

BEFORE THE MINNESOTA OFFICE OF ADMINISTRATIVE HEARINGS  
100 Washington Square, Suite 1700  
Minneapolis, Minnesota 55401-2138

FOR THE MINNESOTA PUBLIC UTILITIES COMMISSION  
127 7th Place East, Suite 350  
St. Paul, Minnesota 55101-2147

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In the Matter of the Petition of Excelsior )  
Energy Inc. and Its Wholly-Owned Subsidiary )  
MEP-I, LLC For Approval of Terms and )  
Conditions For The Sale of Power From Its )  
Innovative Energy Project Using Clean Energy )  
Technology Under Minn. Stat. § 216B.1694 )  
and a Determination That the Clean Energy )  
Technology Is Or Is Likely To Be a Least-Cost )  
Alternative Under Minn. Stat. § 216B.1693 )

**MPUC Docket No. E-6472-/M-05-1993**  
**OAH Docket No. 12-2500-17260-2**

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**REPLY BRIEF**  
**OF**  
**EXCELSIOR ENERGY INC.**

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## **I. INTRODUCTION**

The record in this case amply demonstrates that Minnesota’s vertically integrated utilities and their allies are united in their resistance to baseload innovation and competition.<sup>1</sup> In their testimony and initial briefs, the existing utility interests in the State have expressed their objection to the implementation of provisions of Minnesota law that further those two goals, by misstating the applicable legal standards,<sup>2</sup> muddling the record with inaccurate factual analyses,<sup>3</sup> and banding together to repeat a series of negative contentions based upon those legal misstatements and faulty factual analyses.<sup>4</sup>

In contrast to the incumbent stakeholders, Deputy Commissioner Garvey of the Minnesota Department of Commerce (“Department”) filed a letter (a copy of the letter is attached to this Reply Brief as Exhibit A) with the Department’s Initial Brief that properly refocuses the proceeding on what should be the remaining issues in this case. Commissioner Garvey states that the Project is a “worthy and important project offering cutting-edge technologies, potential environmental benefits and potentially significant job creation. However, the Department’s support cannot be unconditional. As with any other worthy proposal, it is necessary to balance benefits against direct costs and indirect financial risks to ratepayers.”<sup>5</sup>

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<sup>1</sup> This alliance is transparent. For example, MP advocates for Xcel on many issues in which it does not have a stake, including the protection of Xcel’s credit rating and stockholders. (MP Initial Brief, pp. 10–11). The Big Stone II Co-Owners filed a one-line statement of the case on August 14, 2006—reflecting collaboration in advance of the filing date with Xcel—simply agreeing with the statement of the case filed by Xcel on the same date.

<sup>2</sup> See Xcel Initial Brief, pp. 4, 6–12, 20–21, 31, 32, 37–39; MP Initial Brief, pp. 2, 17, 19–20, 23–26; Minnesota Center for Environmental Advocacy et al. (“MCEA”) Initial Brief, pp. 2, 6–8, 13; Xcel Large Industrials (“XLI”) Initial Brief, p. 2; Manitoba Hydro, pp. 3–5, 6, 7; Chamber Initial Brief, pp. 3, 7; MCGP Initial Brief, pp. 7, 10, 36; Department of Commerce Initial Brief, pp. 13–14, 16, 17, pp. 28–29, 36, 38, 39.

<sup>3</sup> See, e.g., MP Initial Brief, p. 7 (stating “Excelsior has not certified that the Mesaba Project will have a hedged, predictable cost”).

<sup>4</sup> This pattern is illustrated by the incumbent utilities’ misrepresentations of the record on emissions reductions achieved by IGCC technology, discussed in Section I in this Reply Brief.

<sup>5</sup> Letter from Minnesota Department of Commerce Deputy Commissioner Edward A. Garvey, Jan. 5, 2007, p. 1 [hereinafter Commissioner Garvey Letter].

