proposal 4.3 have been utilized as a comparison versus potential incremental facilities

Utilizing this approach, the following describes the process utilized to develop a good faith estimate of long term costs required to develop an incremental phased-in expansion approach to support MERC's long term growth requirements. The following provides a detailed discussion of the assumptions utilized to develop the good faith estimate and the attached *Highly Sensitive Trade Secret Attachment_2_DOC_37_Supplement* compares the long term costs of the good faith estimate of an incremental approach versus the selected transaction. The Highly Sensitive Trade Secret Version of Attachment_2_DOC_37_Supplement is designated as a Highly-Sensitive Trade Secret in its entirety. This information includes third-party confidential information and MERC's competitors and suppliers could gain competitive advantage if this information were publicly available. This attachment shall be treated in accordance with the Highly-Sensitive Trade Secret Protective Order dated April 14, 2016.

As illustrated in Attachment 2, the evaluation indicates that the incremental approach to develop the same 45,000 Dth/day of capacity provided by the project using an incremental

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approach would have resulted in an approximate $8 million increase in the NPV of costs to MERC and its customers versus the selected transaction.

Further, using the same incremental approach, and limiting expansion capacity to 30,000 Dth/day would have resulted in a project with an NPV of costs that are about $1 million higher than the proposed project with 45,000 Dth/day of upfront capacity.

Required Facilities:

The Facilities that NNG has advised will be required to effectuate the service under its Proposal 4.2 include: (i) the installation of 15,000 HP of compression along NNG's mainline; (ii) the installation of a new delivery lateral from NNG's La Crosse Branchline to the proposed new MERC Rochester station; and (iii) various ancillary metering and pipeline facilities.

Although each facility is described in more detail below, it is worth noting that not all of the proposed facilities can be staged in using an incremental approach. For example, a large part of the cost is associated with a new 12 mile delivery lateral. With respect to this delivery lateral, there is no viable method to stage in costs. Either the lateral is built or it is not. If only a portion of the lateral were built, then the lateral could not operate as it would not extend all the way to the market. In fact, the bulk of NNG's proposed facilities, delivery lateral, meter/regulator installations, etc., are not generally scalable and are either installed or not installed.

In contrast, NNG's largest cost item, the 15,000 HP mainline compressor unit, is potentially scalable with the possibility that smaller units are installed over time. Thus, within the development of the Good Faith Estimate, it is assumed that the compressor is staged in over time.

Finally, with respect to the mainline compressor installations, an alternative would be to install segments of pipeline loop rather than add mainline compression. However, as noted above and as a general rule of thumb, to the extent expansions can be facilitated via compression rather than pipeline loop, capital costs are minimized with compression installations. As such, we have focused our evaluation on increasing mainline capacity via compressor installations rather than pipeline loop based expansion.

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The following describes how each of these facility installations are treated within the development of the good faith estimate of facility costs associated with the incremental approach.

Mainline Compression:

In order to develop a good faith estimate of required compression additions in the evaluation of incremental facilities, it is assumed that the ratio remains constant that NNG can expand capacity by 4,500 Dth/day for each 1,500 HP installed (consistent with proposed project expansion of 45,000 Dth/day of capacity based upon a single 15,000 HP installation).

Based upon this ratio, in order to meet the projects initial delivery obligation of 10,500 Dth/day to MERC during the 2018-19 winter at Rochester, NNG would install 3,500 HP of mainline compression in 2018-19.

Next, within the long term good faith estimate, this incremental approach is continued with an additional 1,500 HP of compression (and an associated 4,500 Dth/day of capacity) added during each year in which growth would otherwise have reduced available capacity reserve to 5% or less.

Lateral Line from La Crosse Branch Line to New Rochester Gate Station

Within the underlying transaction that is the subject of this proceeding, NNG has advised that in order to meet MERC's delivery quantity and pressure requirements, NNG will need to install a new lateral line from its La Crosse branch line to MERC's proposed new Rochester gate station. In the agreed transaction, NNG was to support delivery of the initial 10,500 Dth/day of incremental delivery quantities absent this lateral with the lateral required for growth commencing in the 2019-20 winter and beyond.

With respect to an incremental approach related to the lateral line, a lateral cannot be installed in segments as the entirety of the line must be constructed from the proposed receipt point at the La Crosse branch line to the proposed delivery point at the new Rochester Gate Station in order to provide service. In other words, this lateral is necessary in its entirety to support capacity additions into Rochester regardless whether the selected

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approach or the incremental approach is used. As a result, the cost of this part of the work must be incurred in any event.

Recognizing that the line must be installed as a single facility, and that the facility is required to support demand growth in 2019-20, it is assumed that the entirety of the lateral as well as the "new unregulated delivery station" to the new Rochester gate station is installed in the year 2019-20 to support the incremental project scenario.

Other Ancillary Facilities:

The remaining facilities described by NNG to support the project include facilities associated with the initial year 1 expansion growth and facilities that could potentially be delayed with an incremental approach. A description of these facilities and treatment in the incremental approach are as follows:

Year 1 Facilities:

Facilities that NNG has stated are required to support Phase 1 growth requirements include the installation of an "MAOP regulator" on the Rochester 1D branch line and installation of a "Branch Line Master Meter" on the Rochester 1D branch line. As these facilities are required to support initial deliveries, it is assumed in the good faith estimate that these facilities must be installed in the first year of the project term whether the selected approach or the incremental approach is considered.

Later Facilities:

Finally, NNG has included facilities to (a) Uprate 8 miles of its La Crosse branch line; and (b) Modify the La Crosse branch line take off setting. As it is unclear when these uprate facilities are to be installed, it is assumed in the good faith estimate that costs associated with these facilities are staged in with demand growth.

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Facility Installation Costs in Good Faith Estimate of Incremental Expansion Facilities

NNG has advised that the overall cost of its work is in the $55-60 million range. It is comprised of: (i) the proposed 15,000 HP of mainline compression with a cost of approximately $30 million, (ii) the new lateral and delivery meter with an approximate cost of $22.3 million, (iii) the Year 1 ancillary facilities with an approximate cost of $1.4 million; and (iv) the later ancillary facilities with an approximate cost of $2.1 million.

With respect to the compressor installations, as discussed on pages 24 and 25 of MERC Witness Sexton's Direct Testimony, economies of scale are illustrated in a comparison of NNG's West Leg 2014 project versus NNG's proposed project to serve the Rochester demand. In the West Leg 2014 project, NNG is installing 4,700 HP of compression at its proposed Fremont Compressor station at a unit cost of approximately $3,800 per HP installed.[1] Conversely, in the Rochester project, NNG is installing 15,000 HP at a unit cost of approximately $2,000 per HP installed.

