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

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

**MPUC Docket No. G-011/GR-13-617  
OAH Docket No. 8-2500-31126**

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*In the Matter of a Petition by Minnesota Energy Resources Corporation  
for Authority to Increase Natural Gas Rates in Minnesota*

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**INITIAL BRIEF OF THE OFFICE OF THE  
ATTORNEY GENERAL—ANTITRUST AND UTILITIES DIVISION**

**June 24, 2014**

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**STATE OF MINNESOTA  
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**INTRODUCTION**

Minnesota Energy Resources Corporation's request to increase natural gas rates by approximately \$14.2 million is unreasonable and unsupported by the record. MERC requests recovery for many expenses that are unsubstantiated, inaccurately estimated, or improper for recovery in this case. The proposal unfairly shifts costs onto residential and small commercial and industrial classes, and increases customer charges in a way that limits ratepayers' ability to control their utility bills. The Office of the Attorney General—Antitrust and Utilities Division ("OAG") recommends that the following steps be taken to protect the interests of MERC's customers:<sup>1</sup>

1. Customer service expenses for the ICE 2016 Project should be deferred and excluded from rate base;
2. Bad debt expenses should be reduced to correct for MERC's overestimation and the current downward trend of these expenses;
3. Operating and management expense inflation should be estimated on the basis of internal inflation factors;
4. Property tax expenses should be reduced to reflect historical trends;
5. Net operating loss carryforward adjustments should be denied;

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<sup>1</sup> The scope of this Initial Brief is limited to those issues on which the OAG filed testimony.

6. Travel and entertainment expenses should be denied recovery because MERC has not demonstrated that the expenses are reasonable and necessary in the provision of service and has failed to comply with statutory reporting requirements;
7. Unamortized rate case expenses should be removed from rate base because MERC did not request deferred accounting;
8. The transportation sales forecast should be adjusted upwards to account for historical trends;
9. MERC's return on equity should be 8.62% or, at minimum, within a reasonable range of 8.6% to 9.1%;
10. Customer service expenses should be allocated on the basis of a weighted customer allocator;
11. Income tax expenses should be allocated on the basis of income;
12. Distribution main expenses should be allocated on the basis of a zero-intercept study that satisfies technical requirements;
13. Revenue apportionment should remain stable; and
14. The customer charge should be maintained to allow ratepayers to retain control over their utility bills.

### **PROCEDURAL HISTORY**

On September 30, 2013, MERC filed a request to increase natural gas rates by \$14,187,597, or approximately 5.5%. In a series of Orders issued on November 27, 2013, the Commission accepted MERC's request as substantially complete, suspended the rate increase pending the Commission's investigation into the merits of the request, and established interim rates. The Commission also referred the matter to the Office of Administrative Hearings for a contested case proceeding. Administrative Law Judge Eric Lipman ("ALJ") held public hearings in Rochester, Rosemount, and Cloquet in March, 2014, and conducted an evidentiary hearing on May 13, 2014.

## LEGAL STANDARD

MERC has the burden to prove by a preponderance of the evidence that its request to increase rates is just and reasonable.<sup>2</sup> The preponderance of the evidence standard requires MERC to show that the evidence in the matter justifies its request “when considered with the Commission’s statutory responsibility to enforce the state’s public policy that retail consumers of utility services shall be furnished such services at reasonable rates.”<sup>3</sup> In discussing the utility’s burden of proof, the Minnesota Supreme Court held that:

By merely showing that it has incurred, or may hypothetically incur, expenses, the utility does not necessarily meet its burden of demonstrating that it is just and reasonable that the ratepayers bear the costs of those expenses.<sup>4</sup>

If the Commission has doubts about the reasonableness of the rate increase after reviewing all of the evidence presented, those doubts must be resolved in favor of consumers.<sup>5</sup>

### I. COST OF SERVICE

The OAG will first address MERC’s proposed cost of service. In deciding whether MERC’s proposed revenue increase is reasonable, the Commission considers the accuracy of MERC’s claimed costs, the prudence and reasonableness of MERC’s claimed costs, and whether MERC’s costs are compatible with the public interest.<sup>6</sup> MERC’s rate increase request is deficient in each of these areas. MERC has made errors in calculating and accounting for its costs, and has inflated other costs beyond the bounds of reasonableness. Requiring ratepayers to compensate MERC for these costs would be unfair.

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<sup>2</sup> Minn. Stat. § 216B.16; *see also* Minn. Stat. § 216B.03.

<sup>3</sup> *Petition of Minnesota Power & Light Co.*, 435 N.W.2d 550, 554 (Minn. Ct. App. 1989), *rev. denied* Apr. 19, 1989.

<sup>4</sup> *In the Matter of the Petition of Northern States Power Company for Authority to Change its Schedule of Rates for Electric Service in Minnesota*, 416 N.W.2d 719, 722–23 (Minn. 1987).

<sup>5</sup> Minn. Stat. § 216B.03.

<sup>6</sup> Findings of Fact, Conclusions of Law, and Order, *In re the Matter of the Application of Dakota Electric Assoc. for Authority to Increase Rates for Electric Service*, Docket No. E-111/GR-09-175 (May 24, 2010).

**A. MERC’S CLAIMED “KNOWN AND MEASURABLE” CHANGES TO EXPENSES ARE UNREASONABLE.**

MERC has misused the known and measurable expenses exception to request recovery of many projected costs that are rough estimates and do not meet the Commission’s standards of being both known and measurable. The purpose of using a test year is to determine as accurately as possible the utility’s revenues and expenses within the 12 month time period. The Commission “has adjusted for [known and measurable] changes in the past only when their certainty and magnitude would otherwise make the test year process unreliable.”<sup>7</sup>

For example, the Commission included a known and measurable change for Flint Hills Resources in Xcel Energy’s 2005 general rate case. Flint Hills was Xcel’s largest retail customer, accounting for 3% of Xcel’s sales, but had been seeking authorization to build a cogeneration facility and leave Xcel’s system.<sup>8</sup> After the rate case was filed, Xcel learned that Flint Hills would return as a full requirements customer on January 1, 2007 – the day immediately after the 2006 test year used in the rate case.<sup>9</sup>

The Commission noted that it was “reluctant to allow adjustments to filed test year data,” because the test year method “rests on the assumption that changes in the Company’s financial status during the test year will be roughly symmetrical – some favoring the Company, others not.”<sup>10</sup> In determining whether to permit a known and measurable change for Flint Hills, the Commission “balance[ed] the value of the information against the difficulty of verifying and

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<sup>7</sup> Findings of Fact, Conclusions of Law, and Order; Order Opening Investigation, *In the Matter of the Application of Northern States Power Company d/b/a Xcel Energy for Authority to Increase Rates for Electric Service in Minnesota*, Docket No. E-002/GR-05-1428, at 11 (Sept. 1, 2006).

<sup>8</sup> *Id.* at 7.

<sup>9</sup> *Id.*

<sup>10</sup> *Id.* at 10 (quoting Order After Reconsideration and Rehearing, *In the Matter of the Petition of Minnesota Power & Light Company, d/b/a Minnesota Power, for Authority to Change its Schedule of Rates for Retail Electric Service in the State of Minnesota*, Docket No. E-015/GR-87-223 (May 16, 1988)).



analyzing it.”<sup>11</sup> Ultimately, the Commission concluded that Flint Hills was a known and measurable change that would “occur *immediately* after the close of the test year,” and that failing to account for Flint Hills would “inappropriately rais[e] rates for other customers.”<sup>12</sup>

The Commission chose to exclude, however, all of the other known and measurable changes requested by Xcel. Xcel had requested additional known and measurable adjustments related to “selective catalytic reduction operating costs at the A.S. King plant, Nuclear Regulatory Commission fees, Nuclear Management Company costs, and bad debt expense.”<sup>13</sup> The Commission noted that “neither the timing nor the amount of these expected increases is nearly as certain as the timing and amount of the Flint Hills margins,” and that none of the other requests “[rose] to the level of significance of the return of Xcel’s largest customer.”<sup>14</sup> The Commission agreed with the ALJ’s conclusion that including items where the timing and amount of expected increases were uncertain would be “inconsistent with the test-year concept.”<sup>15</sup>

MERC has requested recovery for known and measurable changes that do not satisfy the conditions the Commission elaborated upon in Xcel’s 2005 rate case. MERC has alleged 19 known and measurable changes, and requested recovery of increased expenses from software development projects, backfilling vacant positions at both MERC and IBS, hiring for new positions, and expenses related to projects for sewer laterals, gate stations, and mapping projects.<sup>16</sup> In Xcel’s 2005 rate case, the only adjustment that was permitted was the well-defined

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<sup>11</sup> *Id.* at 11.

<sup>12</sup> *Id.* (emphasis in original).

<sup>13</sup> *Id.* at 12 n.13.

<sup>14</sup> *Id.*

<sup>15</sup> *Id.*; Findings of Fact, Conclusions and Recommendation, *In the Matter of the Application of Northern States Power Company d/b/a Xcel Energy for Authority to Increase Rates for Electric Service in Minnesota*, Docket No. E-002/GR-05-1428, at 9 (July 6, 2006).

<sup>16</sup> Ex. 19, at 14–15 (DeMerritt Direct).

addition of Flint Hills, which occurred immediately after the close of the test year.<sup>17</sup> All of the other requested adjustments were rejected because the timing and amount of expense were unclear. Similarly, the Commission should only permit MERC to include adjustments when the timing and amount of the adjustments are so clear that failing to include them would make MERC's test year unreliable. The OAG has identified that several of MERC's known and measurable changes fail to meet this burden.

**1. Expenses for the ICE 2016 Project Should be Removed from Rate Base.**

MERC has requested recovery for customer service expenses related to customer services provided by its outside contractor, Vertex. But MERC also requests recovery for expenses related to a project intended to create an in-house customer service product, known as ICE 2016.

OAG witness Mr. John Lindell identified concerns with MERC's request.<sup>18</sup> Specifically, Mr. Lindell noted that it would be inappropriate to include costs for MERC's in-house customer service system, known as ICE 2016, when the system was not used and useful for MERC's customers.<sup>19</sup> Additionally, Mr. Lindell noted that MERC's customers should not be required to pay for the ICE project and third-party customer service expenses at the same time.<sup>20</sup> In response, MERC witness Mr. Seth DeMerritt agreed that MERC would be willing to exclude \$322,226 from the 2014 test year related to the ICE 2016 project, and defer the costs as a regulatory asset until MERC's next rate case.<sup>21</sup> The OAG has no objection to this proposal as long as several conditions are included. First, MERC should not receive a return on expenses related to the ICE 2016 project as they are not used and useful at this time and MERC did not

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<sup>17</sup> Findings of Fact, Conclusions of Law, and Order; Order Opening Investigation, *In the Matter of the Application of Northern States Power Company d/b/a Xcel Energy for Authority to Increase Rates for Electric Service in Minnesota*, Docket No. E-002/GR-05-1428, at 11 (Sept. 1, 2006).

<sup>18</sup> Ex. 151, at 20 (Lindell Direct).

<sup>19</sup> *Id.* at 21.

<sup>20</sup> *Id.*

<sup>21</sup> Ex. 24, at 24–25 (DeMerritt Rebuttal)

include the expenses as construction work in progress. Second, the OAG does not agree to the amortization period proposed by MERC, and recommends that any discussion of amortization period be resolved during MERC's next rate case. Third, while the OAG agrees that the costs should not be included in this rate case, the OAG does not waive any review of the reasonableness of the costs in MERC's next rate case. The OAG requests that the ALJ recommend, and the Commission approve, that these expenses be removed from test year 2014 and treated as a regulatory asset only given these conditions. Alternatively, the OAG requests that the ALJ and the Commission disallow \$322,226 in ICE 2016 expenses.

## **2. MERC's Estimate of Bad Debt Expense Does Not Reflect Current and Historical Trends.**

MERC has also requested recovery for a known and measurable change of more than \$2 million related to bad debt expenses in the 2014 test year.<sup>22</sup> This request is unreasonable in light of MERC's historical levels of bad debt expense, the downward trend in bad debt from 2010 to 2013, and external factors such as the low cost of gas and the improving economy. For these reasons, the OAG estimates that MERC will have bad debt expenses of \$1,350,000 in test year 2014, rather than MERC's estimate of \$2 million.

MERC has overestimated its bad debt in previous rate cases as well. In MERC's last rate case, MERC initially calculated bad debt expenses of \$2,820,465 for a 2012 test year,<sup>23</sup> and the Commission permitted recovery of \$2,031,887.<sup>24</sup> But MERC ended up recovering excess costs in 2012 because its actual bad debt in 2012 was \$1,293,772,<sup>25</sup> nearly \$740,000 less than was

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<sup>22</sup> *Id.* at SSD-3 (estimating \$2,016,410 in uncollectible expenses).

<sup>23</sup> Findings of Fact, Conclusions of Law, and Order, *In the Matter of the Application of Minnesota Energy Resources Corporation for Authority to Increase Rates for Natural Gas Service in Minnesota*, Docket No. G-007, 011/GR-10-977, at 30 (July 13, 2012).

<sup>24</sup> Ex. 151, at 5 (Lindell Direct).

<sup>25</sup> Ex. 152, Schedule JIL-3 (Schedules to Lindell Direct).

allowed. And that pales in comparison to the bad debt expense that MERC proposed, which overestimated the actual 2012 bad debt by more than \$1.5 million.

MERC has similarly overestimated its bad debt expenses in this case. MERC calculated its 2014 test year bad debt expenses by using the average percentage of uncollectible expenses from 2010 to 2012.<sup>26</sup> But reviewing MERC's historical level of bad debt shows that \$2 million is more than MERC's actual bad debt in any year from 2010 to 2012.<sup>27</sup> The average bad debt expense over 2010 to 2012 was \$1,421,544.<sup>28</sup> MERC's unreasonableness is even clearer when 2013 actual bad debt, \$1,481,318, is included in the calculation.<sup>29</sup> Incorporating 2013 bad debt results in an average bad debt level from 2010 to 2013 of \$1,436,488. MERC's bad debt proposal in this case exceeds the four-year bad debt average by nearly \$600,000, an increase of 39.2%, and would result in recovery of nearly \$600,000 more than recent history would suggest.

Department witness Michelle St. Pierre agrees that MERC's proposed bad debt expense is unreasonable. Ms. St. Pierre stated that MERC's average bad debt calculation "would not be reasonable in this instance since there is a clear downward trend in costs."<sup>30</sup> Ms. St. Pierre also noted that MERC's uncollectible expense ratio "has been dropping year after year by approximately 0.10 percent every year since MERC's last general rate case test year 2011."<sup>31</sup> For that reason, Ms. St. Pierre recommended that the Commission include the more recent 2013 actual data when estimating bad debt, rather than the years-old 2010 data. Ms. St. Pierre recommended a bad debt expense of \$1,433,812.<sup>32</sup> Both Ms. St. Pierre's recommendation and

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<sup>26</sup> Ex. 19, at 16–17 (DeMerritt Direct).

<sup>27</sup> Ex. 152, JLL-3 (Schedules to Lindell Direct).

<sup>28</sup> *Id.*

<sup>29</sup> Ex. 218, MAS-25 (St. Pierre Direct Attachments).