Commissioner Garvey's letter recognizes the reality that developing a new coal-based facility and a power purchase agreement ("PPA") that appropriately balances the risks is a complex task. The letter reflects the Department's willingness to frame the remaining issues in a constructive manner in order to complete a clear record that will allow the Administrative Law Judges ("ALJs") to recommend approval of the PPA in order to bring the significant benefits of integrated gasification combined cycle ("IGCC") technology to Minnesota. Section II of this Reply Brief therefore addresses the concerns reflected in Commissioner Garvey's letter.

Section III of this Reply Brief addresses the key legal and factual errors that are reflected in the initial briefs of the incumbent utilities and allied interests. These errors are placed in new context by important information first supplied by Northern States Power Company ("NSP"), d/b/a Xcel ("Xcel") on January 3, 2007 regarding the proposed Sherco upgrades.<sup>6</sup> This new information, in particular, flatly contradicts the plant cost information that was used as a basis for the cost comparison calculations presented by Dr. Amit of the Department of Commerce and the system impact analysis presented by Xcel, and confirms much of the record evidence submitted by Excelsior with respect to cost, emissions, and Xcel's need for baseload capacity.

Finally, Section IV of this Reply Brief addresses legal claims made by Xcel in its Initial Brief.

## **II. RESPONSE TO COMMISSIONER GARVEY'S LETTER**

Commissioner Garvey discusses conceptual modifications to Excelsior's proposal in five areas, suggesting that: (1) the PPA should have an all-in price, stated in dollars per megawatt hour ("MWh") that is fixed for the life of the contract; (2) even more of the development, construction, and performance risks should be shifted to the Project than are currently borne by the Project

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<sup>6</sup> EE 1220 (Xcel Response to Excelsior Information Request No. 8, Xcel's Second Supplemental Response and Attachment) [hereinafter "EE 1220 (Sherco Filing)"].

under the PPA; (3) the Project should pay for the cost of procuring replacement power for all hours it is unavailable, in addition to forfeiting 100% of its revenue for each hour it does not meet the availability standards in the PPA; (4) the Project should capture and sequester 90% of the carbon dioxide emissions from the facility from the outset; and (5) the portion of the PPA approved under Minn. Stat. § 216B.1694 (“IEP Statute”) should be limited to 450 MW. These issues are addressed below.

### **A. Fixed Price/Operational & Financial Risk**

Commissioner Garvey suggests that an all inclusive price, stated in dollars per MWh and fixed over the life of the PPA, is in the best interests of ratepayers. Several cost components make up the total cost of energy under the PPA. The risk associated with the final cost of many of those components has already been assumed by the Project.<sup>7</sup> The record is clear that shifting all risks to the Project and requiring it to internalize all risks in an overall fixed cost of electricity will not be in ratepayers best interest since the cost of electricity required to assume all risks would be prohibitively high, without bringing commensurate benefits.<sup>8</sup> However, Excelsior understands Commissioner Garvey’s strong desire for price certainty, and in the interest of providing as much certainty as possible, Excelsior offers the following proposed further protections.

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<sup>7</sup> These include development and engineering costs, the costs of upgrades to site infrastructure, interest rate spreads, securing Federal tax credits in a competitive solicitation, and the fixed component of operation and maintenance expenses, which is fixed under the PPA, increasing only with inflation. *See* Excelsior Proposed Findings 521–539 and corresponding citations to the record (detailing the risks borne by the Project that would be borne by ratepayers in the context of a utility owned plant); *see also* EE 1039 (Osteraas Rebuttal Testimony), pp, 10–13; EE 1121 (Bodmer Rebuttal, public), EE 1122 (Bodmer Rebuttal, non-public), p. 55; EE 1025 (Section VI: Summary of Key PPA Terms and Conditions), p. 2; EE 1138 (Gale Rebuttal), p. 3 (describing how the PPA carefully allocates risks to achieve the optimal balance between cost and risk while maintaining the Project’s feasibility, yielding the lowest possible risk-adjusted cost of power).

<sup>8</sup> Excelsior Initial Brief, pp. 30–32; Excelsior Proposed Findings 521–539, 669 and corresponding citations to the record; EE 1138 (Gale Rebuttal Testimony), pp. 14–17, 21–23.