The scope of the 4,700 HP of compression being installed in NNG's West Leg 2014 project is consistent with the scope of the projected 2018-19 HP installation of 4,500 HP utilized in the incremental approach analysis. As such, it is reasonable to utilize the $3,800 / HP unit cost to develop a good faith estimate of this installation. Further, while it is likely that the West Leg 2014 project, at an installed HP of 4,700 HP would enjoy economies of scale versus incremental compression installations of only 1,500 HP supporting the incremental Rochester project alternative, for ease and simplicity, we have assumed that the proposed 1,500 HP of incremental compression needed in each incremental capacity tranche is installed at the West Leg unit cost of $3,800 per HP. Although this assumption has been included, it is worth noting that this is a conservative assumption and in reality, costs for the 1,500 HP compressor increments would likely be higher than the 4,700 HP West Leg installation due to economies of scale and inefficiencies associated with multiple mobilization / demobilization efforts.

[1] Within Exhibit K to NNG's West Leg FERC Certificate Application Filing (FERC Docket No. CP13-528), NNG included a cost estimate of $18,015,126 associated with the installation of 4,700 HP of compression which calculated to an average unit cost slightly higher than $3,800 per HP installed.

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With respect to the remaining facilities, as it is assumed that these facilities are staged in based upon demand growth requirements. NNG's cost estimates have been utilized with costs displaced to later years when possible.

Construction Cost Escalator, Discount Rate, and Results

In order to recognize the impacts of inflation on construction costs over time, annual construction costs have been escalated at an inflation rate of 2.5% per year during the long term project life.

Next, the net present value of facility installations utilizing the incremental approach have been discounted back to present conditions utilizing a 7.3048% discount rate which corresponds to the Commission Authorized Rate Case Rate of Return illustrated in Appendix D to MERC's Petition filing in this proceeding.

As noted above, and as illustrated in ***Highly Sensitive Trade Secret Attachment_2_DOC_37_Supplement, Page 1 of 2***, the resulting net present value of costs that would be incurred by MERC and its customers utilizing the incremental approach is approximately $8 million greater than those that are incurred utilizing NNG's Proposal 4.3 alternative.

Incremental Expansions to Achieve Only 30,000 Dth/day of Incremental Capacity

Finally, in order to evaluate the acquisition of an ultimately smaller capacity quantity for MERC, we have also developed a good faith estimate of incremental facility costs assuming that MERC were to stop acquiring incremental capacity after an additional 30,000 Dth/day of incremental capacity were obtained. MERC chose the larger 45,000 Dth/day level in order to provide customers with long-term reliability and to ensure that the system would have adequate capacity to serve expanding customer needs into the foreseeable future.

This scenario is included on ***Highly Sensitive Trade Secret Attachment_2_DOC_37_Supplement, Page 2 of 2***. As illustrated, even if incremental expansions are stopped at 30,000 Dth/day, the NPV of overall costs would still remain approximately $1 million higher than the acquisition of 45,000 Dth/day of capacity from NNG as included within the filed project.

In other words, using a phased-in approach, the lower capacity would have resulted in greater costs and would have provided fewer long-term reliability benefits to customers.

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Additional Comparisons:

This portion of the response was prepared by Lindsay Lyle:

In addition, DOC Staff informally requested that MERC provide a cost analysis and breakdown of other projects undertaken by MERC and by its affiliates in the larger holding company system. In response to this request, MERC provides cost data pertaining to the current Rochester Project Phase II being undertaken by MERC, to allow comparison of those data with:

1. the Rochester Project Phase I, addition of new 12" pipe undertaken by MERC in 2015;
2. the Cloquet 12 inch pipe installation undertaken by MERC in 2006 and 2008;
3. the Guardian II transmission and regulator station projects from 2006-07 undertaken on behalf of MERC's affiliate Wisconsin Public Service;
4. the Monroe, MI project from 2012-13 undertaken by MERC's affiliate Michigan Gas Utilities ("MGU");
5. the Wausau (Mosinee) New Gate Station project from 2014 undertaken by MERC's Affiliate Wisconsin Public Service; and
6. the Manlove Field Transmission project from 2016 in Illinois undertaken by MERC's affiliate Peoples Gas.

Each of these projects included the design, development, and construction of natural gas infrastructure on the regional system. MERC provides available data for these projects in categories of materials, internal labor, contracted services, land acquisition, and other costs and provides data points on total cost and a calculated cost per mile for the project. *Attachment_3_DOC_37_Supplement*_Nonpublic provides this information. The Nonpublic version of Attachment 3 contains trade secret data as defined by Minn. Stat. 216B.37(1)(b), including confidential contractor pricing information that is not generally known to and not readily ascertainable by vendors and competitors of MERC who could obtain financial advantage from its use.

MERC notes that the design and cost of natural gas infrastructure projects can vary widely depending upon a variety of factors, including (i) the type of project being deployed (transmission versus gate station), (ii) topography and other environmental factors of the construction area, (iii) zoning and local land use, (iv) location and characteristics of other related infrastructure, (v) timing, and a variety of other factors. In addition, costs can vary

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widely depending upon permitting requirements and restrictions. Whether state permitting is required for any particular project is an important factor that can result in increased costs, depending upon the route selected, changes to the scope and restrictions and requirements included in the permit. Another example of how costs vary relates to the schedule for installation. If a project must be installed over multiple construction cycles (as is the case for Phase II of the Rochester Project) additional costs are incurred relating to mobilization and demobilization of work.

As a result these and other factors, total cost of a project or even a per-mile extrapolation may be interesting data points. However, drawing conclusions from such data points from one project to another may not reflect a valid comparison with Phase II of the Rochester Project and can be misleading.

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Highly Sensitive Trade Secret Attachment_1_DOC_37_Supplement is Highly Sensitive Trade Secret in its entirety.

Highly Sensitive Trade Secret Attachment_1_DOC_37_Supplement contains third-party confidential information and MERC's competitors and suppliers could gain competitive advantage if this information were publicly available. This attachment shall be treated in accordance with the Highly-Sensitive Trade Secret Protective Order dated April 14, 2016.

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[TRADE SECRET DATA BEGINS...