<sup>30</sup> Ex. 219, at 36 (St. Pierre Surrebuttal).

<sup>31</sup> *Id.*

<sup>32</sup> *Id.* at 36, MAS-S-10.

the recommendation of the OAG recognize that MERC's proposed level of uncollectible expense is unreasonably high.

Several external factors support Ms. St. Pierre's conclusion that bad debt levels are trending downwards and will contribute to lower uncollectible expenses in 2014. MERC is currently benefitting from a comparatively low price for natural gas, which will lead to lower bills. In addition, the general economic conditions in and around Minnesota have been improving in recent months.<sup>33</sup> Lower bills and a better economy will presumably result in fewer customers being unable to pay their bills – and a lower level of uncollectible expenses. These factors, especially when considered in light of Ms. St. Pierre's conclusion that MERC's bad debt levels are trending steadily downwards, support the OAG's estimate that MERC's bad debt for test year 2014 will be slightly lower than average bad debt expenses from 2010 to 2013. For these reasons, the OAG requests that the ALJ recommend, and the Commission accept, a bad debt expense estimate of \$1,350,000.

**B. MERC HAS OVERINFLATED AND OVERESTIMATED ITS EXPENSES.**

In addition to requesting recovery for known and measurable changes that are inappropriate, MERC has incorrectly estimated several other categories of expenses.

**1. MERC's Estimated Inflation for O&M Expenses is Excessive.**

MERC has unreasonably inflated all of its operating and maintenance expenses. MERC projects inflation in O&M expense of nearly 8.4% from 2012 to 2014, with a total increase of \$1,995,655. Inflation of this level is unlikely, and the calculations that MERC used to reach its estimate were unreasonable.

Mr. Lindell raised concerns with MERC's proposal to use multiple years of estimated inflation for O&M costs. Minnesota Rules permit MERC to use a 2014 test year and rely on

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<sup>33</sup> Ex. 151, at 6 (Lindell Direct).

2012 historical data rather than data from 2013.<sup>34</sup> This method allows MERC to inflate 2012 historical data twice to reach a 2014 test year, rather than examining what actually took place during 2013. While the Rules technically permit MERC to claim that 2012 was its most recent fiscal year, rather than 2013, Mr. Lindell believes that this “contravenes the intent of the rule” because a large amount of 2013 financial data was available at the time the case was filed.<sup>35</sup> Utilizing this 2013 data, rather than allowing MERC to estimate 2013 inflation on 2012 data and then estimate inflation again for 2014, would result in more accurate cost estimations for the 2014 test year. For that reason, Mr. Lindell recommends permitting only one year of inflation for MERC’s O&M expenses.

MERC’s proposal to include multiple years of inflation is also concerning because MERC’s inflation estimates are inaccurate. MERC used an external inflation based on the consumer price index to estimate inflation of 1.708% in 2013 and 1.993% in 2014, for a total inflation of 3.74% over two years for non-labor expenses.<sup>36</sup> But MERC’s 2013 inflation estimate is susceptible to bias because two of the five sources that MERC relies on for consumer price index estimations did not provide an estimate for 2013.<sup>37</sup> MERC’s 2013 estimation only has a sample size of three sources, which is too low to provide an accurate estimate of inflation based on the consumer price index. Furthermore, external inflation indexes are less reliable than the readily available internal inflation measures identified by Mr. Lindell.<sup>38</sup>

Additionally, Mr. Lindell argued that the consumer price index is not a proper method for estimating MERC’s internal inflation.<sup>39</sup> The consumer price index measures external, economy-

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<sup>34</sup> Minn. Rule 7825.3100 (instructing utilities to utilize the “prior fiscal year unless a change of rates is filed within the last three months of the current fiscal year and at least nine months of historical data is available”).

<sup>35</sup> Ex. 152, at 6 (Lindell Surrebuttal).

<sup>36</sup> Ex. 19, SSD-19 (DeMerritt Direct).

<sup>37</sup> *Id.*

<sup>38</sup> Ex. 151, at 17 (Lindell Direct).

<sup>39</sup> *Id.*

wide factors; an internal inflation projection, “based on MERC’s historical O&M cost changes,” provides a more accurate estimate of MERC’s future non-labor cost inflation.<sup>40</sup> Mr. Lindell developed an internal inflation factor by averaging the annual change in O&M expenses from the most recent three years that had reliable financial data.<sup>41</sup> This average results in an inflation rate of 2.2%. The OAG requests that the ALJ recommend, and the Commission approve, limiting MERC’s O&M cost increases to one year of inflation, rather than two, and using the internal inflation factor of 2.2%.

## **2. MERC’s Request for Property Tax Expenses is Unreasonably Inflated.**

MERC has also requested recovery of significantly more property taxes than it has been granted in previous cases. MERC has requested recovery of \$7,314,733 in property tax expenses for test year 2014 – an increase of more than 10% in just two years.<sup>42</sup> The OAG recommends that the Commission reject MERC’s proposal, and instead use a 2013 test year value of \$6,624,033 for property tax expenses.<sup>43</sup>

One reason that MERC’s proposed property tax expense is unreasonably large is that, similar to its O&M expense methodology, MERC applied an inflation factor twice to calculate its test year 2014 property taxes. MERC first inflated the amount of its 2012 historical property taxes to estimate 2013 taxes, and then inflated the 2013 estimation to reach its proposed amount for 2014 test year property taxes. In order to reach its recommendation, MERC has grossly

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<sup>40</sup> *Id.*

<sup>41</sup> *Id.* at 18. The three most recent years does not include 2013 because MERC had not filed its 2013 financial data at the time the rate case was filed. *Id.* at 19.

<sup>42</sup> Ex. 152, JLL-4 (Schedules to Lindell Direct); Ex. 37, at 6–7 (Wilde Rebuttal).

<sup>43</sup> Ex. 152, JLL-4 (Schedules to Lindell Direct). Mr. Lindell also identified some irregularities in the historical property tax reported by MERC. In Mr. Wilde’s direct testimony, he indicated that MERC’s 2012 property tax was \$6,624,033. Ex. 36, JRW-1 (Wilde Direct). But in response to information requests from the OAG, MERC indicated that its 2012 property tax was \$6,602,054. Ex. 152, JLL-4 (Schedules to Lindell Direct). MERC has failed to explain this discrepancy even though Mr. Lindell raised it in his direct testimony. Ex. 151, at 12 (Lindell Direct). Depending on the true value of MERC’s 2012 property taxes, MERC’s estimate for the 2014 test year could represent an increase if more than 22% in only two years. *Id.*; see also Ex. 152, JLL-4, at 2 (Schedules to Lindell Direct).

inflated its estimates while ignoring actual amounts from 2013. This has led to MERC's claim that property tax rates will increase by nearly ten percent in only two years. This claim is unfounded and unreasonable.

MERC's multiple year inflation method is especially unreasonable because the analysis of OAG witness Mr. Lindell demonstrates that at least some of MERC's property taxes will actually *decrease* from 2013 to 2014. Mr. Lindell reviewed the proposed 2014 taxes for MERC's property in Washington County. As reported on the Proposed Taxes 2014 form, MERC's property taxes in Washington County will decrease by 0.01% in 2014.<sup>44</sup> And MERC has not identified any specific property tax data to rebut Mr. Lindell's argument. The only property tax estimates for 2014 that have been introduced into the record were produced by Mr. Lindell, and they demonstrate that at least some of MERC's property taxes are trending downward in 2014. It would be unreasonable to permit multiple years of inflation when the only evidence in the record demonstrates that MERC's property taxes will not increase in 2014. Because the record demonstrates that property tax will either decrease or remain relatively stable going into 2014, or at minimum fails to support the extraordinary increase sought by MERC, the OAG requests that the ALJ recommend, and the Commission approve, recovery of \$6,624,033 in property tax.

### **3. MERC's Known and Measurable Adjustment for Net Operating Loss Carryforward Should be Denied.**

MERC has requested an upward adjustment of \$2.2 million to rate base to represent a deferred tax asset that is attributable to a net operating loss carryforward.<sup>45</sup> MERC claims that the adjustment will account for net operating loss carryforward that MERC accumulated due to

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<sup>44</sup> Ex. 152, JIL-5 (Schedules to Lindell Direct). MERC argues that Mr. Lindell's example should be disregarded because it represents only part of MERC's statewide property tax, and that the aggregate result of statewide bills is an overall increase in property tax. *See* Ex. 37, at 8-9 (Wilde Rebuttal).

<sup>45</sup> Ex. 151, at 11 (Lindell Direct).



bonus depreciation in 2012 and 2013.<sup>46</sup> The bonus depreciation resulted in more tax deductions than tax liability, and under IRS regulations MERC is permitted to carry forward its net operating losses and use it to reduce future income taxes.<sup>47</sup> In contrast to a deferred income tax liability, net operating losses produce a deferred tax asset that increases rate base. The OAG recommends that the Commission deny the adjustment because MERC has not produced evidence to show that it contributed to the net operating loss held by Integrys, and because it will have an economic benefit from the carryforward as it was used entirely in 2014.

OAG witness Mr. Lindell testified that MERC should not receive a tax related adjustment because MERC does not pay income taxes and cannot claim a net operating loss carryforward; it is part of a consolidated group for income tax purposes and Integrys Energy Group, the parent company, is the entity that files and pays taxes. Any net operating loss carryforward must come to MERC through Integrys. But MERC has not substantiated its claim that it contributed to Integrys' net operating loss in 2012 and 2013 because MERC has refused to provide the documentation necessary to analyze the issue.<sup>48</sup> Without this information, the OAG has been unable to verify which of MERC's affiliates contributed to the Integrys net operating losses that will be carried forward. Some of those are non-regulated affiliates to which the normalization

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<sup>46</sup> Ex. 36, at 4 (Wilde Direct.).

<sup>47</sup> The federal statutory provision involved is 26 USCA § 172, which states in pertinent part:

§ 172. Net operating loss deduction

(a) Deduction allowed.--There shall be allowed as a deduction for the taxable year an amount equal to the aggregate of (1) the net operating loss carryovers to such year, plus (2) the net operating loss carrybacks to such year. For purposes of this subtitle, the term "net operating loss deduction" means the deduction allowed by this subsection.

(b) Net operating loss carrybacks and carryovers.--

(1) Years to which loss may be carried.--

(A) General rule.--Except as otherwise provided in this paragraph, a net operating loss for any taxable year--

(i) shall be a net operating loss carryback to each of the 2 taxable years preceding the taxable year of such loss, and

(ii) shall be a net operating loss carryover to each of the 20 taxable years following the taxable year of the loss.

<sup>48</sup> See Ex. 152, Schedule JLL-2 (Schedules to Lindell Direct).

rules do not apply. According to Mr. Lindell, MERC should be required to demonstrate that only regulated companies contributed to the net operating loss before it receives any adjustment; MERC has declined to provide the evidence necessary to do so.

Mr. Lindell also argued that MERC should not receive a rate base adjustment for its deferred taxes in the test year because MERC will “effectively utilize its [net operating loss] carryforward from the first day of 2014.”<sup>49</sup> Standard rate base accounting would increase rate base by the average value of the deferred tax asset at the beginning and end of the year, but that is not appropriate in this case. According to Mr. Lindell, MERC will receive any economic benefit from the net operating loss assets because Integrys will use it to reduce its income tax payments from the beginning of 2014.<sup>50</sup> By recognizing the net operating loss in this fashion, MERC will have used the entire carryforward on the first day of 2014. MERC witness Mr. Wilde states that MERC will not utilize all of its net operating losses until it makes tax payments later in 2014,<sup>51</sup> but misses the point of Mr. Lindell’s argument. Integrys will use the entire carryforward from the beginning of 2014 because the entire value of the net operating loss will be incorporated into Integrys’s estimated income tax payments from the beginning of 2014.<sup>52</sup> The full value will be used to estimate a reduction for each periodic income tax payment, and that estimate, which will determine payments for all of 2014, will recognize the entire benefit. For this reason, Mr. Lindell recommends that the Commission disallow in its entirety the deferred tax asset attributable to net operating loss carryforward.

Mr. Lindell’s recommendation is entirely consistent with the IRS’s normalization regulations. MERC argues that, based on an IRS Private Letter Ruling from 1988, it must

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<sup>49</sup> Ex. 151, at 10–11 (Lindell Direct).

<sup>50</sup> *Id.*

<sup>51</sup> Ex. 37, at 17–18 (Wilde Rebuttal).

<sup>52</sup> *See* Ex. 153, at 11–12 (Lindell Surrebuttal).

include the net operating loss in rate base or it will violate normalization principles.<sup>53</sup> But according to Mr. Lindell:

MERC's circumstances are not representative of the facts in the private letter ruling for two reasons. First, MERC is a member of a consolidated group for tax purposes whereas the taxpayer represented in the private letter ruling was not. Second, a normalization violation can only be attributed to a public utility and the utility's tax loss must be attributable to accelerated depreciation or other tax timing differences between book and tax reporting. MERC has not demonstrated that it is one of the sources of [Integryst's net operating loss] carryforward that is attributable to tax timing differences and require normalization. I would also note that a private letter ruling cannot be used or cited as precedent.<sup>54</sup>

MERC should not be permitted to use net operating loss for rate base adjustments when it was consumed entirely at the beginning of 2014. And MERC should also not be permitted to benefit from a net operating loss when it is not a taxpayer and has refused to provide the evidence necessary to substantiate whether it contributed to Integryst's net operating loss. The OAG requests that the ALJ the Commission reject MERC's adjustment of \$2.2 million to rate base for net operating loss carryforward.

#### **4. MERC's Request to Recover Travel and Entertainment Expenses should be Denied because MERC has Failed to Meet Statutory Reporting Requirements.**

MERC, like all utilities, is required by law to separately itemize the date, amount, vendor name, and business purpose of every travel and entertainment expense it seeks to recover.<sup>55</sup> MERC has categorically failed to do so because MERC did not file separately itemized travel and entertainment expenses that were allocated to it by the service company, Integryst Business Solutions ("IBS").<sup>56</sup> Department witness Ms. La Plante agrees that the expenses from IBS "should have been filed in the rate case." Even MERC notes that it will file the IBS travel and

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<sup>53</sup> See Ex. 36, at 6 (Wilde Direct).

<sup>54</sup> Ex. 151, at 10 (Lindell Direct).

<sup>55</sup> Minn. Stat. § 216B.16, subd. 17.

<sup>56</sup> Ex. 152, JLL-9 (Schedules to Lindell Direct).

entertainment expenses in future rate cases.<sup>57</sup> All travel and entertainment expenses related to IBS that were not itemized separately must be denied for failing to comply with statutory requirements. It is, however, impossible to quantify the total amount of travel and entertainment expenses from IBS because MERC has not provided that information. When the OAG asked MERC to produce the data, MERC flatly refused.<sup>58</sup> To overcome this problem, Mr. Lindell recommends using the value of MERC employees' reported travel and entertainment expenses as a proxy for those expenses that were not reported.