1. The capacity payment under the PPA

The record reflects that the capacity payment provided for in the PPA—which comprises approximately 2/3 of the total projected cost of energy from the project—is subject to a one-time adjustment, at the start of construction, to reflect changes in only three variables: (1) the final, certified price under the engineering, procurement and construction (“EPC”) contract; (2) base treasury interest rates; and (3) actual transmission costs incurred by the Project.<sup>9</sup> The risks associated with each of these three components are analyzed below.

*a. Final construction costs under the EPC contract*

In order to ensure discipline in the EPC contract, which is completed during the year of front-end engineering and design (“FEED”) work, Excelsior has committed to an “open book” process to complete engineering, conduct bids on the sub-contracts from vendors of various project components, and determine the final cost under the EPC contract, with participation by Xcel and the Department. The starting point for this effort is the design and costing work already conducted by Fluor and Excelsior to arrive at a plant design and a “target” EPC price. The plant design and pricing methodology has been a part of this record for more than a year.<sup>10</sup> No party has criticized the pricing methodology or the level of design detail offered. The four corners of the plant design are delineated in the detailed scope of facilities for the EPC contract included in the record as an attachment to the Rebuttal Testimony of Thomas L. Osteraas.<sup>11</sup>

All cost changes from the target EPC price set forth in the PPA will be subjected to scrutiny in this open-book FEED process. The parties, the independent engineer, and the owner’s engineer will participate in the actual selection of major sub-contractors and vendors, with full

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<sup>9</sup> See generally EE 1024 (Section V, non-public), Schedule I; Excelsior Proposed Findings 106, 461 and corresponding citations to the record.

<sup>10</sup> EE 1024 (Section V, non-public), Schedule I.

<sup>11</sup> EE 1040 (Osteraas Exhibit TLO-8); EE 1039 (Osteraas Rebuttal Testimony), p. 20.



understanding of the costs associated with each. Only changes in costs relating to the defined scope of facilities set forth in Exhibit EE 1040 (Osteraas Exhibit TLO-8) will lead to an adjustment to the Base Capacity Charge under the PPA.<sup>12</sup> The adjustment occurs pursuant to an indexation formula specified in the PPA, so there is no opportunity for Excelsior to include additional costs beyond those specifically delineated. Therefore, Xcel's assertion in its Initial Brief that "there is nothing in the Mesaba 1 PPA that limits what costs are included in the EPC Contract and these [total project cost, as opposed to the defined EPC cost] numbers could be included under the contract"<sup>13</sup> is incorrect, and is contradicted by the proposed terms of the PPA in the record.<sup>14</sup>

In order to accommodate Commissioner Garvey's concern about further price certainty under the PPA, Excelsior is amenable to a limitation in the PPA that would require separate Commission approval if the price adjustment based on the Final EPC Contract Cost is more than **[TRADE SECRET BEGINS    TRADE SECRET ENDS]**% of the Base Capacity Charge set forth on Schedule I to the PPA.<sup>15</sup> This change recognizes the realities involved in finalizing the cost of a large, baseload solid fuel power plant, while at the same time setting a cap on the increase that could occur without returning to the Commission for a separate approval. This change also addresses the "price certainty" issues raised by a number of the parties in their initial briefs.<sup>16</sup> The language required to effect this proposed change would be included in Schedule I to the PPA. For the convenience of the ALJs and the Commission, attached as Exhibit B to this Reply Brief is a complete copy of the proposed final PPA, marked to show changes from the

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<sup>12</sup> Excelsior Reply Brief, Exhibit B, Schedule I; EE 1025 (Section VI); EE 1039 (Osteraas Rebuttal Testimony), p. 20.

<sup>13</sup> Xcel Initial Brief, p. 24.

<sup>14</sup> Excelsior Reply Brief, Exhibit B, Schedule I; EE 1025 (Section VI); EE 1039 (Osteraas Rebuttal Testimony), p. 20.