Rochester Phase II - PIPING ESTIMATE ONLY
Project 0140014005
2017-2022 Rochester Phase II

Materials:
Internal labor:
Contracted Services:
Land Acquisition:
Other Miscellaneous:
Total Cost:

Divided by Miles
Cost per Mile
Escalation @ 3%/yr

[redacted]

Narrative
- Piping work only.
- Project will be bid out.
- Approx. 50% open cut, 50% directional bored
- Installation in private easements for vast majority of project
- Easement costs are included in total costs.

- Costs per mile are higher due to long duration of installation

Rochester Phase II - STATIONS ESTIMATE ONLY
Project 0140014005
2017-2022 Rochester Phase II

Materials:
Internal labor:
Contracted Services:
Land Acquisition:
Other Miscellaneous:
Total Cost:

Divided by Miles
Cost per Mile
Escalation @ 3%/yr

[redacted]

Narrative
- Station work only.
- Project will be bid out.
- Installation on private easements.
- Easement costs are included in total costs.

...TRADE SECRET DATA ENDS]

PUBLIC DOCUMENT--TRADE SECRET DATA HAS BEEN EXCISED

Rochester New 12"
Project 0017015099
2015 Rochester Phase 1 - 12" Steel from DRS 80 to 8
[TRADE SECRET DATA BEGINS..

Materials:
Internal labor:
Contracted Services:
Land Acquisition:
Other Miscellaneous:
Total Cost:

Divided by Miles
Cost per Mile
Escalation @ 3%/yr

[redacted]

Narrative
- Project was bid out.
- 50% directional bored
- Installation in easements for most of line, utility easement for 25%
- Easement costs are not included in toatl costs.
- Project was in commercial area with some in agricultural area.

Cloquet 12 Inch
Project 0017006120
2006 - Cloquet 12" Industrial Line

Materials:
Internal labor:
Contracted Services:
Land Acquisition:
Other Miscellaneous:
Total Cost:

Divided by Miles
Cost per Mile
Escalation @ 3%/yr

[redacted]

Narrative

Line was constructed in City ROWs.
Mostly trenched in due to nature of soil in this area.
Constructed in industrial/commercial area.

Cloquet 12 Inch
Project 0017008023
...TRADE SECRET DATA ENDS]

Narrative

PUBLIC DOCUMENT--TRADE SECRET DATA HAS BEEN EXCISED

2008 - Cloquet 10"/8" Main Replacement

[TRADE SECRET DATA BEGINS...

Materials:
Internal labor:
Contracted Services:
Land Acquisition:
Other Miscellaneous:
Total Cost:

Divided by Miles
Cost per Mile
Escalation @ 3%/yr

[redacted]

Line was constructed in easements.
Approximately 35% directional bored.
Constructed in commercial and residential area.

Rochester Bare Main
Project 0017009049
2009 - Rochester 4 & 10

Materials:
Internal labor:
Contracted Services:
Land Acquisition:
Other Miscellaneous:
Total Cost:

Divided by Miles
Cost per Mile
Escalation @ 3%/yr

[redacted]

...TRADE SECRET DATA ENDS]

Narrative

- Project was bid out
- 64% of the project was directional bore vs trench
- Extra charges for abnormal construction including:
  - Rock bore
  - Rock haul away

Rochester Bare Main
Project 0017013067
2013 - Rochester Hwy 52

Narrative

- Project was mostly directional bore
-Constructed in rural area utilizing exisitng City/State ROW.

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[TRADE SECRET DATA BEGINS...

Materials:	[redacted]
Internal labor:	
Contracted Services:	
Land Acquisition:	
Other Miscellaneous:	
Total Cost:	
Divided by Miles	
Cost per Mile	
Escalation @ 3%/yr	

- Project was bid out

..TRADE SECRET DATA ENDS]

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1

Guardian II - Transmission (2006/2007)

[TRADE SECRET DATA BEGINS…

Materials:
Internal labor:
Contracted Services:
Land Acquisition:
Other Miscellaneous:
SUB TOTAL:
Contingency:
TOTAL:

Cost:
Divided By Miles:
Cost Per Mile:
Escalation @ 3%/yr

[redacted]

Narrative:

Construction: Means & Methods:

- 90% Constructed in Agricultural New Right of Way.
- 32.83 Miles (7.08 Mi @ 12" / 25.75Mi @ 14") (6/10 Mi of Bore / 32.23 Mi Open Cut)

Guardian II - New Regulator Station (2006/2007)

Materials:
Internal labor:
Contracted Services:
Land Acquisition:
Other Miscellaneous:
SUB TOTAL:
Contingency:
TOTAL:
Escalation @ 3%/yr

[redacted]

Narrative:

Construction: Means & Methods:

- 100% Constructed in Agricultural New Land Purchase.
- Average cost of 2 new Stations

…TRADE SECRET DATA ENDS]

Guardian II - TOTAL (2006/2007)

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[TRADE SECRET DATA BEGINS..

Materials:	[redacted]
Internal labor:	
Contracted Services:	
Land Acquisition:	
Other Miscellaneous:	
SUB TOTAL:	
Contingency:	
TOTAL:	
Cost:	
Divided By Miles:	
Cost Per Mile:	
Escalation @ 3%/yr	

2

Monroe MI (2012/2013)

Materials:	[redacted]
Internal labor:	
Contracted Services:	
Land Acquisition:	
Other Miscellaneous:	
SUB TOTAL:	
Contingency:	
TOTAL:	
Cost:	
Divided By Miles:	
Cost Per Mile:	
Escalation @ 3%/yr	

...TRADE SECRET DATA ENDS]

Narrative:

Construction: Means & Methods:

- Constructed in Industrial & Commercal Areas
- 1.92 Miles (1.01 Mi of Bore / .91 Mi Open Cut)

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3

Wausau (Mosinee) - New Gate Station (2014)

[TRADE SECRET DATA BEGINS..

Materials:	[redacted]
Internal labor:	
Contracted Services:	
Land Acquisition:	
Other Miscellaneous:	
SUB TOTAL:	
Contingency:	
TOTAL:	
Escalation @ 3%/yr	

Narrative:

Construction: Means & Methods:

- Constructed in Industrial Park
- 100% Constructed with New Land Purchase.