But that is not the only problem with MERC's travel and entertainment reporting. Many of the expenses claimed by MERC are not supported by a business purpose demonstrating how the expenses are reasonable and necessary for the provision of utility services.<sup>59</sup> For example, MERC reports expenses for several meals in Michigan from September 24 to 26, 2012.<sup>60</sup> MERC indicated that the business purpose of these meals was "Supper in Michigan," "Lunch in Michigan," and "Breakfast in Michigan."<sup>61</sup> These descriptions simply indicate that, for example, some employee of MERC ate a meal in Michigan; they provide no information about why the meals were reasonable and necessary for the provisions of utility services.<sup>62</sup> Similarly, MERC describes the business purpose of many expenses as being "Meal less than \$75."<sup>63</sup> Just as with the description of breakfast or lunch in Michigan, a notation that a meal cost less than \$75 does not justify requiring ratepayers to reimburse the company. MERC has failed to satisfy the statutory requirements for itemizing travel and entertainment expenses and justifying their

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<sup>57</sup> Ex. 25, at 3 (DeMerritt Surrebuttal).

<sup>58</sup> Ex. 152, JLL-9 (Schedules to Lindell Direct).

<sup>59</sup> Minn. Stat. § 216B.16, subd. 17.

<sup>60</sup> Information Requirements 14, at 23.

<sup>61</sup> *Id.*

<sup>62</sup> Minn. Stat. § 216B.16, subd. 17.

<sup>63</sup> *See, e.g.*, Information Requirements 14, at 35 (expenses for February 15, 16, 20, 21, 22, and 23).

necessity. As such, the OAG has no reasonable alternative but to recommend that all travel and entertainment expenses be denied.

MERC is also required by statute to separately itemize any dues and expenses for memberships in organizations or clubs.<sup>64</sup> Just as with IBS travel and entertainment expense, MERC failed to itemize membership dues for several organizations. MERC included more than sixty thousand dollars in membership dues in its 2014 test year without separately itemizing them as the statute requires. Specifically, MERC failed to itemize \$3,397 for membership in the Minnesota Chamber of Commerce; \$3,496 for membership in the Edison Electric Institute; and \$56,352 for membership in the American Gas Association. These expenses should be excluded because they were not itemized as required by statute.

The membership expenses should also be excluded because MERC has not established that the membership dues are beneficial for MERC's customers. Membership dues are recoverable "only to the extent that the activities they support directly benefit ratepayers."<sup>65</sup> The Commission has excluded membership dues for the Chamber of Commerce in other rate cases.<sup>66</sup> And the Edison Electric Institute is an electric utility organization that provides no clear advantages for customers of a natural gas utility like MERC. OAG witness Mr. Lindell raised these concerns in his direct testimony,<sup>67</sup> and no MERC witness has defended the company's failure to itemize its membership expenses as required, or taken the opportunity to explain how membership in these organizations directly benefits ratepayers. The membership expenses should be excluded because MERC has not provided any evidence showing why they are reasonable.

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<sup>64</sup> Minn. Stat. § 216B.16, subd. 17(a)(6).

<sup>65</sup> *In the Matter of the Application of Interstate Power Company for Authority to Increase its Rates for Electric Service in the State of Minnesota*, Docket E-001/GR-91-605, 1991 WL 634712, at \*3 (Oct. 11, 1991)

<sup>66</sup> *See id.*

<sup>67</sup> Ex. 152, at 24–25 (Lindell Direct).

The OAG requests that the ALJ recommend, and the Commission approve, a denial of all travel and entertainment expenses because MERC did not separately itemize the expenses from IBS or its membership dues as required by statute. In addition, the OAG recommends that the Commission exclude all travel and entertainment expenses from IBS that were not properly itemized. As MERC has refused to provide the information required to establish the total travel and entertainment expenses from IBS, the OAG recommends that the Commission exclude additional travel and entertainment expenses equal to MERC's initial request. The OAG also recommends that the Commission disallow \$63,245 in membership dues that were not proven as necessary for providing utility service and were not itemized as required by statute. In total, the OAG recommends that the Commission disallow \$632,695 in travel and entertainment expenses.

In addition, the OAG requests that the ALJ recommend, and the Commission approve, an order directing MERC to take the following steps in any future rate cases in order to comply with the travel and entertainment reporting requirements:

- Provide specific descriptions for the business purpose of expenses including the event or activity that the employee was attending or conducting;
- Include all travel and entertainment expenses, including travel and entertainment for employees who work for affiliates of MERC;
- Exclude all expenses incurred outside of Minnesota unless the description justifies an allocation to Minnesota; and
- Allocate only a portion of travel and entertainment expenses for items not specific to Minnesota, such as expenses related to Vertex.

**C. THE OAG AGREES WITH SEVERAL DEPARTMENT RECOMMENDATIONS TO REDUCE THE REQUIREMENT REVENUE.**

The OAG agrees with many of the Department's recommended adjustments, and specifically analyzed the following issues.

**1. Unamortized Rate Case Expenses Should Not be Included in Rate Base.**

Department witness Ms. La Plante recommended that the Commission should exclude \$1,312,704 in unamortized rate case expenses from rate base.<sup>68</sup> The OAG agrees with the Department that a normalized level of rate case expenses can be recovered in a test year, but that it is improper to include these expenses in rate base.<sup>69</sup> MERC should not be allowed to earn a rate of return on rate case expenses, especially when it has not requested deferral. The OAG also agrees with the Department that \$540,106 in related deferred taxes should also be excluded.

**2. Transportation Revenues Should be Increased.**

MERC estimated \$5,880,151 in transportation revenues in test year 2014,<sup>70</sup> but both the OAG and Department witness Laura Otis determined that MERC's estimation was unreasonable. OAG witness Mr. Lindell and Ms. Otis made similar recommendations that the Commission increase transportation revenues to correct for this error. MERC agreed with Ms. Otis's recommendation to increase test year transportation sales by \$1,263,271, to a total of \$7,143,422,<sup>71</sup> and the OAG has no objection to Ms. Otis's recommendation as it is similar to the recommendation of Mr. Lindell.

**D. COST OF SERVICE SUMMARY AND RECOMMENDATION.**

In summary, the OAG requests that the ALJ recommend, and the Commission approve, that \$3,084,639 in expenses be excluded; that the -\$2.2 million adjustment related to net operating loss carryforward be denied; that transportation sales be increased to at least \$7,143,422 to correct for underestimation; that a single year of 2.2% inflation be applied to

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<sup>68</sup> Ex. 216, at 3–4 (LaPlante Surrebuttal).

<sup>69</sup> See Ex. 153, at 1–2 (Lindell Rebuttal).

<sup>70</sup> Ex. 152, JLL-6 (Schedules to Lindell Direct).

<sup>71</sup> Ex. 214, LBO-S-6 (Otis Surrebuttal).

operation and management expenses; and that MERC be ordered to improve its travel and entertainment reporting. This recommendation includes the following adjustments:

- -\$322,226 adjustment to ICE 2016 project;
- -\$666,420 adjustment to bad debt;
- -\$690,700 adjustment to property taxes;
- -\$632,695 adjustment to travel and entertainment; and
- -\$772,598 adjustment to unamortized rate case expenses, including a -\$1,312,704 adjustment to expenses and a \$540,106 adjustment for related deferred taxes.

## II. RETURN ON EQUITY

The OAG will next examine MERC's proposed return on equity. MERC's requested return on equity ("ROE") of 10.75% is well above the level necessary to balance the interests of MERC with the interests of its ratepayers. In determining just and reasonable rates for public utilities, the Commission "shall give due consideration to . . . the need of the public utility for revenue sufficient to enable it to meet the cost of furnishing the service . . . and to earn a fair and reasonable return upon the investment in such property."<sup>72</sup> Establishing a reasonable return for a utility's equity capital is a quasi-judicial function that involves a factual determination by the ALJ and Commission.<sup>73</sup> For that reason, in weighing the evidence, the interests of the utility must be balanced against the interest of the utility's ratepayers,<sup>74</sup> and, in setting rates, "[a]ny doubt as to reasonableness should be resolved in favor of the consumer."<sup>75</sup>

The guiding principles for determining a reasonable return for utility investments are set forth in two landmark cases from the United States Supreme Court: *Bluefield* and *Hope*. The

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<sup>72</sup> Minn. Stat. § 216B.16 Subd. 6 (2012).

<sup>73</sup> *Hibbing Taconite Co. v. Minnesota Pwr. & Light, et. al.*, 302 N.W.2d 5, 9 (Minn. 1980).

<sup>74</sup> *Id.* at 10.

<sup>75</sup> Minn. Stat. § 216B.03 (2012).



principles established in *Bluefield* and *Hope* include: (1) allowing the utility, under efficient and economical management, to maintain and support its credit rating, (2) enabling the utility to attract capital necessary to perform its public functions, and (3) providing a return that is commensurate with other enterprises having corresponding risks.<sup>76</sup>

Three parties provided testimony on MERC's ROE. As indicated above, MERC requests a ROE of 10.75% and the OAG recommends a ROE of 8.62%, or one within a reasonable range of 8.60% to 9.1%. In addition, the Department recommends a ROE of 9.29% based on analysis similar, but not identical, to the OAG. The OAG's recommendation relies on a comprehensive analysis that appropriately balances the interests of MERC with the interests of its ratepayers. An ROE of 8.62%, as recommended by OAG witness Dr. Chattopadhyay,<sup>77</sup> provides MERC with a reasonable return that is sufficient to attract the capital needed for MERC to fulfill its public functions.<sup>78</sup> The OAG recommends that the ALJ and the Commission reject MERC's excessive request and accept Dr. Chattopadhyay's recommended ROE of 8.62%.

**A. THE OAG'S ROE RECOMMENDATION IS BASED ON COMPREHENSIVE ANALYSIS AND SOUND ECONOMIC MODELS.**

In determining his recommendation for MERC's ROE, Dr. Chattopadhyay utilized several widely-recognized economic models. Dr. Chattopadhyay considered the results of two methods rooted in the Discounted Cash Flow ("DCF") construct: the standard single-stage or "constant growth" DCF analysis and the market-to-book method.<sup>79</sup> In addition, Dr. Chattopadhyay conducted a Capital Asset Pricing Model ("CAPM") analysis to inform his range of reasonable ROE's.<sup>80</sup> By using several widely accepted economic models, as well as a variety

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<sup>76</sup> *Federal Pwr. Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591, 603 (1944); *Bluefield Waterworks & Improvement Co. v. Pub. Serv. Comm'n of West Virginia et. al.*, 262 U.S. 679, 692-93 (1923).

<sup>77</sup> Or an ROE within Dr. Chattopadhyay's recommended range of reasonable ROEs (8.6% to 9.1%).

<sup>78</sup> See Ex. 165, at 2 (Chattopadhyay Surrebuttal).

<sup>79</sup> Ex. 161, at 21-22 (Chattopadhyay Direct).

<sup>80</sup> *Id.*

of inputs from respected sources, Dr. Chattopadhyay's analysis captures a broad spectrum of investor behavior and values to establish an appropriate ROE recommendation.

**1. The OAG's DCF Analysis Incorporates Several Growth Metrics to Provide a Range of Reasonable Results.**

The DCF model is used by each party's ROE witness and is based on the premise that the value of a stock is the present value of its stream of cash dividends in the future, assuming the stock is held in perpetuity.<sup>81</sup> The two essential elements of a DCF analysis are the dividend yield (a function of a company's dividends and stock price) and the growth component.<sup>82</sup> It is not possible, however, to perform a DCF analysis on MERC directly because it is a subsidiary of Integrys Energy Group and does not have a stock price, dividend, or growth estimate.<sup>83</sup> Instead, to estimate the cost of equity for MERC, each party selected a group of publicly-traded companies similar to MERC to act as a proxy.

To develop a proxy with companies similar to MERC, Dr. Chattopadhyay began with the universe of utilities categorized by the Value Line investment service as either gas utilities or gas and electric utilities.<sup>84</sup> Dr. Chattopadhyay then eliminated any utility that did not have at least 50 percent of its revenues from its gas distribution business and any utility that did not have at least 75 percent of its assets associated with gas distribution in order to ensure that his proxy group was comparable to MERC.<sup>85</sup> Finally, Dr. Chattopadhyay applied additional checks related to the S&P credit ratings and dividends.<sup>86</sup> This method resulted in a proxy with investment risks similar to MERC, if not slightly higher. Specifically, MERC's credit rating and equity ratio are

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<sup>81</sup> *Id.* at 24.

<sup>82</sup> Ex. 161, at 23 (Chattopadhyay Direct).

<sup>83</sup> Ex. 200, at 6 (Amit Direct).

<sup>84</sup> Ex. 161, at 25 (Chattopadhyay Direct).

<sup>85</sup> *Id.*

<sup>86</sup> *Id.*

similar to the companies in Dr. Chattopadhyay's proxy.<sup>87</sup> Additionally, Integrys exhibited a similar price-to-earnings ratio, a similar variability of return on equity, superior performance in generating internal funds, superior interest coverage, and a superior operating ratio to the members of the proxy group.<sup>88</sup> Dr. Chattopadhyay cautioned, however, that his proxy contains several companies with substantial non-regulated activities.<sup>89</sup> These companies present a different risk profile than MERC.<sup>90</sup> For that reason, to the extent that Dr. Chattopadhyay's proxy does not perfectly reflect the investment risk associated with MERC, it likely does so to MERC's benefit.

For the price input in the DCF model, Dr. Chattopadhyay used average daily closing prices for the most recent one-month period at the time of his analysis.<sup>91</sup> Using a one-month period provides a reasonable basis to reflect investors' current expectations, while smoothing out daily price movements.<sup>92</sup> For his dividend input, Dr. Chattopadhyay used Value Line's 2014 dividend projections, which he adjusted upwards to reflect Value Line's expected long-term growth in dividends.<sup>93</sup>

To calculate a reasonable growth input in the DCF model, Dr. Chattopadhyay used an average of several published growth metrics. Specifically, Dr. Chattopadhyay used earnings growth projections from the Value Line, Yahoo Finance, and Zacks investments services, as well as dividend and book value growth estimates from Value Line.<sup>94</sup> Dr. Chattopadhyay also considered a measure of growth based on estimates of the "internal" and "external" growth

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<sup>87</sup> *Id.*

<sup>88</sup> *Id.*

<sup>89</sup> *Id.*

<sup>90</sup> *Id.*

<sup>91</sup> *Id.* at 29.

<sup>92</sup> *Id.* at 30.

<sup>93</sup> *Id.* at 29.

<sup>94</sup> *Id.* at 35.

components.<sup>95</sup> This estimate was calculated by using projected retention ratios and returns for the internal component, projected growth in the number of shares for the external component and current market-to-book ratios.<sup>96</sup>

Using multiple growth metrics to establish his growth component provides several benefits to Dr. Chattopadhyay's analysis. First, it has been recognized that investors, as a group, do not rely on a single growth metric.<sup>97</sup> Therefore, using an average of several growth metrics better encapsulates investors' collective values than reliance on a single metric. Second, while the DCF construct assumes that earnings, dividend, and book value all grow at the same rate over the long term, projections by investment services used by analysts show significant differences between these metrics since the projections are limited to periods of three-to-five years. Therefore, as Dr. Chattopadhyay explains, "[o]ne may reasonably assume that *the sustainable long-term growth rate* to which earnings, dividends and book value growth rates may converge in the future is represented by their average."<sup>98</sup> Finally, earnings growth projections, which are used exclusively by the other parties, tend to be biased upwards when the market-to-book ratio is significantly greater than one, as is the case for MERC.<sup>99</sup> Therefore, Dr. Chattopadhyay's use of several growth metrics helps correct for this inherent upward bias.<sup>100</sup> It should be recognized, however, that Dr. Chattopadhyay's growth estimate is predominantly—but not *exclusively*—influenced by earnings growth. Earnings growth is assigned more than 80% of the weight in Dr.