<sup>15</sup> Excelsior notes that because the Capacity Price under the PPA accounts for approximately 2/3 of the total cost of electricity under the PPA, the proposed cap of **[TRADE SECRET BEGINS    TRADE SECRET ENDS]**% on the increase caused by the Final EPC Contract Cost corresponds to an approximate **[TRADE SECRET BEGINS    TRADE SECRET ENDS]**% increase in the cost of electricity under the PPA.

<sup>16</sup> Xcel Initial Brief, pp. 23–25, Attachment 1; Department of Commerce Initial Brief, pp. 23–27; MP Initial Brief, pp. 17, 22; Manitoba Hydro, pp. 9–10.

original PPA submitted for approval in December of 2005, with an annotated list at the beginning of the PPA showing where in the record each of the noted changes was proposed by Excelsior in response to issues raised by the other parties in this proceeding. Schedule 1 in the attached Exhibit B contains the price cap described in this paragraph.

*b. Base Treasury rates*

Base interest rates, which must be covered by the fixed payments represented by the capacity charge, are completely outside any party's control until they are fixed under the long-term financing agreements that the Project will enter into on the financial closing date. From the financial closing date through the end of the 25-year term of the PPA, the Project takes all interest rate risk. In addition, the PPA, as proposed, from today forward assigns all risks associated with credit spreads over the base treasury rate to Excelsior, as well as risks associated with all other financing costs. This approach balances the risks between the parties. Additionally, the risks to ratepayers are substantially less than interest rate risks borne by ratepayers in a utility-owned plant, which is financed by debt that is not fixed over the life of the plant.

Commissioner Garvey's goal of providing greater ratepayer certainty, by requiring the Project to take interest rate risk until notice to proceed is given, comes at too high a cost.<sup>17</sup> In order to support such a provision, the price quoted under the PPA would need to be increased to internalize this risk and preserve financing feasibility by accounting for higher interest rates that *could* occur in the future, without ratepayers receiving a commensurate benefit since base treasury rates could also go down between now and the financial closing for the Project.

*c. Transmission costs*

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<sup>17</sup> EE 1125 (Bodmer Surrebuttal Testimony, public), EE 1126 (Bodmer Surrebuttal Testimony, non-public), p. 32.

As described in more detail in Section III.H. of this Reply Brief, MISO has now confirmed that the transmission upgrades required for the Project to become a network resource are modest. While the final, actual construction costs associated with these upgrades are outside of the control of the Project, the MISO determination provides significant transmission upgrade price certainty by significantly reducing the likely amount of “unreimbursed transmission costs” that will flow through the PPA.<sup>18</sup>

In short, Excelsior has offered greater control over final EPC costs to the Commission through the imposition of a cap on the final EPC cost that can be passed through under the PPA. Transmission costs have been ascertained with greater certainty through the MISO process, addressing remaining concerns on this front. Meanwhile, requiring the Project to assume interest rate risk between now and the start of construction would introduce additional costs that do not offer corresponding ratepayer benefits. Once the one-time adjustment to the tariff is made at financial closing to adjust for these three factors, the Project will offer a fixed price contract that is carved in stone in advance of the four year construction period and 25-year term of supply under the PPA.

While this approach does not offer Commissioner Garvey a fixed price today, it is a measured means to arrive at a fully locked-in capacity payment at the start of construction, at a price that reflects the lowest risk-adjusted cost of power. The record demonstrates that this approach provides superior ratepayer protection compared to a rate-based arrangement.<sup>19</sup>

## 2. Operating costs and fuel management

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<sup>18</sup> See discussion in Section III.E.1.

<sup>19</sup> Excelsior Proposed Findings 521–549 and corresponding citations to the record; EE 1039 (Osteraas Rebuttal Testimony), pp. 10–13; EE 1121 (Bodmer Rebuttal, public), EE 1122 (Bodmer Rebuttal, non-public), p. 55; EE 1025 (Section VI: Summary of Key PPA Terms and Conditions), p. 2; EE 1138 (Gale Rebuttal), p. 3 (describing how the PPA carefully balances risks to achieve the optimal balance between cost and risk while maintaining the Project’s feasibility, yielding the lowest possible risk-adjusted cost of power).