4

Manlove Field - Transmission (2016)

Materials:	[redacted]
Internal labor:	
Contracted Services:	
Land Acquisition:	
Other Miscellaneous:	
SUB TOTAL:	
Contingency:	
TOTAL:	
Cost:	
Divided By Miles:	
Cost Per Mile:	

...TRADE SECRET DATA ENDS]

Narrative:

Construction: Means & Methods:

- 100% Constructed in Agricultural Exisitng Right of Way.
- .49 Miles (7.08 Mi @ 12") (2/10 Mi of Bore / .79 Mi Open Cut)

OAG No. 204

State Of Minnesota
Office Of The Attorney General
Utility Information Request

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	**Date of Request:**	July 6, 2016
Telephone:	(651) 757-1473	**Due Date:**	July 18, 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.

Reference: DOC IR 38 HSTS ATTACHMENT; Sexton Direct HSTS Exhibit TCS-3.

Explain why MERC included Phased Proposal 4.2 in its analysis, but Mr. Sexton did not.

MERC Response:

This portion of the response is provided by Sarah Mead: See MERC's response to OAG Information Request No. 203 for explanation regarding MERC's selection of the bids that were evaluated in DOC IR HSTS Attachment. See also, MERC's response to OAG Information Request No. 203 for explanation about the internal bid evaluation and how the NNG proposals evolved during that process.

This portion of the response is provided by Tim Sexton: I provided an analysis of the RFP and MERC's ultimate selection that was designed to be completely independent of MERC's internal analysis. In order to provide an independent view, my independent analysis did not review MERC's analysis or critique MERC's bid evaluation. Indeed, at the time I conducted this analysis and prepared my Direct Testimony (including referenced HSTS Exhibit TCS-3), I had not seen or relied upon Attachment_DOC_38_HIGHLY SENSITIVE TRADE SECRET, which was provided as an attachment to MERC's response to Department Information Request No. 38.

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As described on pages 43-44 of my Direct Testimony, my analysis took into account the conforming bids from each of the three vendors and compared them. For this purpose, I used NNG's proposal 3.0, which was NNG's base case proposal that complied with the requirements of the RFP. This is equivalent to setting a base case for comparison. Once the "base case" was set, the analysis was developed to compare the net present value ("NPV") of gas costs incurred with each of the three vendor's base case proposals. HSTS Exhibit TCS-3, p. 1 summarizes the outcome of that comparison and a copy of that Exhibit was provided with MERC's response to OAG Information Request No. 168.

NNG Proposal 3.0 was the lowest cost conforming bid alternative available to MERC via the RFP process. As described on pages 45-47 of my Direct Testimony, the independent analysis also compared the base case proposals with the actual as-negotiated Precedent Agreement ("PA") with NNG and took into account the significant enhancements that were negotiated. Ultimately, the final negotiated transaction (as amended) results in significant savings compared to all of the other alternatives reviewed for the analysis.

It was more appropriate to include the actual as-negotiated PA cost impacts as compared with the base case proposal to confirm the validity of the RFP process. This was a more valid comparison than reviewing other alternatives that may or may not have complied with the parameters of the RFP process or met MERC's needs. As stated in MERC's response to OAG Information Request No. 203, MERC concluded that Phased Proposal 4.2 was not selected and did not meet MERC's needs. Rather the final PA included enhancements that were better for MERC's particular circumstances.

Nevertheless, subsequently, I prepared a comparison of phased proposal 4.2 and proposal 4.0 to provide additional points of comparison. Although MERC did not view proposal 4.0 as a conforming bid or as a bid that would have met MERC's operational requirements, the purpose of the evaluation included within MERC's Supplemental Response to Department Information Request No. 37 was to compare a phased expansion approach to an upfront approach. In order to develop such a comparison, I selected NNG Proposal 4.0 rather than NNG Proposal 3.0 due to the fact that NNG's Phased Proposal 4.2 (after both phases were installed) ultimately resulted in deliveries consistent with those proposed in Proposal 4.0. In doing so, I compared upfront proposal 4.0 to phased proposal 4.2 rather than, for example, comparing proposal 3.0 to Phased Proposal 4.2 because it would not have been reasonable to compare Proposal 3.0 to Phased Proposal 4.2 since this would have been comparing proposals with gas ultimately delivered to different locations.

Response by:	**Sarah R. Mead**	**Timothy Sexton**
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It is important to note that NNG did not provide a phased proposal 3.1 or 3.2 so there was no phased proposal for comparison to 3.0. The following table provides the ultimate delivery point quantities under each proposal I analyzed:

Proposal	Rochester 1B	Rochester 1D	Rochester New	Total	In-Service Date
Proposal 3.0	18,462	81,707	0	100,169	2017
Proposal 4.0*	0	40,707	59,462	100,169	2017
Phased Proposal 4.2*	0	40,707	59,462	100,169	2017/2022
PA Agreement	15,124	40,707	44,338	100,169	2017/2019

*Proposal 4.0 and 4.2 are based upon the same ultimate facilities being implemented and are assumed to result in the same capacity, just deployed on different schedules.

As illustrated in the table, proposals 4.0 and 4.2 ultimately led to the same delivery quantities so this was somewhat an "apples to apples" comparison of a phased proposal versus an upfront proposal. The in-service dates, however, were different. In contrast, Proposal 3.0 ultimately led to a different service portfolio than phased proposal 4.2, so this would not have led to a meaningful comparison of an upfront approach as compared to a phased approach, which was what was requested in MERC's Supplemental Response to Department Information Request No. 37.

Thus, for consistency, it was appropriate to compare proposal 4.0 to Phased Proposal 4.2 in this data request response. That analysis and the results were provided in MERC's Supplemental Response to Department Information Request No. 37 and the HSTS attachments thereto. I concluded that, on an NPV basis, Upfront Proposal 4.0 was less expensive than Phased Proposal 4.2. I did not rely upon Attachment_DOC_38_HIGHLY SENSITIVE TRADE SECRET in conducting this analysis or to support my conclusions.

As noted in MERC's Supplemental Response to Department Information Request No. 37, the characteristics of Phased Proposal 4.2 are not the same as what was actually negotiated with NNG. Phased Proposal 4.2 was designed to add 17,500 Dth/day in 2017 while deferring an additional 27,500 Dth/day to 2022. MERC ultimately negotiated a hybrid phased approach that adds capacity in 2018 and 2019. Further, Phased Proposal 4.2 did not add capacity where MERC needed it because it brought the capacity to the two existing TBSs and did not include delivery to a new TBS. The as-

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negotiated PA includes bringing some of the capacity to the new TBS which provides additional benefits by bringing the capacity to where MERC needs it most.