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<sup>95</sup> *Id.* at 35.

<sup>96</sup> *Id.* at 36–37, 42.

<sup>97</sup> David C. Parcell, *The Cost of Capital – A Practitioner's Guide* 146 (2010) (noting that "[i]t is reasonable to believe that investors, as a group, do not utilize a single growth estimate when they price a utility's stock.")

<sup>98</sup> Ex. 161, at 35 (Chattopadhyay Direct) (emphasis added). Moreover, Dr. Chattopadhyay explains that, on a theoretical level, only the growth in dividends should be used for the growth component because the DCF "is derived from the concept that cash dividends are the only income from a share of stock held to infinity." *Id.* at 34.

<sup>99</sup> *Id.* at 14.

<sup>100</sup> *Id.* at 36.

Chattopadhyay's growth estimate, and less than 17 percent of the weight is made up of dividend and book value growth.<sup>101</sup>

After performing all of these analytical steps, Dr. Chattopadhyay's DCF analysis developed a range of results from 8.21% to 8.89% depending on the specific growth projection.<sup>102</sup> To determine his final ROE recommendation, Dr. Chattopadhyay also incorporated the results of his market-to-book and CAPM analyses.

## **2. The OAG's Market-to-Book Confirms the Results of the DCF Method.**

The market-to-book method utilized by Dr. Chattopadhyay is also rooted in the DCF construct, but estimates the cost of equity as the sum of the "internal" return and "external" returns.<sup>103</sup> In other words, rather than using dividend and growth projections from investment analysts, the market-to-book method utilizes projections of investment analysts regarding a company's retention ratio, return on equity, and growth in the number of shares, as well as the company's current market-to-book ratio, to calculate an ROE. Dr. Chattopadhyay's market-to-book analysis resulted in an ROE of 8.69%.<sup>104</sup>

## **3. The OAG's CAPM Analysis Contributes to the Recommended Range of Reasonable ROEs.**

Each party also conducted a CAPM analysis, which estimates the cost of equity by adding a premium associated with the risk of equity to the return paid by a risk-free asset.<sup>105</sup> For his "risk-free" return, Dr. Chattopadhyay incorporated the current return for the ten-year treasury.<sup>106</sup> While Dr. Chattopadhyay noted that a truly risk-free rate would be captured better by using short-term bonds, he chose the higher rate of the ten-year Treasury Bond to balance the

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<sup>101</sup> *Id.*

<sup>102</sup> Ex. 165, at 2 (Chattopadhyay Surrebuttal).

<sup>103</sup> Ex. 161, at 22 (Chattopadhyay Direct).

<sup>104</sup> Ex. 165, at 2 (Chattopadhyay Surrebuttal).

<sup>105</sup> Ex. 161, at 45 (Chattopadhyay Direct).

<sup>106</sup> *Id.* at 47.

need for a risk-free rate with the fact that utility rates are typically set for periods longer than short-term treasury bills.<sup>107</sup> Dr. Chattopadhyay then developed a forward-looking estimate of the market risk premium by comparing the returns provided by ten-year treasuries to estimates of market return provided by the S&P 500 and Value Line investment service.<sup>108</sup> Dr. Chattopadhyay's CAPM estimate resulted in an ROE of 10.09%.<sup>109</sup> While Dr. Chattopadhyay did not use his CAPM estimate in developing his ROE "point estimate," he did use it to establish the upper-end of his recommended range of reasonable ROEs.<sup>110</sup>

After conducting his analysis, Dr. Chattopadhyay recommended a point estimate of 8.62% and a range from 8.6% to 9.1%. The OAG requests that the ALJ recommend, and the Commission approve, an ROE of 8.62%.

**B. THE DOC'S RECOMMENDATION OVERESTIMATES MERC'S ROE DUE TO SEVERAL ANALYTICAL FLAWS.**

The Department recommended an ROE of 9.29% and did not provide a range of reasonable results.<sup>111</sup> In many ways, DOC witness Dr. Amit's analysis is similar to the analysis conducted by Dr. Chattopadhyay. Like Dr. Chattopadhyay, Dr. Amit relies primarily on the DCF method in determining his recommended ROE, with the CAPM method being used as a "check" on his DCF results.<sup>112</sup> Dr. Amit also limits his proxy group to companies whose "main line" of business is natural gas distribution and, therefore, present investors with similar investment risk as MERC.<sup>113</sup>

Despite the many similarities between the two analyses, the Department's recommendation is excessive as a result of several important differences. While Dr.

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<sup>107</sup> *Id.*

<sup>108</sup> *Id.* at 51.

<sup>109</sup> Ex. 165, at 2 (Chattopadhyay Surrebuttal).

<sup>110</sup> *Id.*

<sup>111</sup> Ex. 202, at 2 (Amit Surrebuttal).

<sup>112</sup> Ex. 200, at 34 (Amit Direct); Ex. 202, at 10-11 (Amit Surrebuttal).

<sup>113</sup> Ex. 200, at 8 (Amit Direct).

Chattopadhyay and Dr. Amit disagree on a variety of technical points, the difference between their final ROE recommendations relates predominately to their positions on two issues. First, Dr. Amit inappropriately relies exclusively on a single growth metric—earnings growth—in his DCF analysis as the sole method of explaining all investor behavior. Second, Dr. Amit artificially increases his recommended ROE by separately adding floatation costs to the results of his various economic models. Dr. Amit’s position on both of these issues is unreasonable, and leads to the Department recommending an inflated ROE.

In analyzing projected growth rate, Dr. Amit dedicates significant portions of his testimony to arguing that earnings growth is the “best” growth rate for the DCF model.<sup>114</sup> Despite these arguments, Dr. Amit fails to demonstrate why earnings growth should be the *only* growth metric used in a DCF analysis. Dr. Amit admits that investors consider factors other than earnings when making investment decisions. But he then claims, with no apparent basis, that analysts are somehow required to choose among separate growth metrics to conduct a DCF analysis, rather than incorporating multiple metrics as done by Dr. Chattopadhyay.<sup>115</sup> From this false premise, Dr. Amit proceeds to summarize a self-selected sample of financial literature explaining the merits of using earnings growth in the DCF, and conduct a technical analysis to demonstrate the statistically strong relationship between earnings growth and a company’s price-to-earnings ratio.<sup>116</sup>

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<sup>114</sup> See Ex. 201, at 14 (Amit Rebuttal) (referring to earnings growth as the “best” projected growth rate to predict utilities’ stock prices); *Id.* at 21 (noting that “the most important question that must be answered is whether or not the projected EPS growth rates are *better* than any other projected growth rate to be used in a DCF analysis.”) (emphasis in original); *Id.* at 23 (referring to earnings growth as the “most appropriate” growth rate to use in the DCF analysis).

<sup>115</sup> Ex. 200, at 14 (Amit Rebuttal) (“There is no doubt that investors make their investment decisions based, among other factors, on dividends. However, the issues in this rate case is not the impact of dividends on investors’ investment decisions. Rather, the issue to be addressed is *which projected growth rate* is most appropriate for the DCF analysis.”) (emphasis added).

<sup>116</sup> Ex. 201, at 15–24 (Amit Rebuttal).

Despite his arguments that earnings growth provides a “better” metric than complementary metrics such as dividend or book value growth, Dr. Amit’s analysis does not demonstrate that the overall growth component used by Dr. Chattopadhyay leads to an unreasonable result. Dr. Chattopadhyay conducted a statistical analysis demonstrating that his overall growth component has a stronger statistical relationship with a company’s price-to-earnings ratio than using earnings growth alone.<sup>117</sup> Therefore, Dr. Amit’s position that earnings growth is the “best” growth metric for the DCF does not support his conclusion that it should be the *only* growth metric used. Dr. Chattopadhyay’s growth component, which uses earnings growth to form 80% of its estimate and dividend and book growth for 17% of the estimate, provides a superior metric for explaining all investor behavior.<sup>118</sup>

In addition to his flawed use of a single growth metric in his DCF analysis, Dr. Amit also adjusts his final DCF recommendation upward to account for costs associated with issuing stock, or “floatation” costs. As Dr. Amit explains, “[d]ue to issuance costs, the price paid by an investor for a new share of common stock is higher than the price per share received by the company.”<sup>119</sup> Dr. Amit then concludes that “[t]hese issuance costs must be recognized *by adjusting the required rate of return*” and that denying these issuance costs “is contradictory to the purpose of rate of return regulation.”<sup>120</sup>

Contrary to Dr. Amit’s implication, no authority exists for the proposition that denying an explicit floatation cost adjustment “is contradictory to the purpose of rate of return regulation.” Rather, the Commission needs to ensure that the ROE it sets is sufficient to fulfill the standards set forth in the *Bluefield* and *Hope* cases, while recognizing that flotation costs will be paid by

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<sup>117</sup> Ex. 161, at 37–38 (Chattopadhyay Direct); Ex. 165 at 26 (Chattopadhyay Surrebuttal).

<sup>118</sup> Ex. 165, at 20 (Chattopadhyay Surrebuttal).

<sup>119</sup> Ex. 200, at 26 (Amit Direct).

<sup>120</sup> *Id.* at 26–27 (emphasis added).



investors when the company issues stock.<sup>121</sup> If the Commission has fulfilled these legal standards without *explicitly* adjusting the ROE for flotation costs, any additional adjustment for flotation costs is both inappropriately duplicative and unfair to ratepayers.

As Dr. Chattopadhyay explains, each party's ROE recommendation results in a return sufficient for MERC to attract the capital it needs, without an additional floatation cost adjustment.<sup>122</sup> Since the ROE estimates provided by the parties are all sufficient to account for flotation costs, without an explicit upward adjustment, the Commission should reject making a duplicative upward adjustment to MERC's ROE.

**C. MERC'S RECOMMENDATION IS BASED ON A RESULTS-ORIENTED APPROACH THAT ATTEMPTS TO JUSTIFY A PATENTLY EXCESSIVE ROE.**

In contrast with both Drs. Chattopadhyay and Amit, MERC' witness Mr. Moul presents an analysis that so blatantly attempts to justify the highest possible ROE that it lacks any value whatsoever. As a threshold matter, Mr. Moul suggests, without providing analysis of either a specific utility or the economic conditions occurring at a given time, that an allowed ROE below 10% is *de facto* unreasonable.<sup>123</sup> This sweeping proposition, which Mr. Moul supports by reference to a single report published more than five years ago by an association of gas utilities, flies in the face of recent trends both nationally and in Minnesota.<sup>124</sup> Indeed, since the report was released in 2008, ROEs below 10% have become the norm. As even Mr. Moul points out, there were eleven rate cases for natural gas utilities decided in the fourth quarter of 2013 in

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<sup>121</sup> See *Federal Pwr. Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591, 602 (1944) (“And when the Commission’s order is challenged in the courts, the question is whether that order “viewed in its entirety” meets the requirements of the Act. Under the standard of “just and reasonable” it is the result reached not the method employed which is controlling. It is not theory but the impact of the rate order which counts. If the total effect of the rate order cannot be said to be unjust and unreasonable, judicial inquiry under the Act is at an end . . .”) (citations omitted).

<sup>122</sup> Ex. 161, at 44 (Chattopadhyay Direct).

<sup>123</sup> See Ex. 17, at 7 (Moul Direct); Ex. 18 at 7–8 (Moul Rebuttal).

<sup>124</sup> Ex. 17, at 7 (Moul Direct); Ex. 18, at 7–8 (Moul Rebuttal) (citing American Gas Foundation, *Regulatory Policy of Return on Equity*, Review and Analysis of the Natural Gas Sector (2008)) (noting that “the report specifically found that returns below 10% [will] trigger broad disenchantment with local distribution company (“LDC”) investments”).

which authorized ROEs ranged from 9.08% to 10.25%. In other words, of the eleven natural gas rate cases cited by Mr. Moul himself, *the highest* ROE authorized was fifty basis points below his own recommendation. And the Commission authorized an ROE of 9.59% for CenterPoint’s Minnesota gas operations only weeks ago.<sup>125</sup> Mr. Moul’s recommendation does not even come close to this range.

Mr. Moul’s predisposition to an inflated ROE—one that is *always* above 10%—is demonstrated by his reliance on a series of novel and unreliable analytical approaches. Unlike Drs. Chattopadhyay and Amit, who rely primarily on the widely-used DCF method to develop their recommendations, Mr. Moul blends the results of different analytical methods—including DCF, Risk Premium (“RP”), CAPM, and “Comparable Earnings”—to develop his overall recommendation.<sup>126</sup> Some of these methods, however, produce ROE results that border on the absurd in the current environment. For example, the RP method utilized by Mr. Moul produces an ROE of 12.14%, and his CAPM analysis produces an ROE of 11.97%.<sup>127</sup> Drs. Chattopadhyay and Amit each explain the numerous technical flaws with these analyses and with Mr. Moul’s approach in general. Even absent this technical explanation, however, it is not difficult to see that these analyses produce results that are simply not reasonable when they exceed the highest natural gas ROE decision cited by Mr. Moul by well over 150 basis points.

Moreover, it is unclear from Mr. Moul’s analysis exactly *how* he is blending the results of his various approaches to come to his overall recommendation of 10.75%. Mr. Moul’s final recommendation is not the median or mean of the results of his various approaches, and he fails to provide an equation or other methodology to explain how he derived his final result from the

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<sup>125</sup> Findings of Fact, Conclusions, and Order, *In the Matter of an Application by CenterPoint Energy Resource Corp. d/b/a CenterPoint Energy Minnesota Gas for Authority to Increase Gas Rates in Minnesota*, No. G-008/GR-13-316, at 32 (June 9, 2014).

<sup>126</sup> See Ex. 17, at 6 (Moul Direct).

<sup>127</sup> See Ex. 18, at 4 (Moul Rebuttal).

outcomes of his various creative analytical approaches. Mr. Moul's only support for his overall recommendation of 10.75% is that it "fits well within" his range of analytical results.<sup>128</sup> Further, when the results of Mr. Moul's analytical methods changed in rebuttal testimony, his final recommendation did not.<sup>129</sup> In short, the ALJ and the Commission must assume that Mr. Moul used multiple analytical approaches, several of which produce ROEs that are overtly unreasonable, and then arbitrarily picked a number somewhere "well within" that range of results.<sup>130</sup> Such an approach is woefully insufficient to support a finding of fact needed for a quasi-judicial determination.

In addition to Mr. Moul's use of novel and unreliable approaches to produce an artificially high range of ROEs, and his arbitrary selection of an overall recommendation, Mr. Moul's DCF estimate is also inflated by use of a variety of unreliable concepts. For instance, Mr. Moul's proxy group is not limited to gas utilities, but includes four companies with significant electric operations.<sup>131</sup> These four companies were added to Mr. Moul's proxy after he had applied a series of screening criteria to gas utilities.<sup>132</sup> As Dr. Amit explains, the addition of these four combined companies to Mr. Moul's proxy would be expected to increase the ROE produced by Mr. Moul's analysis, since these companies have a different risk profile than MERC.<sup>133</sup> Notably, Mr. Moul did not include these combined electric/gas utilities in his proxy

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<sup>128</sup> Ex. 17, at 6 (Moul Direct).