The capacity charge, described in the preceding section, covers the fixed costs associated with the Project. Variable operating and fuel costs make up the remainder of the costs under the PPA—which are reflected in the energy charge.<sup>20</sup> The record reflects that variable operating costs are fixed and indexed to merely increase with inflation under the PPA.<sup>21</sup>

Fuel represents the largest component of the variable energy charge. The Department, as well as Xcel, MP, and MCGP all express a continuing concern about fuel management at the facility.<sup>22</sup> The utilities raise concerns that the procurement plan is outside of Xcel’s control and state that a long-term, plant-specific coal supply agreement is better than shorter term portfolio purchases.<sup>23</sup> Excelsior is not opposed to long-term fuel supply arrangements, but believes that costs will best be managed in the context of Xcel’s larger fuel portfolio and strategy, and therefore has proposed a fuel committee where Xcel directs the decisions and they are approved by the regulators in advance,<sup>24</sup> to ensure prudent administration of fuel supplies. This avoids an ill-considered decision to enter into a long-term, plant-specific coal contract that would not take full advantage of the Project’s unique fuel supply and transportation flexibility.

In the alternative, Excelsior would be amenable to a recommendation that the Commission modify the PPA to substitute Xcel’s standard fuel tolling language, which is familiar to all the parties and is contained in Xcel’s standard form PPA. It is important to note that NSP tolls natural gas under its gas facility PPAs. In that context, where the fuel price is inherently much more volatile than that of coal, Xcel takes direct responsibility for procurement of gas and delivery to the facility, and ratepayers bear all of the fuel price and supply risk associated with Xcel’s

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<sup>20</sup> EE 1025 (Section VI), pp. A-1 to A-5.

<sup>21</sup> EE 1034 (Section V, non-public), Section 8.2.

<sup>22</sup> Department of Commerce Initial Brief, pp. 25–27; Xcel Initial Brief, pp. 26–27; MP Initial Brief, pp. 7–8; MCGP Initial Brief, p. 36.

<sup>23</sup> Xcel Initial Brief, pp. 26–27; XE-2020 (Panzarino Direct, public), XE-2021 (Panzarino Direct, non-public), p. 2; MP Initial Brief, pp. 17, 21; MP 4006 (Crowley Direct), p. 10.

<sup>24</sup> Excelsior Reply Brief, Exhibit B, Sections 5.5, 10.9.

decisions. A PPA fuel tolling provision is very familiar to the Commission and the Department, so adding fuel tolling provisions to the PPA would be simple to implement in the event tolling is determined to be preferable to the fuel terms currently contained in the PPA.

3. Replacement power

Commissioner Garvey's comments reflect that ratepayers should be protected from situations where the supplier does not perform, including when it has operational problems.

Significant ratepayer protection from non-performance is offered by the PPA as proposed. As is established amply in the record, the Project is severely penalized for every day the plant is delayed, in the form of bearing carrying costs without any revenues to cover those costs.<sup>25</sup> The Project is also penalized 100% for every hour the plant does not meet the PPA availability standards, because the tariff is reduced proportionately.<sup>26</sup> In contrast, utility-owned, rate-based plants are not held to any annual availability standard, and the recovery afforded utilities is not reduced during outages, unless imprudency is alleged and proven.

Commissioner Garvey suggests that, in addition to the 100% revenue reduction the Project bears for every hour it does not meet online availability standards, the Project should pay for and provide replacement power to provide capacity and energy to Xcel.

A provision for replacement power would require that the Project have cash reserves on hand to allow it to procure capacity and energy in the open market every hour the plant is not available. This approach would result in waste, because it ignores the fact that Xcel's system operates as a whole, and has built in reserve margins to deal with plant outages. Xcel recently confirmed this fact in connection with its ongoing forced outage at its Monticello nuclear plant. The January 17, 2007 edition of the Star Tribune reported that, "Xcel Energy spokeswoman Mary

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<sup>25</sup> EE (Osteraas Rebuttal), pp. 10–13 (noting that Mesaba One will not receive payments until it delivers power); EE 1025 (Section VI), pages A-1 to A-5.