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PUBLIC DOCUMENT—HIGHLY-SENSITIVE TRADE SECRET INFORMATION HAS BEEN EXCISED

HIGHLY SENSITIVE TRADE SECRET INFORMATION USE RESTRICTED PER HSTS PROTECTIVE ORDER IN DOCKET NO. G011/M-15-895

HIGHLY SENSITIVE TRADE SECRET INFORMATION TO BE FILED ONLY IN DOCKET NO. G-011/M-16-315

[HIGHLY SENSITIVE TRADE SECRET DATA BEGINS…

NNG Bid Comparisons

Highly Sensitive Trade Secret Exhibit __ (TCS-R3)_NNG Bid Comparison is Highly Sensitive Trade Secret in its Entirety.

Highly Sensitive Trade Secret Exhibit __ (TCS-R3)_NNG Bid Comparison contains third-party confidential information and MERC's competitors and suppliers could gain competitive advantage if this information were publicly available. This attachment shall be treated in accordance with the Highly-Sensitive Trade Secret Protective Order dated April 14, 2016.

…HIGHLY SENSITIVE TRADE SECRET DATA ENDS]

Before the Office of Administrative Hearings
600 North Robert Street
St. Paul, Minnesota 55101

For the Minnesota Public Utilities Commission
121 Seventh Place East, Suite 350
St. Paul, Minnesota 55101

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

MPUC Docket No. G011/M-15-895
OAH Docket No. 68-2500-33191
Exhibit _____

Rebuttal Testimony
Independent Evaluation

July 28, 2016

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I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Timothy C. Sexton. My business address is 19500 State HWY 249, Suite 160, Houston, Texas 77070.

Q. Are you the same Timothy Sexton that filed Direct Testimony in this case on behalf of Minnesota Energy Resources Corporation ("MERC")?

A. Yes. I provided an independent analysis with respect to issues relating to MERC's selection of Northern Natural Gas Company ("NNG") to add firm pipeline capacity to serve its distribution system. Specifically, I addressed:

1. The need for additional firm gas pipeline transportation capacity to serve MERC's customers in and around Rochester, Minnesota.
2. MERC's decision to obtain capacity needed to support long-term demand growth requirements.
3. The request for proposal ("RFP") process undertaken by MERC to assess alternatives in meeting incremental natural gas pipeline capacity demand.
4. The proposals received in response to MERC's RFP and whether MERC made a reasonable decision to move forward with NNG.
5. The final negotiated proposal between MERC and NNG as compared to the other alternatives available to MERC.

Q. What is the purpose of your Rebuttal Testimony?

A. I am responding to the Direct Testimony of Office of Attorney General – Residential Utilities and Antitrust Division ("OAG") witness Dr. Julie A. Urban regarding her concerns over MERC's RFP process and the selection of the NNG proposal that ultimately resulted in the execution of a Precedent Agreement ("PA") between MERC and NNG.

Q. Please summarize your Rebuttal Testimony.

A. Fundamentally, I disagree with Dr. Urban's conclusions and recommendations regarding the Rochester Project and MERC's selection of the NNG proposal to phase in the expansion of interstate pipeline capacity into the Rochester area by about 45,000 Dth/day. Specifically,

- I continue to believe that MERC's RFP process was an effective process to foster a competitive market and to evaluate available market opportunities to meet MERC's demand growth requirements; and
- I continue to believe that MERC properly evaluated the proposals that it received through the RFP process; appropriately selected NNG as the low-cost bidder; and utilized an effective negotiation process to further enhance the ultimate transaction as compared to the proposals submitted by NNG.

Q. Are you sponsoring any Exhibits with your Rebuttal Testimony?

A. Yes. I am sponsoring the following Exhibits, which are being filed concurrently with my Rebuttal Testimony:

Exhibit ___ (TCS-R1), (Public, Trade Secret, and **Highly Sensitive Trade Secret** versions) which is a copy of MERC's response to the Department of Commerce, Division of Energy Resources ("Department") Information Request No. 37, including the Supplemental Response that was served on June 9, 2016. Attachment_1_DOC_37_Supplement and Attachment_2_DOC_37_Supplement to the **Highly Sensitive Trade Secret** version of this response contains extra-sensitive and trade secret information about the proposals I evaluated. These attachments contain third-party competitive and confidential information that, if known by competitors, could give competitors a commercial advantage. As a result, these attachments have been designated "Highly Sensitive Trade Secret" in their entirety. I understand that due to this Exhibit's confidential nature, it is being separately filed in Commission Docket No. G011/M-16-315. A redacted version of this Exhibit is included with my Rebuttal Schedules. Additionally, the Trade Secret version of Attachment_3_DOC_37_Supplement contains trade secret data, including confidential contractor pricing information that is not generally known to and not readily ascertainably by vendors and competitors who could obtain financial advantage from its use.

Exhibit ___ (TCS-R2), which is a copy of MERC's response to OAG Information Request No. 204, which was served on July 19, 2016.

Exhibit __ (TCS-R3), (Public and **Highly Sensitive Trade Secret** versions), which is my Independent NNG Bid Comparison. The **Highly Sensitive Trade**

Secret version of this Exhibit has been designated as **Highly Sensitive Trade Secret** in its entirety. This Exhibit contains extra-sensitive and trade secret information about the proposals I evaluated. It contains third-party competitive and confidential information that, if known by competitors, could give competitors a commercial advantage. As a result, I have designated this Exhibit "Highly Sensitive Trade Secret" in its entirety. I understand that due to this Exhibit's confidential nature, it is being separately filed in Commission Docket No. G011/M-16-315. A redacted version of this Exhibit is included with my Rebuttal Schedules.

II. REBUTTAL – REQUEST FOR PROPOSAL PROCESS

Q. Have you reviewed the Direct Testimony of OAG witness Dr. Julie A. Urban?

A. Yes.

Q. What did Dr. Urban conclude with respect to MERC's RFP process?

A. On page 45 of her Direct Testimony, Dr. Urban concludes that "by limiting the RFP to bids that would supply 100,000 Dth/day immediately . . . MERC prejudged the value of more moderate approaches" and that "MERC's RFP categorically does not solicit more moderate proposals, or phased proposals that could have minimized risks to ratepayers while still providing short-, medium- and long-term solutions."

Q. Do you agree with Dr. Urban's conclusions regarding the effectiveness of MERC's RFP?

A. No. As I discussed in detail in my Direct Testimony, I believe that it was appropriate for MERC to structure its RFP based on the long-term demand and demand growth associated with the 100,000 Dth/day included within the RFP.