<sup>129</sup> Compare Ex. 17, at 6 (Moul Direct), with Ex. 18, at 4 (Moul Rebuttal).

<sup>130</sup> Mr. Moul's approach of arbitrarily choosing inputs is repeated throughout his analysis. For example, in choosing the growth rate to use for his DCF analysis, Mr. Moul initially calculated a range of 4.72% to 5.74%. From this range, Mr. Moul chose an expected growth rate of 5% for his analysis, which he described as "within the array" of earnings growth rates expected by investors. Ex. 17 at 25 (Moul Direct).

<sup>131</sup> Ex. 17, at 5 (Moul Direct).

<sup>132</sup> *Id.* at 4-5.

<sup>133</sup> Ex. 200, at 47 (Amit Direct) (noting that "it is reasonable to expect a higher average required rate of return for the group of four companies than for the Delivery group excluding the four companies")

group when he established an ROE recommendation in MERC's last rate case.<sup>134</sup> Therefore, the OAG actually agrees with Mr. Moul proposition in MERC's last rate case on the issue of whether to include combined electric/gas companies into a proxy for MERC.

Finally, Mr. Moul proposes a complicated and unnecessary "leverage adjustment" that artificially increases his DCF results. Mr. Moul attempts to justify his leverage adjustment on the concept that investors are concerned with the return they realize on the market value of their investments, while the DCF model derives the cost of equity based on a utility's book value capital structure.<sup>135</sup> Mr. Moul then argues that this requires an upward adjustment to the ROE produced by the DCF model when its market value exceeds its book value.<sup>136</sup> Likewise, Mr. Moul argues that his leverage adjustment would require a downward adjustment to the DCF result if the book value exceeds the market value.<sup>137</sup>

As Drs. Chattopadhyay and Amit both explain, Mr. Moul's leverage adjustment ignores the simple fact that utility investors are well aware that a utility's earnings are based on an allowed return granted by regulators on the utility's book value.<sup>138</sup> Moreover, as Dr. Chattopadhyay explains, Mr. Moul's leverage adjustment has the perverse effect of increasing a return that is already supporting a market price well above a company's book value, and would

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<sup>134</sup> See Direct Testimony of Paul Moul, *In the Matter of the Application of Minnesota Energy Resources Corporation for Authority to Increase Rates for Natural Gas Service in Minnesota*, Docket No. G-007,011/GR-10-977, Ex. 22, at 4 (Nov. 30, 2010). Despite this change in his own proxy group from the last case, Mr. Moul criticizes Dr. Chattopadhyay for supposed inconsistency between rate cases. Specifically, Mr. Moul criticizes Dr. Chattopadhyay for excluding companies who did not have at least 75% of their assets as regulated when "in prior testimony he used an 85% screening criteria." Ex. 18, at 25 (Moul Rebuttal). In addition to the hypocrisy of Mr. Moul's criticism, Mr. Moul does not mention whether the change in Dr. Chattopadhyay's analysis increased or decreased his ROE recommendation in this case. As Dr. Chattopadhyay explains, "[i]f anything, going from at least 85% to at least 75% cut-off for regulated assets *accommodates a greater risk profile*." Ex. 165, at 29 (Chattopadhyay Surrebuttal) (emphasis added). Mr. Moul's hypocritical criticism of Dr. Chattopadhyay seems to have no real point other than as simply a feeble attempt to discredit an opposing witness, or to deflect issues related to his own analysis.

<sup>135</sup> Ex. 17, at 26–28 (Moul Direct).

<sup>136</sup> *Id.* at 27.

<sup>137</sup> *Id.*

<sup>138</sup> Ex. 161, at 19 (Chattopadhyay Direct); Ex. 200, at 66 (Amit Direct).

result in the detrimental effect of *reducing* a utility's ROE when the market value of the stock is below the book value and the utility is facing dilution of stock.<sup>139</sup> For these reasons, Mr. Moul's "leverage adjustment" should be rejected.

For the reasons set forth above, the OAG requests that the ALJ recommend, and the Commission approve, an ROE of 8.62%, or an ROE within the range of 8.6% to 9.1%. The OAG's recommendation is based on sound economic analysis and appropriately balances the interests of MERC with the interests of its ratepayers consistent with the applicable legal requirements.

### **III. CLASS COST OF SERVICE STUDY**

The OAG will next analyze MERC's proposed cost allocation. The Commission acts in a legislative capacity when it is "allocating costs between utility customers and balancing various factors to achieve a fair and reasonable allocation of those costs."<sup>140</sup> One tool that the Commission has used to inform revenue apportionment is the class cost of service study ("CCOSS"), which estimates the cost of service for each customer class. A CCOSS first functionalizes similar costs by determining their purpose; then, the CCOSS classifies the costs as either customer, capacity, or commodity costs; finally, the costs are allocated to various customer classes depending on how the costs were classified and caused.<sup>141</sup> Customer costs are "required to provide service to customers, regardless of whether the customer consumes gas or not;" customer costs are allocated based on the number of customer locations within each class.<sup>142</sup> Capacity costs, in contrast, are required for the company to meet the peak demand on its system,

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<sup>139</sup> Ex. 161, at 19–20 (Chattopadhyay Direct).

<sup>140</sup> *City of Moorhead v. Minnesota Public Utilities Commission*, 343 N.W.2d 843, 846 (Minn. 1984).

<sup>141</sup> Ex. 155, at 4 (Nelson Direct).

<sup>142</sup> *Id.*

and they are allocated based on the customer class's contribution to peak demand.<sup>143</sup> The difference between customer and capacity costs is significant, and care must be taken to properly allocate them, because the residential class pays significantly more of the costs that are classified as customer costs.<sup>144</sup> Classifying and allocating costs incorrectly can dramatically increase the burden on the residential class.

MERC uses its CCOSS to justify increasing revenue allocation for the residential and small C&I customer classes, while reducing allocation to large C&I, interruptible, and transportation classes. But the Commission has previously recognized that cost of service studies "cannot establish precise values," because they "require considerable judgment and employ certain assumptions that might affect the results."<sup>145</sup> Because of its inherent imprecision, cost of service studies should be used, at most, to "determine a range of class cost responsibility."<sup>146</sup> The OAG has identified several ways that MERC's improper methodology and subjective decision-making has resulted in inaccurate results in its class cost of service study.

Specifically, the OAG has determined that MERC's CCOSS improperly allocates customer service costs by failing to account for differences in cost between customer classes. MERC's CCOSS fails to follow the Commission's prior orders in regard to the allocation of income taxes. Finally, and most significantly, MERC's CCOSS improperly functionalizes the Mains account, which represents the cost of approximately half of MERC's distribution assets. The cumulative effect of these errors is an unreasonably high allocation for residential and small C&I classes. The OAG requests that the ALJ and the Commission reject the flawed CCOSS

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<sup>143</sup> *See id.*

<sup>144</sup> *Id.* at 7.

<sup>145</sup> Findings of Fact, Conclusions of Law, and Order, *In the Matter of the Application of Dakota Electric Association for Authority to Increase Rates for Electric Service in Minnesota*, Docket No. E-111/GR-09-175, at 12 (May 24, 2010).

<sup>146</sup> Findings of Fact, Conclusions of Law, and Order, *In the Matter of the Application of Interstate Power and Light Company for Authority to Increase Rates for Electric Service in Minnesota*, Docket No. E-001/GR-10-276, at 47 (Aug. 12, 2011).

prepared by MERC, and instead accept the OAG's recommendations to re-allocate the Mains account, customer service costs, and income tax expenses.

**A. CUSTOMER SERVICE COSTS SHOULD BE ASSIGNED USING A WEIGHTED ALLOCATOR.**

MERC has allocated its customer service and collections expenses, which are contained within FERC Account 903, solely on the basis of the number of customers in each class. This allocation is unreasonable because it assumes that MERC's customer service accounts cost the same to administer for each customer. Common sense, as well as the treatment of these expenses by other natural gas companies in Minnesota, indicates that larger customers have more complex accounts and cost more to administer. MERC's method also deviates from the recommendations of the NARUC Rate Design Manual for natural gas, which recommends using a weighted customer allocator.<sup>147</sup> This improper misallocation is significant, because OAG witness Ron Nelson estimates that MERC's method assigns approximately 12% more costs to the residential class than the weighted allocator created by CenterPoint Energy.<sup>148</sup> The OAG requests that the ALJ recommend, and the Commission approve, that MERC be ordered to use a weighted customer allocator to remedy this error.

Of the three largest natural gas utilities in Minnesota, MERC is the only one that allocates costs from FERC Account 903 without using a weighted allocator.<sup>149</sup> For example, Xcel Energy concluded that its natural gas customer service expenses could be more accurately allocated by performing studies to apply weights to the various customer classes.<sup>150</sup> Xcel's study determined that, for example, administration of a large C&I customer account costs 3.35 times more than a

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<sup>147</sup> *Gas Distribution Rate Design Manual*, NARUC Staff Subcommittee on Gas, at 38 (June 1989).

<sup>148</sup> Tr. Evidentiary Hearing, at 171 (May 13, 2014).

<sup>149</sup> Ex. 155, at 41–42 (Nelson Direct).

<sup>150</sup> Direct Testimony of James Gilroy, at 9, *In the Matter of the Application of Northern States Power Company, d/b/a Xcel Energy, for Authority to Increase Rates for Natural Gas Service in Minnesota*, Docket No. G-002/GR-09-1153.

residential customer.<sup>151</sup> Additionally, Xcel found that interruptible accounts cost between 13.08 and 21.23 times as much as residential accounts, and that transportation accounts cost between 8.88 and 20.97 times more than residential accounts.<sup>152</sup> CenterPoint Energy also recognizes that customer service costs differ between classes, and uses a weighted allocator to assign customer service costs.<sup>153</sup> It is unreasonable for MERC to claim that it should use a flat allocator when studies performed by the other large natural gas utilities in Minnesota demonstrate clearly that a weighted allocator is more appropriate.

MERC argues that it should not be required to weight customer service costs because the services are performed by an outside firm, Vertex.<sup>154</sup> According to MERC witness Ms. Hoffman Malueg, “Vertex charges MERC a flat, per account, rate to perform these customer services; there is no difference in the flat rate charge amongst the different types of MERC customers.”<sup>155</sup> But Ms. Hoffman Malueg’s argument misses the point because she does not address whether MERC’s billing arrangement with Vertex is reasonable to ratepayers. Mr. Nelson noted that,

Whether or not Vertex bills the same rate for all customers does not mean that all customers cause equal costs. MERC has not demonstrated that negotiating an equal cost-per customer arrangement was based on cost causation. It is possible that Vertex has spread the increased cost of serving large commercial customers across the residential customers by pricing all customers equally.<sup>156</sup>

Such an arrangement would be unfair to ratepayers because it does not allocate the true costs for providing customer service.

To illustrate Mr. Nelson’s point, consider an example in which MERC has 100 customers and \$100 of customer service related costs. For purposes of the example, imagine that MERC’s

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<sup>151</sup> Volume 3, Required Information Page 10A–10B, *In the Matter of the Application of Northern States Power Company, d/b/a Xcel Energy, for Authority to Increase Rates for Natural Gas Service in Minnesota*, Docket No. G-002/GR-09-1153.

<sup>152</sup> *Id.*

<sup>153</sup> Ex. 155, at 42 (Nelson Direct).

<sup>154</sup> Ex. 30, at 34 (Hoffman Malueg Rebuttal).

<sup>155</sup> *Id.*

<sup>156</sup> Ex. 158, at 20 (Nelson Surrebuttal).



80 residential customers each cost \$0.50 to administer, the 15 large volume customers each costs \$2 to administer, and each of the 5 interruptible customers costs \$6 to administer. The total cost of providing customer services to these imaginary customers is \$100. Under Vertex's pricing model, MERC would be charged a flat rate of \$1 per customer, and MERC would allocate \$1 of costs for each customer in a class. The interruptible customers in this example would be allocated only \$5 in costs, even though the true cost of providing them with customer services is \$30; large volume customers would be allocated \$15, although they cause \$30 in costs. The excess costs would be allocated to the residential class, resulting in an allocation of \$80 in customer service costs where the true cost of service is only \$40. It is possible that this example actually underestimates the cost disparity between customer classes: when Xcel Energy performed a study to determine the cost of customer service accounts, it determined that the cost of administering interruptible account could be more than *20 times* the cost of a residential account.<sup>157</sup>

MERC has not produced any evidence to show that allocating customer service costs in the same way that MERC is billed by Vertex is reasonable.<sup>158</sup> The flat rate charged by Vertex does not represent actual cost; it is simply reflective of a business contract that was probably designed for ease of administration rather than equity or reasonableness.<sup>159</sup> In the absence of any evidence to the contrary, it is likely that MERC's true costs are similar to those of the other large natural gas utilities in Minnesota. Given the fact that other natural gas utilities and the NARUC Gas Manual recommend using a weighted allocator, the OAG requests that the ALJ recommend, and the Commission approve, that MERC be ordered to use a weighted customer allocation

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<sup>157</sup> Exhibit B, Volume 3, Required Information Page 10A–10B, *In the Matter of the Application of Northern States Power Company, d/b/a Xcel Energy, for Authority to Increase Rates for Natural Gas Service in Minnesota*, Docket No. G-002/GR-09-1153.

<sup>158</sup> Minn. Stat. § 216B.16; *see also* Minn. Stat. § 216B.03.

<sup>159</sup> Tr. Evidentiary Hearing, at 72 (May 13, 2014).

method for FERC Account 903. If MERC is unable to produce a weighted allocator, the OAG recommends that MERC be ordered to use the allocator used for FERC Account 381, as recommended by the NARUC Gas Manual, for this case, and that MERC be ordered to create a more precise weighted customer allocator for MERC’s future rate cases.<sup>160</sup>

**B. INCOME TAXES SHOULD BE ALLOCATED ON THE BASIS OF TAXABLE INCOME.**

In MERC’s 2010 rate case, the Commission ordered the company to allocate its income taxes “on the basis of taxable income by class that fully and only reflects the CCOSS.”<sup>161</sup> According to MERC witness Ms. Hoffman Malueg, this method would require MERC to “calculate[e] income taxes by rate class that is reflective of a CCOSS where all classes would be charged rates that are representative of their cost of service.”<sup>162</sup> Such a calculation is necessary, according to Ms. Hoffman Malueg, because “allocating income taxes based on an allocation methodology that does not reflect a class’s true cost of service . . . does not provide an accurate cost of service allocation, an accurate calculation of revenue deficiency by rate class, or an accurate overall cost of service by rate class.”<sup>163</sup>

But MERC has not complied with this instruction. Instead, MERC has allocated income tax expenses by rate base, the very method it was ordered to stop using in its 2008 rate case.<sup>164</sup> MERC has not followed the Commission’s order because it claims that allocating income taxes that are based fully on the CCOSS is technically impossible because of a circular reference

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<sup>160</sup> Ex. 158, at 20 (Nelson Surrebuttal).