<sup>26</sup> See Excelsior Proposed Findings 584, 593 and corresponding citations to the record.

Sandok said the temporary loss of Monticello’s power will not significantly affect the supply or price of electricity. ‘Because it’s just one of many plants, we do not expect that it will raise the average cost of electricity dramatically for our customers.’”<sup>27</sup> Expert testimony in the record confirms that imposing the additional costs on the Project to maintain cash reserves for replacement power would not provide corresponding ratepayer benefits.<sup>28</sup>

Additionally, the Project offers a back-up product not available from a conventional coal plant, in the form of built-in back-up capacity for every hour the gasification island is not available, but the power island is available on natural gas. Despite many parties’ misguided efforts to turn this feature into a negative,<sup>29</sup> the separate natural gas back-up product offers real protection to ratepayers from the very risks that form the basis for Commissioner Garvey’s request for replacement power payments. No other baseload plant on Xcel’s system offers such a unique insurance policy to consumers.

Finally, the passionate advocacy of the parties as to the superiority of Xcel’s “Plan A”—which is to rely exclusively on natural gas-fired capacity through at least 2015 to meet the growing baseload demand—completely undercuts the parties’ insistence that Xcel’s customers will be irrevocably harmed if the Project is not required to supply replacement power.<sup>30</sup> If the argument of Xcel, the Minnesota Chamber of Commerce (“Chamber”), MP, and the Department about the lack of need were valid, then every day the Project is delayed or Xcel can avoid coal-priced power and instead rely on natural gas-fired generation would result in cost savings to consumers. The fact that the parties argue strenuously at the same time for delay of baseload and for replacement

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<sup>27</sup> Tom Meersman, *Nuclear Plant at Monticello Shut Down Indefinitely*, STAR TRIBUNE, Jan. 17, 2007, available at <http://www.startribune.com/462/story/940767.html>.

<sup>28</sup> EE 1121 (Bodmer Rebuttal, public), EE 1122 (Bodmer Rebuttal, non-public), p. 62.

<sup>29</sup> Xcel Initial Brief, pp. 30–31; Department of Commerce Initial Brief, pp. 25–26; MCC 7000 (Blazar Rebuttal), p. 6.

<sup>30</sup> Compare: DOC 3000 (Amit Direct – Public) and DOC 3010 (Amit Direct – Non-Public), pp. 9, 14, 16; DOC 3018 (Amit Surrebuttal – Public) and DOC 3023 (Amit Surrebuttal – Non-Public), pp. 24; MCC 7000 (Blazar Reply), p. 6; MCC 7002 (Blazar Surrebuttal), p. 8 (referring to Xcel’s response to MCC IR 19); MP 4000 (Anderson Direct), p. 13; and XE-2005 (Hyde Revised Direct – Public) and XE-2005 (Hyde Revised Direct – Non-Public) pp. 18, 20.

power damages due to higher cost gas-fired generation totally undercuts their credibility on both fronts.

### **B. Carbon Capture and Sequestration Under the PPA**

Commissioner Garvey suggests that 90% carbon capture and sequestration be mandated immediately by the Commission, presumably for all new fossil-fuel-fired generation additions. This recommendation highlights the importance of the inherent flexibility of IGCC to respond to constraints on carbon dioxide emissions that are likely during the life of any energy facility. The record is uncontested on IGCC's cost advantage over other coal and natural gas-fired technologies in meeting future limits on carbon dioxide emissions.<sup>31</sup>

Commissioner Garvey's recommendation would blaze a trail, ahead of the U.S. Environmental Protection Agency, which is currently before the U.S. Supreme Court addressing whether the EPA has authority to regulate carbon emissions in the absence of explicit statutory authority.<sup>32</sup>

If adopted, a 90% carbon mitigation requirement for all fossil fuel plants would result in an immediate stop to all conventional coal developments—and perhaps all gas-fired plants as well, making the imperative for deployment of IGCC all the more urgent.<sup>33</sup> Excelsior witness Professor

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<sup>31</sup> Excelsior Proposed Findings 338, 340, 341, 343–345, 347 and corresponding citations to the record; Xcel Initial Brief, p. 5; Department of Commerce Initial Brief, p. 41; MCEA Initial Brief, p. 9.