I believe that Dr. Urban has a fundamental misunderstanding of the transportation service market in Rochester, Minnesota. I will provide additional discussion about the particular circumstances in Rochester that support the conclusion that MERC's approach to the RFP was not only reasonable but actually allowed MERC to exert considerable leverage to obtain more favorable terms from NNG.

MERC's market in Rochester, Minnesota is a captive market on the NNG system with no third-party pipeline service providers within 80 miles of Rochester. This distance of 80 miles creates a significant hurdle for a third-party service provider to overcome in order to compete with the incumbent service provider. Thus, in order to foster a competitive environment for its RFP, MERC developed a life cycle approach where it sought capacity solutions that would meet long-term requirements in and around the area of Rochester, Minnesota.

If MERC had issued an RFP that only supported near-term demand requirements, the quantity would not have been sufficient to enable third-party service providers to submit proposals that had any realistic chance of clearing the significant barrier to entry created by the required 80-mile pipeline construction requirement.

As a result, an RFP that requested a smaller quantity would not have fostered the competitive environment that MERC successfully utilized to entice NNG to provide a negotiated rate service with long-term rate certainty.

Q. What do you mean by a "long-term, life cycle approach"?

A. MERC's existing long-term contract with NNG was scheduled to expire and needed to be extended or replaced. This is in addition to the need to add capacity to the system. In other words, MERC needed to procure both a replacement for the existing 55,000 Dth/day capacity and add the requested incremental capacity of 45,000 Dth/day simultaneously.

This unique circumstance gave MERC the opportunity to put the entire position up for bid and expose NNG to market forces. It created a large enough request to create interest in competing pipelines and leveraged NNG's risk that it stood to potentially lose its existing position.

Q. Is MERC's long-term, life cycle approach an extraordinary approach in the industry?

A. No. As I discussed in my Direct Testimony, I have been involved in several projects on behalf of various third-party clients across the United States in which a similar approach was taken and utilized to foster a competitive environment.

Similar to MERC, these third parties developed RFPs based upon life cycle demand requirements to foster a competitive bid process in markets that were otherwise captive to an incumbent pipeline service provider.

Q. Do you believe that MERC's RFP was successful in fostering a competitive environment?

A. Yes, I do. MERC received proposals from three distinct service providers, with each offering to provide the requested delivery quantities to Rochester.

In contrast, if MERC had simply renewed its existing NNG position and structured a smaller RFP seeking minimal incremental capacity quantities, the non-incumbent third-party service providers could not have provided service proposals at a reasonable cost while overcoming the need to construct a new greenfield 80-plus-mile pipeline system. As a result, MERC's RFP was successful in spurring a competitive process.

Q. Why do you think it is important that a competitive environment was encouraged through this process?

A. As mentioned above, the Rochester market is a captive market to the NNG pipeline system. A pipeline company, such as NNG, has an obligation to its stakeholders to maximize revenues and, in the absence of competition, NNG, as a reasonable market participant, would have no incentive to offer discounts or negotiated rates to its captive customers. As a result, if MERC had simply requested capacity to meet near-term capacity requirements, competition would not have been fostered and NNG likely would have made proposals based upon NNG's maximum tariff rates plus an expansion surcharge.

In contrast, by designing an RFP that fostered a competitive environment, not only was MERC able to obtain the lowest-cost proposal from NNG, but MERC was also able to gain significant concessions from NNG related to its existing capacity contracts that would likely have not been available had MERC not initiated the long-term RFP process.

Q. What about Dr. Urban's contention that MERC's RFP categorically did not solicit more moderate or phased proposals that could have minimized risks to ratepayers?

A. The responses to the RFP proved that there was only one participant, NNG, that could have provided a more moderate or phased proposal at a reasonable cost.

In fact, as noted in my Direct Testimony, the other bidders (Northern Border and Twin Eagle) were unsuccessful in competing with NNG primarily due to the fact that they required construction of a greenfield 80-mile delivery lateral. If the RFP delivery quantity had been lower, these bidders would have had to recover costs of a greenfield delivery lateral over a smaller capacity quantity which would have resulted in their per-unit cost increasing and them being even less competitive. As such, a smaller RFP would have made these bidders less competitive.

As to NNG, even without MERC requesting phased or more moderate bid proposals, as Dr. Urban correctly notes, NNG did submit several phased proposals. As a result, the

RFP issued by MERC was successful in soliciting the very phased and more moderate bids that Dr. Urban says were required.

Perhaps more importantly, these phased, more moderate bids from NNG were obtained in a competitive environment in which NNG was aware that it was competing with third parties, which in turn required a more competitive response. As a result, I would argue that the life cycle RFP issued by MERC resulted in more competitive phased proposals from NNG than would have been received from NNG had MERC simply issued a short-term RFP that did not introduce the threat of competition to the process.

Q. In summary, what conclusions do you reach with respect to MERC's RFP process?

A. With respect to MERC's RFP, I agree with Department witness Michael Ryan's assessment on page 14, line 24 through page 15, line 4 of his testimony in which he states that he believes "that the RFP process was a comprehensive gauge of the market and the potential alternatives for interstate pipeline services to the Rochester TBSs. While other pipelines may have difficulty serving Rochester, MERC made reasonable efforts to address this issue through the timing of the process and allowing other bidders the opportunity to provide competitive bids on the Project."

III. REBUTTAL – NNG PROPOSALS

Q. What does Dr. Urban conclude with respect to MERC's consideration of the proposals that were submitted by NNG?

A. On page 19, lines 10-11 of her testimony, Dr. Urban states that "[i]t does not appear from this record that MERC gave consideration to any of NNG's phased proposals." Further, on page 46 of her testimony, Dr. Urban states that "Mr. Sexton did not consider the other twelve proposals from NNG, and considered none of the phased proposals."

Q. Do you agree with these statements?

A. No. As described on pages 41 and 42 of my Direct Testimony, Northern Border, Twin Eagle, and NNG provided initial responses on January 16, 2015, and updated responses on February 18 and 19, 2015, with NNG providing several proposals for MERC to consider. I reviewed the bid responses from each bidder including a review of all proposals included within each of these three companies' bid responses.

After reviewing the bid proposals, within my Independent Bid Evaluation, I compared the lowest-cost proposal from each bidder that conformed to the requirements of the RFP.

Q. Dr. Urban notes on page 18, lines 5-6 of her testimony that "[i]n its initial response to the RFP, NNG produced nine proposals: 1.0, 1.0a, 1.1, 2.0, 2.1, 2.2, 2.3, phased 2.0 and phased 2.3." Please explain why you did not include any of the "upfront" bid responses from NNG's Initial Response within the net present value (NPV) analysis that was attached to your Direct Testimony.