<sup>161</sup> This language was recommended by the Administrative Law Judge, and was accepted by the Commission without comment. Findings of Fact, Conclusions, and Order, *In the Matter of the Application of Minnesota Energy Resources Corporation for Authority to Increase Rates for Natural Gas Service in Minnesota*, Docket No. G-007, 011/GR-10-977, at 6–7 (July 13, 2012); Findings of Fact, Conclusions, and Recommendation, *In the Matter of the Application of Minnesota Energy Resources Corporation for Authority to Increase Rates for Natural Gas Service in Minnesota*, Docket No. G-007, 011/GR-10-977, at 56 (Apr. 2, 2012).

<sup>162</sup> Ex. 30, at 37 (Hoffman Malueg Rebuttal).

<sup>163</sup> *Id.*

<sup>164</sup> Findings of Fact, Conclusions of Law, and Order, *In the Matter of the Application of Minnesota Energy Resources Corporation for Authority to Increase Rates for Natural Gas Service in Minnesota*, Docket No. G-007, 011/GR-08-835, at 24 (June 29, 2009).

problem: income taxes cannot be calculated until MERC estimates its expenses, and MERC's expenses cannot be calculated until MERC has determined its level of income taxes.<sup>165</sup> Because the calculations are connected in this way, MERC claims that it was unable to allocate income taxes based fully and only on the CCOSS.

Faced with this difficulty, MERC has chosen to allocate income tax on the basis of rate base. To justify this switch, MERC attempts to demonstrate through simple algebraic formulas that an allocation on the basis of rate base is equivalent to an allocation based on the CCOSS.<sup>166</sup> But MERC admits that the formulas represent only a "simplified example" of how costs and income taxes are determined.<sup>167</sup> And, critically, in allocating income taxes based only on rate base, MERC fails to consider the expenses that are included in a CCOSS. A cost of service study includes rate base costs, but it also includes costs from company expenses. Rather than allocating "on the basis of taxable income by class that fully and only reflects the CCOSS," MERC has selectively decided to ignore the expenses within the CCOSS and allocate only on the basis of rate base. According to Ms. Hoffman Malueg's criteria, such a method would be inaccurate because it does not consider expenses within the CCOSS and therefore does not "reflect a class's true cost of service."<sup>168</sup>

Additionally, as noted, MERC was instructed to stop allocating income taxes according to rate base years ago. In its 2008 rate case, MERC was ordered to allocate income taxes "on the basis of the taxable income attributable to each customer class, not on the basis of rate base."<sup>169</sup>

The Commission noted that this policy was logical because "income taxes are causally linked to

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<sup>165</sup> See Informational Requirement 12, Schedule 9; see Ex. 208, at 3–4 (Ouanes Rebuttal).

<sup>166</sup> See Informational Requirement 12, Schedule 9.

<sup>167</sup> *Id.*

<sup>168</sup> Ex. 30, at 37 (Hoffman Malueg Rebuttal).

<sup>169</sup> Findings of Fact, Conclusions of Law, and Order, *In the Matter of the Application of Minnesota Energy Resources Corporation for Authority to Increase Rates for Natural Gas Service in Minnesota*, Docket No. G-007, 011/GR-08-835, at 24 (June 29, 2009).

income, not capital investment,” and that it was the method recommended by the American Gas Association’s *Gas Rate Fundamentals* publication.<sup>170</sup>

OAG witness Mr. Lindell provides further support for allocating income taxes on the basis of income by class. According to Mr. Lindell, MERC’s current method is absurd from an accounting perspective because it attributes nearly a million dollars in income taxes to the residential class when the residential class did not generate any taxable income.<sup>171</sup> Mr. Lindell testified that, instead, income taxes should be allocated on the basis of income because that is the same method used to calculate total company income taxes. This method would also be in accordance with the Commission’s order from MERC’s 2008 rate case.<sup>172</sup> Mr. Lindell recommends that MERC should determine taxable income by calculating “taxable revenues minus tax deductible expenses,” and then apply the corporate tax rate to determine the level of income taxes caused by each class.<sup>173</sup>

MERC is unable to allocate income taxes based fully and only on the CCSS because of a circular reference problem. As a result, the OAG requests that the ALJ recommend, and the Commission approve, an order directing that MERC follow the Commission’s next most recent instruction, which was to allocate income taxes on the basis of “taxable income attributable to each customer class, not on the basis of rate base.”<sup>174</sup>

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<sup>170</sup> *Id.*

<sup>171</sup> Ex. 151, at 27–28 (Lindell Direct).

<sup>172</sup> Findings of Fact, Conclusions of Law, and Order, *In the Matter of the Application of Minnesota Energy Resources Corporation for Authority to Increase Rates for Natural Gas Service in Minnesota*, Docket No. G-007, 011/GR-08-835, at 24 (June 29, 2009).

<sup>173</sup> Ex. 152, at 8–9 (Lindell Rebuttal).

<sup>174</sup> Findings of Fact, Conclusions of Law, and Order, *In the Matter of the Application of Minnesota Energy Resources Corporation for Authority to Increase Rates for Natural Gas Service in Minnesota*, Docket No. G-007, 011/GR-08-835, at 24 (June 29, 2009).

**C. MERC'S ALLOCATION OF DISTRIBUTION MAINS EXPENSES IS INACCURATE, UNRELIABLE, AND SHOULD BE REJECTED.**

In addition to using an improper allocator for customer service and income tax expenses, MERC has allocated the Mains Account in a manner that is totally unreliable. The Mains Account is MERC's largest single investment, and contains approximately \$159 million in costs associated with the physical network of pipes that MERC uses to distribute natural gas to customers.<sup>175</sup> The Commission has instructed utilities to allocate fixed costs, which are necessary only to connect a consumer to the gas system, as customer costs; all other costs should be classified as capacity costs.<sup>176</sup> The distinction is significant because the residential class pays approximately 90% of those costs classified as customer costs, but pays approximately 63% of the costs that are classified as capacity costs.<sup>177</sup> But MERC's classification is based on data that has been manipulated beyond the point of being statistically useful. In addition, the regression is unusable because it violates many of the basic assumptions that are necessary to ensure reliable and accurate results. As a result of MERC's inaccurate classification of the Mains Account, millions of dollars in costs have been improperly shifted to the residential class.

**1. The Mains Account Should be Classified using a Zero-Intercept Study.**

The NARUC gas manual recommends classifying a gas distribution system according to the minimum system theory, which assumes that there are some customer costs that a utility will incur to install a distribution system regardless of the size of pipe that is installed.<sup>178</sup> According to the NARUC manual, the utility incurs some costs in order to offer gas service to a customer, and those costs should be classified as customer costs. Any additional costs are not necessary to

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<sup>175</sup> Ex. 155, at 6 (Nelson Direct).

<sup>176</sup> Order, *In the Matter of the Petition of Northern States Power Gas Utility for Authority to Increase Rates for Retail Customers within the State of Minnesota*, Docket No. G-002/GR-92-1186, 146 P.U.R.4th 1, 44 (Sept. 1, 1993).

<sup>177</sup> Ex. 155, at 7 (Nelson Direct).

<sup>178</sup> *Gas Distribution Rate Design Manual*, NARUC Staff Subcommittee on Gas, at 22 (June 1989).

provide service to a customer – instead, they are caused by the demand for natural gas.<sup>179</sup> Costs incurred to serve the demand for gas should be classified as capacity costs.

The NARUC manual suggests two ways to determine the level of customer costs. The minimum sized main method uses “the historic unit cost of the smallest main installed in the system” to determine the level of customer costs.<sup>180</sup> A zero-intercept method, which the Commission recently ordered CenterPoint Energy to file in its future rate cases,<sup>181</sup> uses an ordinary least squares (“OLS”) regression to determine the customer costs from a theoretical distribution main that is zero-inches in diameter.<sup>182</sup> One problem with the minimum sized method is some costs related to the size of the main, like the material cost of the pipe, are included as customer costs, when they should be classified as capacity costs.<sup>183</sup> The zero-intercept method is superior to the minimum sized main method because it recognizes that the utility installs a particular size of gas main in order to meet a certain level of demand,<sup>184</sup> and because “it does not include material costs.”<sup>185</sup> The zero-intercept method avoids this problem by using a more technically-demanding method to estimate the customer costs that result from a zero-inch diameter gas main, which will not include any material demand-related costs. MERC presumably recognized the superiority of this method because it conducted a zero-intercept study in an attempt to determine the level of customer costs in its distribution system. MERC’s study contains so many technical errors, however, that its results are unreliable and should be rejected.

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<sup>179</sup> Order, *In The Matter Of The Petition Of Northern States Power Gas Utility For Authority To Change Its Schedule Of Gas Rates For Retail Customers Within The State Of Minnesota*, Docket No. G-002/GR-92-1186, 146 P.U.R. 4th 1, 44 (Sept. 1, 1993) (noting that any costs beyond the costs necessary to connect a customer to the distribution system are “incurred in providing volumes of gas” and are “demand-related”).

<sup>180</sup> *Gas Distribution Rate Design Manual*, NARUC Staff Subcommittee on Gas, at 22 (June 1989); see Ex. 155, at 8 (Nelson Direct).

<sup>181</sup> Findings of Fact, Conclusions, and Order, *In the Matter of an Application by CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas for Authority to Increase Natural Gas Rates in Minnesota*, Docket No. G-008/GR-13-316, at 37 (June 9, 2014).

<sup>182</sup> Ex. 155, at 9 (Nelson Direct).

<sup>183</sup> *Id.*

<sup>184</sup> *Id.*

<sup>185</sup> Tr. Evidentiary Hearing, at 174 (May 13, 2014).

## **2. MERC's Zero-Intercept Study is Fatally Flawed and Should be Rejected.**

The zero-intercept model is performed by conducting an OLS regression to isolate the customer costs of a distribution main system. In order to produce reliable results,<sup>186</sup> an OLS regression must satisfy a series of assumptions, known as the Gauss-Markov assumptions.<sup>187</sup> According to Mr. Nelson, “The Gauss-Markov assumptions are essential to have valid zero-intercept results.”<sup>188</sup> Mr. Nelson reviewed MERC’s OLS regression and determined that it was technically inadequate on many grounds. Rather than attempt to correct or explain the technical deficiencies, however, MERC relies on “layman’s terms” to challenge the results of Mr. Nelson’s analysis.<sup>189</sup> Neither MERC witness Ms. Hoffman Malueg nor Department witness Dr. Samir Ouanes addressed any of the technical issues raised by Mr. Nelson. Instead, they conclude that the *results* of MERC’s regression are reasonable, regardless of the numerous inaccuracies identified by Mr. Nelson. The ALJ and the Commission should reject this results-based reasoning and hold MERC to the burden of proving that its technical analysis is reliable and accurate. Mr. Nelson’s uncontroverted analysis demonstrates that MERC’s regression violates many of the Gauss-Markov assumptions, and, therefore, the results of the regression are inaccurate and unreliable.

### **a. MERC's Regression Model is not Specified Correctly, which Results in Omitted Variable Bias.**

The first step in an OLS regression is to specify a theoretical model for the study. The corresponding Gauss-Markov assumption requires that the model used in the regression be

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<sup>186</sup> For a list of the assumptions, refer to Exhibit 156, REN-1, at 34 (Schedules to Nelson Direct).

<sup>187</sup> Tr. Evidentiary Hearing, at 73 (May 13, 2014).

<sup>188</sup> *Id.* at 152. MERC’s own expert, Ms. Hoffman Malueg, agrees that the Gauss-Markov assumptions are required to run an OLS regression. Tr. Evidentiary Hearing, at 73 (May 13, 2014).

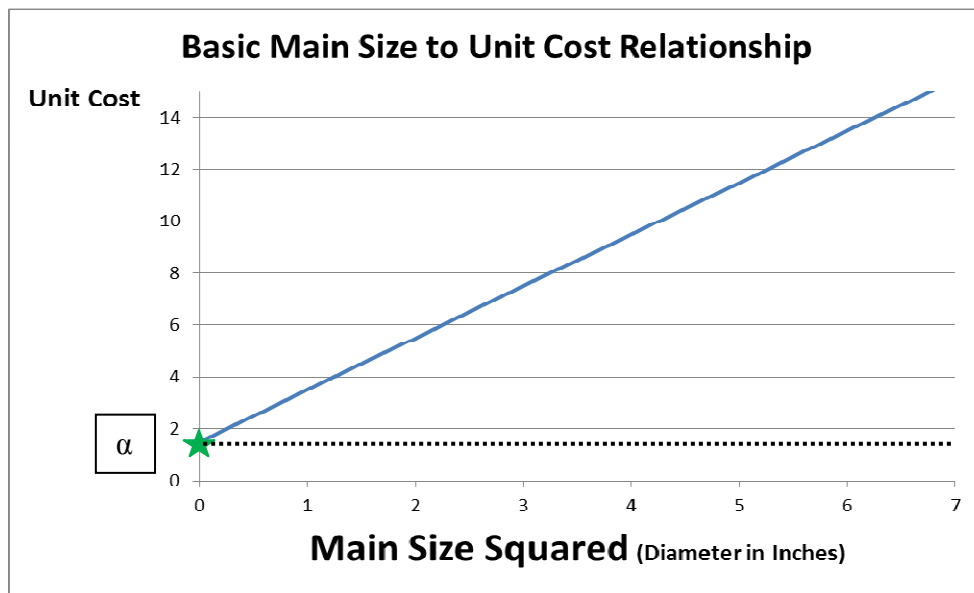
<sup>189</sup> Ex. 31, at 4 (Hoffman Malueg Rebuttal).

specified correctly.<sup>190</sup> A model that is specified incorrectly introduces errors into the results of the regression. MERC’s model fails to satisfy this assumption because it inexplicably assumes that only one variable, to the exclusion of any other factors, has an effect on the cost of distribution mains. MERC’s model is illogical, and the analysis performed by Mr. Nelson demonstrates that it has resulted in omitted variable bias.

MERC’s model proposes that the only variable that impacts the cost of a distribution main is the diameter of the main squared. The equation can be expressed as follows:<sup>191</sup>

$$(Unit\ Cost) = \alpha + B_1 (Main\ Diameter)^2 + \varepsilon$$

The equation can also be described graphically:



In this graph, the blue line represents the right side of MERC’s model and describes the amount of costs that increase as the size of the main increases. The location at which the line crosses the y-axis, marked by the star, represents the zero-intercept value, which is  $\alpha$  in MERC’s model. The star, or  $\alpha$ , represents the cost of installing a main when all variable costs are zero. In other

<sup>190</sup> Ex. 156, REN-1, at 34 (Schedules to Nelson Direct).

<sup>191</sup> Ex. 155, at 12–13 (Nelson Direct).



words,  $\alpha$  is the zero-intercept value, and represents the cost of installing a main when all variable costs are zero. The ultimate purpose of the OLS regression is to determine the value of  $\alpha$ , because  $\alpha$  is the customer associated with installing one foot of main.<sup>192</sup> On the graph, all of the costs that fall under the star are customer costs; all of the costs that are between the star and the blue line are capacity costs. In the equation, the value of  $\alpha$  represents customer costs, and any costs in excess of  $\alpha$  should be classified as capacity costs.