A. First, two of the proposals (Proposals 2.2 and 2.3) provided by NNG in its Initial Bid Response (January 16, 2015) did not conform to the terms of MERC's RFP and did not meet MERC's operational requirements.

Second, the bid proposals included in NNG's Updated Bid Response (February 18, 2015) were clearly superior to the proposals submitted in the Initial Response (January 15, 2015). As such, there was no need to continue to evaluate the proposals included in NNG's Initial Bid Response.

Q. Please explain why Proposals 2.2 and 2.3 did not conform to the terms of MERC's RFP and did not meet MERC's operational requirements.

A. NNG's Proposal 2.2 would have resulted in the delivery of the entire 45,000 Dth/day of incremental capacity at MERC's Rochester 1D gate station at a delivery pressure of only 450 psig. As such, this "non-conforming" Proposal 2.2 did not conform to the RFP requirements, did not meet operational requirements, and was not evaluated further.

With respect to Proposal 2.3, NNG proposed that the majority of the incremental delivery capacity (35,000 Dth/day) be delivered to MERC's Rochester 1B TBS at a delivery pressure of 400 psig. This delivery proposal did not conform to the requirements of the RFP which requested that deliveries be made at a higher pressure and which required that no more than 9,000 Dth/day of incremental capacity be delivered to the Rochester 1B delivery point location. As noted on page 16, lines 32-33 of Ms. Mead's Rebuttal Testimony, NNG's proposal to deliver the incremental quantities at the Rochester 1B delivery meter "could not be utilized without significant modifications to MERC's system." As a result, NNG's "non-conforming" Proposal 2.3 was unacceptable due to operational considerations and was not evaluated further.

Q. Please explain why the remaining upfront or "non-phased" proposals provided in NNG's Initial Bid Response were commercially inferior to the proposals provided in NNG's Updated Bid Response.

A. The Table found in **Highly Sensitive Trade Secret** Exhibit **___** (TCS-R3) NNG Bid Comparison provides a comparison of "Estimated Capital," "Annual Costs," and "Effective Total Rates" as quoted by NNG with respect to its bid proposals.

As noted in the table above, NNG's Updated Response included Upfront Proposals 3.0 and 4.0 which provided the full 100,169 Dth/day of capacity requested by MERC at a lower projected capital cost and lower quoted reservation fee than any of NNG's Proposals 1.0, 1.0a, 2.0, or 2.1 and at comparable costs to Proposal 1.1 as provided by NNG in its Initial Response.

Due to these economic comparisons, it is clear that the proposals provided in NNG's Updated Proposal were superior to the proposals included within NNG's Initial Proposal document and as such, the proposals included within NNG's Initial Response were dismissed and not considered further.

Q. You have described the operational and commercial reasons why you did not consider the upfront proposals from NNG's Initial Response. What about the phased proposals included in NNG's Initial Response?

A. Once again, the phased proposals included in NNG's Updated Response were clearly superior to the phased proposals included in NNG's Initial Response.

Specifically NNG included Phased Proposal 2.0 and Phased Proposal 2.3 in its Initial Bid Response.

- Phased Proposal 2.3 was designed to provide an incremental quantity of 10,000 Dth/day to MERC's Rochester 1D gate station at a pressure of only 400 psig. Ignoring the fact that the 400 psig delivery pressure would not have been sufficient to support MERC's operational requirements, the proposed expansion quantity of only 10,000 Dth/day clearly did not provide MERC with sufficient capacity to meet long-term or even near-term demand growth requirements. As such, this proposal was not considered further.
- Phased Proposal 2.0 would have provided 21,750 Dth/day of capacity during the first phase of the project at the required delivery pressure. However, NNG quoted a required capital cost to provide this capacity that was higher than either Proposals 3.0 or 4.0. As this cost was higher than the capital requirement in either of Proposals 3.0 or 4.0 included in NNG's Updated Proposal document which each provided the full requested 45,000 Dth/day of capacity, Phased Proposal 2.0 was clearly inferior to the upfront proposals included in NNG's Updated Proposal. As such, Phased Proposal 2.0 was not considered further.

Q. On pages 38-40 of her testimony, Dr. Urban argues that MERC would have been better served to select NNG's Phased Proposal 2.0 rather than the transaction that it entered with NNG because Phased Proposal 2.0, which provided only 21,750 Dth/day of capacity, was better aligned with MERC's near-term demand requirements than the transaction which MERC entered into with NNG which ultimately provided 45,000 Dth/day of capacity. Do you agree with this assessment?

A. No. Based on her desire to match the capacity acquisition as closely as possible to near-term demand requirements, Dr. Urban seems to have concluded that acquiring a smaller quantity of capacity is preferable regardless of the cost of the capacity. I disagree with this line of thinking.

In fact, as noted in NNG's proposal, Phase 1 of NNG's Phased Proposal 2.0 would have provided MERC with 21,750 Dth/day of capacity and would have resulted in Total Annual fixed payments from MERC to NNG that would have been more than the annual fixed payment MERC ultimately negotiated in the PA.

Under the PA as actually negotiated, MERC has acquired 45,000 Dth/day of capacity with Total Annual fixed payments (after Phase 2 of the project is in service) of slightly less than the payment under Phased Proposal 2.0. In other words, MERC gets double the capacity for a lower fixed payment

I do not agree that it is reasonable for MERC to have accepted Phased Proposal 2.0, which ultimately would have provided MERC with less capacity coverage at a higher cost. In fact, I can state unequivocally that I would not advise a client in this situation to pay higher fees for a smaller quantity of capacity simply to insure that the quantity of capacity acquired is closer to current demand requirements.

Q. Were there additional benefits included in the Updated Bid Response that were not included within the Initial Bid Response?

A. Yes. The request for and receipt of updated proposals from the bidders represented the first step in MERC's negotiation process that ultimately led to an enhanced agreement with NNG.

In fact, NNG's Updated Proposals included the following enhancements that ultimately became part of the negotiated PA between MERC and NNG:

- Firm growth capacity rights to other MERC markets served by NNG in Southeast Minnesota at NNG's tariff rate;
- Ability to use a portion of the Rochester TF entitlement to deliver to markets other than Rochester on an alternate basis at fixed rates; and
- Additional growth volume of up to 2,000 Dth/day during any odd year during the term of the agreement at a Discounted Capital Recovery Rate.

Q. On page 47 of her testimony, Dr. Urban notes that the limitations on your review precluded an effective review of the phased proposals. Do you agree with this statement?

A. No. I do not. First, with respect to the phased proposals provided by NNG in the Initial Response, as noted above, these proposals were clearly inferior to the upfront proposals in NNG's Updated Response. As such, although I did review the proposals, there was no reason to include these proposals in the NPV analysis included as part of my Direct Testimony.

In addition, Phased Proposals 4.1 and 4.2 submitted by NNG in its Updated Response were also inferior to Upfront Proposal 4.0 submitted in the Updated Response.

Q. Why do you consider Phased Proposal 4.1 inferior to Upfront Proposal 4.0?

A. With respect to Phased Proposal 4.1, NNG did not provide a fixed rate associated with the second phase of the project. Rather, NNG simply stated that the Phase 2 rate would be based upon a pre-determined Discounted Capital Recovery Rate that in turn would be based upon actual construction costs at the time that the Phase 2 installation was made. Although NNG did provide an estimate of Phase 2 costs if the project was constructed today, NNG also made it clear that the Phase 2 costs were indicative only for construction in 2017 and that actual costs could vary depending on actual construction costs. As I described in my supplemental response to Department Information Request No. 37 (Exhibit ___ (TCS-R1) page 5 of 13):

> Second, unlike Phased Proposal 4.2, NNG did not quote a fixed rate for the second phase of Proposal 4.1. Rather, NNG simply stated that the rate applicable to the second phase of the project would be based upon a calculated Discounted Capital Recovery Rate to be determined based upon actual installation costs at the time the project was initiated. Thus, in addition to being more expensive this alternative would have exposed MERC to uncapped exposure moving forward.

It is clear that in Phased Proposal 4.1, the required and associated facility costs associated with this later phase of the project are unknown. As such, this proposal provided no long-term cost certainty for MERC or its customers. As a result, this proposal was not considered as a viable alternative to provide cost certainty in meeting long-term growth requirements. It is also worth repeating that, even if Phased Proposal 4.1 had come in at its estimated (but not guaranteed) costs, it was substantially more expensive than the other proposals that were considered.

For these reasons, I did not consider Phased Proposal 4.1 as a viable alternative to meet MERC's long-term growth requirements.

Q. Why do you consider Phased Proposal 4.2 as being inferior to Upfront Proposal 4.0?

A. As noted in my supplemental response to Department Information Request No. 37, which is attached hereto as Exhibit TCS-R1, I did develop an NPV analysis of Phased Proposal 4.2 versus Upfront Proposal 4.0. As described in detail in the narrative supplemental response to Department Information Request No. 37 (Exhibit ___ (TCS-R1) page 4 of 13), I concluded from this analysis that the Upfront Proposal 4.0 provided the lower long-term cost of service for MERC and its customers.

Q. Can you explain why you did not include this analysis as part of the NPV analysis included in support of your Direct Testimony?

A. Yes. Although I developed the comparative analysis of Upfront Proposal 4.0 versus Phased Proposal 4.2, I believe that this is largely an academic exercise. Neither proposal was "selected," as the agreed transaction ultimately described in the PA with NNG took elements of several proposals. Further, I felt the proper comparison was between the transaction actually completed versus the original conforming bid, which was Proposal 3.0.

Q. Why did you not develop a comparison between Proposal 3.0 (included in your NPV analysis attached to your Direct Testimony) versus Phased Proposal 4.2?

A. As I described in detail in my supplemental response to OAG Information Request No. 204, which is attached hereto as Exhibit TCS-R2, Phased Proposal 4.2 was not comparable to NNG's Proposal 3.0. Rather, Phased Proposal 4.2 ultimately led to construction of facilities comparable to those of Proposal 4.0. As the proposals ultimately led to the same facilities and services, it made sense to compare Phased Proposal 4.2 to Proposal 4.0. In contrast, facilities and services between Proposal 3.0 and Phased Proposal 4.2 were not consistent, so I did not develop this comparison.

Q. Were any of the specific proposals submitted by NNG during the RFP response period selected by MERC?

A. No. As I mentioned in my Direct Testimony, after MERC concluded that NNG had provided the most favorable proposal among the bidders, MERC initiated negotiations with NNG to refine and enhance the proposed service offerings.

The final agreed-to transaction was a distinct transaction that contained some components from NNG's Proposal 3.0, some from NNG's Proposal 4.0, and even contained an element of phasing like that contained in NNG's Proposal 4.2. The final PA results in a hybrid approach that took the best elements of these distinct proposals and melded them into a transaction that provided MERC with a strong transaction. This, I believe, is a good example of how taking a long-term, life cycle approach to the RFP leveraged a much better outcome for MERC.

In addition, as noted in my Direct Testimony and as described on page 13, line 3 to page 14, line 14 of Department witness Mr. Ryan's Direct Testimony, the final negotiated transaction included many enhancements that were not included in any of NNG's bid proposals.

Q. Do you continue to believe that MERC's RFP, bid selection, and negotiation process were appropriate and successful?

A. Yes, for the following reasons:

- MERC's RFP process clearly fostered a competitive environment which spurred NNG to provide market competitive proposals;

- MERC made the current selection in its initial screening process that NNG's proposal was the least-cost, most favorable alternative among the three bidders; and
- MERC's negotiation process after the bids were received resulted in a lower-cost, more favorable cost structure than provided in any of NNG's offered proposals.

IV. FINAL CONCLUSIONS

Q. In sum, do your conclusions regarding MERC's process to acquire upstream pipeline transportation capacity remain the same?

A. Yes. My conclusions remain the same as I had provided in my Direct Testimony:

1. Additional firm gas transportation capacity is needed to meet the needs of MERC's customers in and around Rochester, Minnesota.
2. MERC's decision to purchase capacity to meet long-term growth requirements was appropriate and is consistent with industry practice.
3. MERC's RFP process was effective in providing MERC with a comprehensive view of competitive alternatives available to meet projected natural gas demand growth in Rochester, Minnesota.
4. Based on a comprehensive RFP process, the proposal submitted by NNG will result in significant cost savings for MERC and its customers versus the alternative bid proposals. Further, it is clear that through its post-RFP negotiation process MERC has enhanced and improved the initial proposal provided by NNG in response to the RFP.

5. Finally, even with the slight increase in costs associated with the amended transaction with NNG, the NNG transaction will still result in significant gas cost savings for MERC's customers versus the alternative third-party proposals.

Q. Does this conclude your Rebuttal Testimony?

A. Yes.