MERC's specification is flawed because it assumes that the only variable that influences the unit cost of a gas main is the diameter-squared of that particular main. The record in this case demonstrates that MERC has excluded many variables from its model. For example, the Integrys Gas Group Engineering Manual indicates that route selection, depth of installation, number and material of fittings, number of valves, and geography of the installation location are all factors that must be considered when installing a main.<sup>193</sup> Additionally, MERC witness Mr. David Kult noted that there are "varying construction costs across the State of Minnesota caused by geographic area, type of soil, size of lot, [and the] amount of gas used."<sup>194</sup> And the bids that MERC receives from the contractors who complete main installation projects include many cost factors that have nothing to do with the diameter-squared of the pipe to be installed.<sup>195</sup> MERC's own authority and witnesses indicate that these variables affect cost, and should have been included in MERC's model. Furthermore, it is commonly accepted that a regression model which includes a quadratic variable, such as diameter-squared, should also include the linear variable, which would be represented as diameter, to increase accuracy and reliability.<sup>196</sup> Each

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<sup>192</sup> Ex. 158, at 8 (Nelson Surrebuttal).

<sup>193</sup> Ex. 156, REN-3, at 3–10 (Schedules to Nelson Direct).

<sup>194</sup> Ex. 14, at 5 (Kult Direct).

<sup>195</sup> Ex. 160, REN-18 (Trade Secret Schedules to Nelson Surrebuttal).

<sup>196</sup> Ex. 158, at 10–12 (Nelson Surrebuttal).

of these factors may have a statistically significant impact on the cost of a gas main, and MERC's model fails to account for this.

Variables that are left out of MERC's model result in further errors in the results of the regression.<sup>197</sup> The Integrys Gas Group Engineering Manual and common sense indicate that the number of valves in a gas main will have an impact on cost. The consequence of MERC failing to account for the number of valves in its model is that, instead of calculating the true fixed costs of installing a foot of gas main, MERC has calculated the fixed costs plus the costs of valves. And every variable that is excluded from MERC's model creates the same effect, magnifying the error.<sup>198</sup> The cumulative result of these omissions is that MERC's estimate of the fixed costs for the distribution system includes many variable costs that should not be classified as customer costs.

MERC witness Ms. Hoffman Malueg attempts to defend MERC's model by arguing that the variables suggested by Mr. Nelson are either already included in MERC's model or cannot be included because MERC is unable to provide data for the variables.<sup>199</sup> But the availability of data for the variables suggested by Mr. Nelson is not relevant to whether their omission has irreparably biased MERC's model. If the variables should have been included in the model and were not, the model is flawed regardless of whether MERC has collected data on them.<sup>200</sup>

The claim that MERC's model includes the variables because they are contained within book costs is simply incorrect.<sup>201</sup> In fact, Ms. Hoffman Malueg's statement that variables such as the number of fittings and valves are included in the book cost is an admission that those

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<sup>197</sup> Ex. 155, at 27 (Nelson Direct).

<sup>198</sup> Ex. 158, at 8 (Nelson Surrebuttal).

<sup>199</sup> Ex. 30, at 5–8 (Hoffman Malueg Rebuttal).

<sup>200</sup> The ALJ and the Commission should consider, however, that it was MERC's failure to collect this data that has caused its own analysis to be unusable. The issues raised by the OAG should not surprise MERC, because it is well aware that in practice many factors other than the diameter-squared of a main will impact the cost of a main installation. *See* Ex. 160, REN-18 (Trade Secret Schedules to Nelson Surrebuttal).

<sup>201</sup> Ex. 30, at 6–7 (Hoffman Malueg Rebuttal).

variables have an effect on the cost of a mains project.<sup>202</sup> If that is so, then they should have been included as variables in the model to ensure that their costs were not included in customer costs. Ms. Hoffman Malueg's reference to book value is an admission that these variables effect unit cost data, represented on the left side of MERC's model. By failing to control for them on the right side of the equation as well, MERC has introduced omitted variable bias into its results.

Furthermore, technical analysis performed by Mr. Nelson confirms that MERC has not specified its model correctly. After reviewing the results of MERC's OLS regression, Dr. Nelson conducted the specification error test for omitted variables.<sup>203</sup> The results of the specification error test demonstrated that MERC's "model [was] incorrectly specified," that "the parameters estimated in the model were estimated incorrectly," and that "it is highly probable that the unit cost for a zero inch main is incorrectly estimated in MERC's zero-intercept model."<sup>204</sup> Mr. Nelson's technical analysis is unopposed on this point. Department witness Mr. Samir Ouanes did not perform a similar test,<sup>205</sup> and neither did Ms. Hoffman Malueg.<sup>206</sup> Mr. Nelson is the only expert witness in this case that conducted a test for omitted variable bias, and his conclusion is that MERC's model was specified incorrectly and that the consequence of this error is the presence of omitted variable bias in the results. The OAG requests that the ALJ recommend, and the Commission approve, rejecting MERC's classification of the Mains Account as inaccurate and unreasonable.

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<sup>202</sup> *Id.*

<sup>203</sup> Ex. 155, at 26–27 (Nelson Direct).

<sup>204</sup> *Id.*

<sup>205</sup> Tr. Evidentiary Hearing, at 192 (May 13, 2014).

<sup>206</sup> *Id.* at 80.

**c. MERC's Data has been Manipulated and Results in an Unreliable Result.**

In addition to MERC's incorrect specification, Mr. Nelson identified problems with MERC's treatment of data in its zero-intercept study. The data set that MERC used in its regression includes two variables – the diameter-squared of the main, and the unit cost of installing that size of main in a particular year.<sup>207</sup> Instead of using minimally processed data, MERC used manipulated data to construct both the unit cost and diameter-squared of main. MERC's data management practices result in “a data set that is not fit for a zero-intercept analysis,” and “all results from any such analysis [are] meaningless.”<sup>208</sup>

MERC introduced errors into the process as early as the first data gathering steps. Instead of collecting original data from main installation projects, MERC began its analysis with data that had already been aggregated by diameter and year. Aggregating data in this way is detrimental to the accuracy of a regression because the aggregation “can destroy the relationship that a regression is attempting to model.”<sup>209</sup> This process damaged the reliability of any conclusions about the relationship between the diameter-squared of a pipe and unit costs of mains projects.

Additionally, MERC improperly manipulated its data set. MERC intentionally altered more than 25% of the data sets in its sample by relabeling mains that were less than 2-inches as 2-inch main. For example, any data sets that provided information about the unit cost of a ¾ inch main were changed so that they appeared to be 2-inch mains instead of the smaller size. In addition to altering the size of mains, MERC manipulated the data for unit cost. In the original data, the cost of installing a main varies by year. Instead of using this original data, MERC

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<sup>207</sup> Informational Requirement Document 12, Schedule 5, at 1–5.

<sup>208</sup> Ex. 155, at 24 (Nelson Direct).

<sup>209</sup> Ex. 155, at 17 (Nelson Direct).

averaged the cost for each diameter across time, and reported the average as the cost in each year. MERC's data set includes 128 data points for 2 inch mains. In its original form, each of the 128 data points would have a different cost. After MERC's data manipulation, each of the 128 data points for 2 inch mains indicates that the cost of installing one foot of 2 inch main was exactly \$13.72. After the manipulation, the data set appears to lead to the conclusion that every 2-inch main ever installed in MERC's distribution system has exactly the same cost. At this point, MERC's data no longer describes a variable; it describes a predetermined relationship between size and cost with no variability. After reviewing MERC's data manipulation, Mr. Nelson concluded that, "This practice creates insurmountable problems when trying to estimate [a] regression because it biases the relationship that is being determined."<sup>210</sup> MERC's data is beyond repair.<sup>211</sup>

To further illustrate the problems with MERC's data practices, Mr. Nelson provided a hypothetical example of what MERC's original data set would look like:<sup>212</sup>

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<sup>210</sup> Ex. 155, at 23 (Nelson Direct).

<sup>211</sup> Again, the ALJ and the Commission should take note that it was MERC's own actions that caused its analysis to be unreliable.

<sup>212</sup> See Ex. 155, at 19 (Nelson Direct).

**Table 1**  
**Example of Un-manipulated Data**

Diameter	Diameter-squared	Adjusted Unit Cost	Linear feet	Average Unit Cost	Year
3	9	2,979,513	280,342	10.62	2003
3	9	1,855,565	184,299	10.06	2004
3	9	1,417,502	120,549	11.76	2005
3	9	1,156,191	121,799	9.49	2006
3	9	1,581,194	253,833	6.23	2007
3	9	774,087	94,831	8.16	2008
3	9	108,158	28,335	3.82	2009
3	9	137,228	18,959	7.24	2010
3	9	980,868	1,732	566.32	2011
3	9	97,442	417	209.69	2012
<b>Total for 3"</b>		<b>11,087,748</b>	<b>1,105,096</b>		
		<b>Average Unit Cost For All Years</b>	<b>10.03</b>		

In this table, just as in MERC’s original data, the data points for 3-inch diameter main have different adjusted unit costs in different years. But this was not the data that MERC used in its regression. Instead, MERC calculated an average unit cost for each main diameter over all of the years in the data set. Mr. Nelson continued his hypothetical example to demonstrate the result of MERC’s manipulation:<sup>213</sup>

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<sup>213</sup> *Id.* at 20, Table 2.

**Table 2**  
**Example of Manipulated Data**

Adjusted Unit Cost (Y variable)	Diameter Squared (X variable)
10.03	9
10.03	9
10.03	9
10.03	9
10.03	9
10.03	9
10.03	9
10.03	9
10.03	9
10.03	9
10.03	9

In this example, the data is averaged so that it appears that every data point has the same cost. By averaging the data, MERC eliminated all variability from the sample and, as a result, each data point is identical. In the process of manipulation, “MERC changes the unit cost of every single observation to the same number for each diameter of main.”<sup>214</sup> MERC “completely eliminates the variability associated with each individual diameter of main.”<sup>215</sup> Rather than using a regression to determine the cost of the main, MERC has manipulated the data to make it appear as if the cost is always the same. As a result, MERC has stripped the data of its meaning and rendered it not only useless, but misleading.<sup>216</sup>

Mr. Nelson noted that “the point of econometrics is to determine a relationship,” but that MERC “distorts the relationship between the two variables and makes it seem like the dependent

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<sup>214</sup> *Id.* at 20.

<sup>215</sup> *Id.* at 23.

<sup>216</sup> *Id.* at 24.

variable is perfectly predicted by the independent variable.”<sup>217</sup> This is particularly troubling given that the very “goal of running a regression is to explain the variation of the dependent variable using . . . independent variables.”<sup>218</sup> Instead of attempting to analyze this variation, MERC has predetermined the relationship between the size of the main and the unit cost. The consequence of this manipulation is that MERC’s “model [is] completely meaningless” and should be disregarded.<sup>219</sup> To do otherwise would condone MERC’s manipulation, and encourage similarly contrived “analysis” in future cases.

**c. MERC’s Data Manipulation Results in an Absurdly High Percentage of Outliers.**

The negative effect of MERC’s data manipulation can be determined by quantitative analysis. Mr. Nelson analyzed the results of MERC’s regression for the presence of outliers by performing a stem and leaf plot test.<sup>220</sup> The results of the test indicated that 78 of the 266 observations in the plastic data set, almost 30%, were outliers.<sup>221</sup> According to Mr. Nelson, “Outliers will result in an incorrectly estimated model because they can overly influence the prediction of the Y variable.”<sup>222</sup> The presence of any outliers in a data set can result in bias; a data set that consists of 30% outliers is, by definition, unreliable. Mr. Nelson concluded that the high incidence of outliers resulted from MERC’s data manipulation.<sup>223</sup> No party in this case has contradicted Mr. Nelson’s technical analysis. MERC did not perform a stem and leaf plot test to check for outliers.<sup>224</sup> Mr. Nelson’s unchallenged technical analysis demonstrates that nearly

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<sup>217</sup> *Id.* at 21.

<sup>218</sup> *Id.* at 21.

<sup>219</sup> *Id.* at 22.

<sup>220</sup> *Id.* at 29; Ex. 156, Schedule REN-9 (Schedules to Nelson Direct).

<sup>221</sup> *Id.*

<sup>222</sup> Ex. 155, at 29 (Nelson Direct).

<sup>223</sup> *Id.* at 30.

<sup>224</sup> Tr. Evidentiary Hearing, at 75 (May 13, 2014).



30% of MERC's regression data are outliers, and that as a consequence MERC's regression should be rejected as inaccurate and unreliable.

**d. MERC's Regression Contains Heteroscedasticity, which Invalidates the Results of the Zero-Intercept Model.**

MERC's regression also violates the Gauss-Markov assumptions of homoscedasticity. Department witness Laura Otis explained this assumption by noting that, "One of the basic assumptions for regression analysis is that the error terms [of the regression] must have the same variances."<sup>225</sup> When the error terms have different variances, the regression has heteroscedasticity. According to Ms. Otis, the "consequence of [heteroscedasticity] is that the estimated variances and covariances of regression estimates are biased and inconsistent."<sup>226</sup> MERC's expert witness agrees. MERC witness Dr. Harry John notes that "the major consequences [of heteroscedasticity] are that the predicted values will have large errors, leading to imprecise estimates. The potential for large errors . . . will increase significantly in the presence of heteroscedasticity, and as a result all statistical tests of the model such as T-statistics, and F-test will be unreliable."<sup>227</sup>

OAG witness Mr. Nelson ran a diagnostic test to check for heteroscedasticity.<sup>228</sup> The results of the Bruesch-Pagan test, as well as the graphical plot of the regression residuals, provide "clear evidence that heteroscedasticity was present."<sup>229</sup> According to the expert opinions of Ms. Otis and Dr. John, as well as Mr. Nelson, heteroscedasticity means that MERC's regression is totally unreliable. But MERC made no attempt to test for the presence of heteroscedasticity even after reviewing Mr. Nelson's evidence that heteroscedasticity was

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<sup>225</sup> Ex. 214, at 7 (Otis Surrebuttal).

<sup>226</sup> *Id.* at 8.

<sup>227</sup> Ex. 39, at 9 (John Rebuttal); *see also* Tr. Evidentiary Hearing, at 109–10 (May 13, 2014) (confirming that Dr. John believes that the results of a regression will be unreliable in the presence of heteroscedasticity).

<sup>228</sup> Ex. 155, at 31 (Nelson Direct); Ex. 156, REN-11 (Schedules to Nelson Direct).

<sup>229</sup> *Id.* at 31.

present.<sup>230</sup> In fact, Ms. Hoffman Malueg did not even attempt to interpret the results of Mr. Nelson's study.<sup>231</sup> MERC's failure to do so is baffling, especially given the fact that MERC's own expert witnesses confirm that heteroscedasticity completely invalidates the results of the regression. The ALJ and the Commission should particularly note MERC's failure to respond to this issue. According to the expert witnesses of both the Department and MERC, the presence of heteroscedasticity in MERC's regression means that MERC's results are biased and unreliable.<sup>232</sup> Mr. Nelson's uncontroverted analysis demonstrates that MERC's regression contains heteroscedasticity. It should be rejected as inaccurate and unreliable.

### **3. The Commission should Accept Mr. Nelson's Zero-Intercept Study.**

After determining that MERC's zero-intercept study was so flawed that it could not be relied upon, Mr. Nelson conducted an alternative zero-intercept analysis. Mr. Nelson acknowledged that his analysis was limited by the data provided by MERC; in this circumstance, as a result of MERC's data manipulation it would be impossible to perform an OLS regression that did not suffer from some problems.<sup>233</sup> Even given these limitations, Mr. Nelson was able to improve MERC's model by including the linear diameter variable to the model to "increase the model's flexibility, provide[] a superior theoretical specification, increase the . . . model's measure of fit, and . . . align with theory and other zero-intercept analyses completed in additional jurisdictions."<sup>234</sup> With these improvements, Mr. Nelson's regression suggested that 26% of the Mains Account should be classified as customer costs.

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<sup>230</sup> Tr. Evidentiary Hearing, at 76 (May 13, 2014).

<sup>231</sup> *Id.* at 77.

<sup>232</sup> Ex. 214, at 7–8 (Otis Surrebuttal); Ex. 39, at 9 (John Rebuttal).

<sup>233</sup> Ex. 155, at 37–38 (Nelson Direct).

<sup>234</sup> *Id.* at 37.

In order to check his results, Mr. Nelson conducted a literature review to compare his results to that of other utilities that had conducted a zero-intercept analysis.<sup>235</sup> Mr. Nelson first noted that MERC's request to classify 70% of the Mains Account as customer costs was "extremely high" compared to the results of other zero-intercept studies.<sup>236</sup> The average zero-intercept study indicated that 35.63% of a distribution system should be classified as customer costs.<sup>237</sup> Given that the results of his study were below the average, and that they were limited by the significant problems with MERC's data, Mr. Nelson recommended that the Commission classify 30% of the Mains Account as customer costs.<sup>238</sup>

Ms. Hoffman Malueg recommends that the Commission reject Mr. Nelson's analysis because she does not approve of the results of his analysis.<sup>239</sup> But Ms. Hoffman Malueg does not provide any technical analysis, and inappropriately relies on "layman's terms" to engage with Mr. Nelson's technical arguments.<sup>240</sup> Instead of taking the opportunity to defend or correct its methods, MERC argues that Mr. Nelson's *results* are unreasonable, ignoring its own role in failing to provide accurate data to support its rate increase request. Similarly, Department witness Dr. Ouanes recommends that the Commission reject Mr. Nelson's results. But Dr. Ouanes also failed to provide any technical analysis of the regression. In fact, Dr. Ouanes testified that he did not analyze the regression at all, even though he reviewed the technical issues that were raised by Mr. Nelson.<sup>241</sup> Instead, Dr. Ouanes accepts the *results* of MERC's regression based on alternative minimum-sized studies.

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<sup>235</sup> *Id.* at 39; Tr. Evidentiary Hearing, at 176-77 (May 13, 2014). Mr. Nelson excluded the results of other Integrys utilities. *Id.*

<sup>236</sup> Ex. 155, at 38 (Nelson Direct).

<sup>237</sup> Ex. 156, REN-16 (Schedules to Nelson Direct).

<sup>238</sup> *Id.* at 40.

<sup>239</sup> Ex. 30, at 21 (Hoffman Malueg Rebuttal).

<sup>240</sup> *Id.* at 4.

<sup>241</sup> Tr. Evidentiary Hearing, at 192 (May 13, 2014).

MERC and Dr. Ouanes attempt to justify their results-based analysis by relying on several minimum-sized main studies conducted by the company. They believe that, since the results of MERC's zero-intercept study are close to the results of the minimum-sized studies, MERC's recommendation must be accurate.<sup>242</sup> But all of the parties in this matter agree that the minimum-sized study overestimates the customer costs of a distribution system. Dr. Ouanes appears to assume that the results of the two systems should be similar, but there is no theoretical reason that the results of the minimum-system study should be similar to the results of a zero-intercept study. Additionally, Ms. Hoffman-Malueg agreed that a two-inch pipe would allow more demand costs than a zero-inch pipe, and noted that the zero-inch pipe would better identify the customer costs of the system because it would not allow any demand costs.<sup>243</sup> There is no reasonable basis to conclude that the results of a minimum-sized study should be similar to the results of a zero-intercept study.

Additionally, Dr. Ouanes fails to recognize the results of MERC's third minimum-sized study. The third study, the only one in which MERC based its model on the lowest cost mains in the system, indicated that 32% of the distribution system should be classified as customer costs.<sup>244</sup> This result is striking because MERC's own minimum-sized study resulted in a classification that is nearly identical to the classification proposed by Mr. Nelson. Dr. Ouanes and Ms. Hoffman Malueg appear to ignore the third study for no reason other than because it reaches a result they disagree with. But the fact remains that both MERC's own minimum-sized study and Mr. Nelson's zero-intercept study estimate that the customer costs of the distribution mains are approximately 30%.

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<sup>242</sup> See Ex. 208, at 12 (Ouanes Rebuttal).

<sup>243</sup> Tr. Evidentiary Hearing, at 91-92 (May 13, 2014).

<sup>244</sup> Ex. 30, JCHM-4 (Hoffman Malueg Rebuttal).

The result of MERC's improper classification of the mains account is that the cost of service for the residential class is overstated by nearly 2.5%. Mr. Nelson's testimony demonstrates that MERC's regression is inaccurate and unreliable because it contains excessive outliers, heteroscedasticity, and omitted variable bias. Mr. Nelson's analysis addresses the technical faults of MERC's study, adheres to the methodology accepted for cost of service studies accepted by the authorities in this field, and proposes a classification that is fair and reasonable for all classes. As a result, Mr. Nelson's recommendation would reduce the residential class's revenue deficiency by nearly 20%, or \$3.85 million.<sup>245</sup> The OAG requests that the ALJ recommend, and the Commission approve, classifying 30% of the Mains Account as customer costs, and 70% of the Mains Account as capacity costs.

Additionally, the OAG recommends that the Commission order MERC to collect data on additional variables in order to run a superior, or at least valid, zero-intercept analysis in future cases. Specifically, the OAG recommends that the Commission order MERC to (1) collect data on additional variables that impact the unit cost of mains installation as recommended by Mr. Nelson; (2) avoid aggregating or averaging data and use data at the finest level reasonable; (3) check OLS regression assumptions and correct for violations; and (4) make any future zero-intercept analysis more transparent to ensure that MERC's work can be easily replicated. The OAG does not consider any of these recommendations to be exceptional; rather, they represent the minimum steps that are necessary to conduct a valid zero-intercept study.

#### **IV. RATE DESIGN**

The OAG will next consider rate design issues.

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<sup>245</sup> Ex. 155, at 40 (Nelson Direct); Ex. 156, REN-17, at 19 (Schedules to Nelson Direct).

**A. REVENUE APPORTIONMENT SHOULD REMAIN STABLE.**

MERC and Department witness Susan Peirce have agreed on a proposed revenue apportionment.<sup>246</sup> Under their jointly proposed rate apportionment, the residential class would pay 96.6% of the cost as determined by the CCOSS.<sup>247</sup> But this recommendation is based on a class cost of service study that is rife with technical errors, as discussed in the previous section. The testimony of OAG witnesses Mr. Nelson has demonstrated that MERC incorrectly classified its distribution main expenses, which represent MERC's largest single investment, and its customer service expenses. In addition, the testimony of OAG witness Mr. Lindell shows that MERC's allocation of income tax expenses unreasonably shifts costs to the residential class in violation of the Commission's prior orders and basic accounting principles. For these reasons, MERC's class cost of service study dramatically overstates the costs caused by the residential and small C&I classes.

The OAG believes that a CCOSS that was updated to reflect the inaccuracies identified by Mr. Nelson and Mr. Lindell would show that residents are very close to paying 100% of costs under MERC's current apportionment. Adjusting the CCOSS to account for only Mr. Nelson's recommended mains classification would reduce the residential class's cost of service by almost 2.5%, and reduce the revenue deficiency of the residential class by approximately 20%.<sup>248</sup> After incorporating the OAG's recommendations for income taxes and customer service expenses, a corrected CCOSS could even indicate that the residential class is paying more than 100% of costs. It would be unreasonable to increase apportionment on the basis of a CCOSS that is unreliable and inaccurate. For that reason, the OAG recommends that there be no change to MERC's existing revenue apportionment.

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<sup>246</sup> Ex. 42, at 4 (Walters Rebuttal); Ex. 205, at 2–3 (Peirce Surrebuttal and Attachments).

<sup>247</sup> Compare Ex. 42, GJW-2 (Walters Rebuttal), with Ex. 203, at 11 (Peirce Direct and Attachments).

<sup>248</sup> Ex. 156, REN-17, at 19 (Schedules to Nelson Direct).

The OAG's recommendation is also supported by the Commission's directive to incorporate non-cost factors when designing rates.<sup>249</sup> These non-cost factors include, among others, the customers' ability to pay, customer acceptance of rates, historical continuity of rates, and the ability of some customer classes to pass costs on to others.<sup>250</sup> Each of these non-cost factors provides further justification for limiting rate increases for the residential and small C&I classes. The residential class contains many ratepayers who have no ability to pay increased utility costs, such as low income families and seniors living on a fixed income. MERC's request to increase the apportionment for the residential class, on this record, would be grossly inequitable because MERC's CCOSS is wildly inaccurate. The OAG requests that the ALJ recommend, and the Commission approve, that any revenue increase be collected using MERC's existing revenue apportionment. MERC's failure to provide an adequate record to support its request leaves no other reasonable option.

**B. THE CUSTOMER CHARGE SHOULD NOT BE INCREASED.**

In addition to its attempt to shift further costs onto the residential class, MERC attempts to unfairly increase the fixed charge that is required from customers each month regardless of whether or not they consume any gas. MERC has proposed an increase in its customer charge from \$8.50 to \$9.50 for the residential class, and from \$14.50 to \$18.00 for the small C&I class. This proposal would set MERC's customer charge at the highest level that ratepayers in the state of Minnesota have ever seen. The OAG recommends that the ALJ and the Commission reject MERC's proposal and make no change to the customer charge.

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<sup>249</sup> Findings of Fact, Conclusions of Law, and Order, *In the Matter of the Application of Dakota Electric Association for Authority to Increase Rates for Electric Service in Minnesota*, Docket No. E-11/GR-09-175, at 14 (May 24, 2010).

<sup>250</sup> *Id.*

Moderating increases to the customer charge achieves the Commission's important directive to "encourage energy conservation" by increasing the incentive to conserve.<sup>251</sup> Ratepayers can always reduce their monthly bills by reducing consumption. But that incentive is reduced when the customer charge is allowed to continually increase. In contrast, when the customer charge is kept stable, customers have a greater incentive to conserve because each dollar spent on conservation will have a comparatively greater effect on customer' bills. A low customer charge sends a stronger conservation signal to consumers.

MERC argues that an increased customer charge is important to guarantee the utility's revenue stability.<sup>252</sup> But that is simply not true. Every dollar of MERC's revenue is already guaranteed by the company's full decoupling mechanism. The customer charge has no effect on MERC's revenue stability because it is already fully stabilized. MERC also claims that an increased customer charge will benefit ratepayers by leveling winter and summer bills.<sup>253</sup> But, again, MERC has already fully accomplished this goal by providing an even payment plan as required by statute.<sup>254</sup> Customers have access to a completely leveled monthly bill if they want it. MERC has not identified any benefit it receives from increasing the customer charge because it already has the benefits it claims the customer charge will provide.

In contrast, residents lose out on the ability to control their utility bills with increased customer charges. Each time the customer charge is increased, customers give up more control over their bills. This concern is particularly significant for customers who are living on a low or fixed income. Department witness Ms. Peirce argues that the customer charge must be increased

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<sup>251</sup> Minn. Stat. § 216B.03.

<sup>252</sup> Ex. 42, at 10 (Walters Rebuttal).

<sup>253</sup> Ex. 42, at 9 (Walters Rebuttal).

<sup>254</sup> Minn. Stat. § 216B.098, subd. 2; Ex. 150, at 41 (Adopted Direct Testimony of Chavez by Lindell).



because a low customer charge will result in intra-class subsidies.<sup>255</sup> But neither Ms. Peirce nor any MERC witness can identify a single ratepayer who has ever complained of intra-class subsidies. And neither Ms. Peirce nor the utility have provided any quantitative analysis of what the effect of any intra-class subsidy might be.<sup>256</sup> In contrast, the Commission has historically recognized that customer charges are detrimental to consumers:

Customer charges tend to confuse and alienate customers, neutralize conservation incentives, burden low income households, and perpetuate pricing structures ill-suited to competition. . . . The *cardinal goals* in residential ratemaking are making rates understandable, making them easy to administer, and maintaining public confidence in their fairness. Customer charges work at cross purposes with these goals.<sup>257</sup>

Increasing the customer charge does not benefit MERC because it is already guaranteed its revenue requirement by the decoupling program. But increasing the customer charge would increase the confusion and alienation suffered by customers who do not understand why they continue to be charged when they consume no gas. On the other hand, holding the customer charge stable will allow the ratepayers to retain personal control over a larger portion of their utility bills and will contribute to the Commission's directive to maximize conservation by increasing consumers' incentive to conserve. For these reasons, the OAG recommends that the Commission maintain the customer charge at its current level of \$8.50 for the residential class and \$14.50 for the small C&I class.

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<sup>255</sup> Ex. 203, at 17 (Peirce Direct).

<sup>256</sup> See Ex. 150, at 41 (Adopted Direct Testimony of Chavez by Lindell).

<sup>257</sup> Findings of Fact, Conclusions of Law, and Order, *In the Matter of the Request of Interstate Power Company for Authority to Change its Rates for Electric Service in Minnesota*, Docket No. E-001/GR-95-601, 1996 WL 532195, at \*6 (Apr. 8, 1996) (emphasis added).

## CONCLUSION

For the foregoing reasons, the OAG makes the following recommendations:

1. Customer service expenses for the ICE 2016 Project should be deferred and excluded from rate base;
2. Bad debt expenses should be reduced to correct for MERC's overestimation and the current downward trend of these expenses;
3. Operating and management expense inflation should be estimated on the basis of internal inflation factors;
4. Property tax expenses should be reduced to reflect historical trends;
5. Net operating loss carryforward adjustments should be denied;
6. Travel and entertainment expenses should be denied recovery because MERC has not demonstrated that the expenses are reasonable and necessary in the provision of service and has failed to comply with statutory reporting requirements;
7. Unamortized rate case expenses should be removed from rate base because MERC did not request deferred accounting;
8. The transportation sales forecast should be adjusted upwards to account for historical trends;
9. MERC's return on equity should be 8.62% or, at minimum, within a reasonable range of 8.6% to 9.1%;
10. Customer service expenses should be allocated on the basis of a weighted customer allocator;
11. Income tax expenses should be allocated on the basis of income;
12. Distribution main expenses should be allocated on the basis of a zero-intercept study that satisfies technical requirements;
13. Revenue apportionment should remain stable; and

14. The customer charge should be maintained to allow ratepayers to retain control over their utility bills.

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Respectfully submitted,

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