<sup>32</sup> *Massachusetts, v. Env'tl Protection Agency*, (Docket 05-1120) (on appeal from 415 F.3d 50 (D.C. Cir. 2005)).

<sup>33</sup> Exempting gas-fired facilities from the carbon mitigation requirement would not help with the goal of absolute, fleetwide carbon dioxide reductions. In addition, exempting gas-fired plants would create an entirely new category of energy security issues. Professor Daniel Schrag, Director of the Harvard University Center for the Environment, states that,

[d]emand for natural gas is . . . increasing faster than new discoveries, creating greater dependence on the hydrocarbon-rich regions of the world including Russia and the Middle East. Concerns about energy security have played a central role in geopolitical conflicts for more than a century, and the potential for future conflicts increasingly animates international tensions.

EE 1119 (Schrag Supplemental Testimony), p. 3. These geopolitical realities compound the significant risk, detailed in the record in this docket, that new sources of natural gas may simply not materialize in the volumes necessary to

Daniel Schrag cautions against the notion that coal can be excluded from the mix as a means to reduce carbon emissions, stating, “*Coal is an essential source of energy for the US over the next 50 years. One cannot create an energy plan for the US without relying heavily on coal.*”<sup>34</sup> Therefore, as Professor Schrag states, “[t]he climate problem is a coal problem.”<sup>35</sup>

Professor Schrag defines the choice before utilities as either selecting conventional coal resources and then working to delay carbon regulations, with the risk that the facility will be shut down when carbon constraints are imposed, or adopting IGCC now.<sup>36</sup> He compares the selection of a conventional coal plant today to the selection of gas-fired facilities that did not account for high gas prices in the investment decision and are idled as a result.<sup>37</sup>

In contrast to Commissioner Garvey’s bold—but technically and economically premature—suggestion to require 90% carbon dioxide capture and sequestration from all fossil-fuel facilities today, Professor Schrag identifies an alternative path for Minnesota respecting carbon constraints. He concludes that requiring carbon capture from IGCC today, when there is no corresponding benefit to consumers, does not “make sense.”<sup>38</sup> He also cautions that adding

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fire the gas-fired fleet, given the significant challenges associated with the LNG supply chain. *See, e.g.*, Excelsior Proposed Findings 177–234 and corresponding citations to the record.

<sup>34</sup> EE 1119 (Schrag Supplemental Testimony), p. 5 (emphasis in original).

<sup>35</sup> ENV 6022 (J. Shaw, *Fueling Our Future*, HARV. MAG., May–June 2006, at 43).

<sup>36</sup> Professor Schrag states that “the current stock of coal-fired power plants that were not designed with carbon capture in mind may preclude carbon sequestration, or at least make it very expensive.” EE 1119 (Schrag Supplemental Testimony), p. 6. Additionally, he observes that,

some companies have decided to invest in traditional, pulverized coal plants because they are less expensive to build, and then work towards making sure that the carbon regulations will be long in arriving. However, this may also mean that these plants will have to shut down if action on climate change occurs more quickly than anticipated. The investment in IGCC technology may be more expensive, but IGCC will provide a more stable price for electricity in the future as the cost of reducing carbon emissions, when carbon regulation does occur, will be much more manageable.

*Id.* at 7.

<sup>37</sup> EE 1119 (Schrag Supplemental Testimony), pp. 8–9.

<sup>38</sup> EE 1119 (Schrag Supplemental Testimony), p. 8.



conventional coal capacity is ill-advised.<sup>39</sup> Instead, he recommends adding IGCC to the mix now, but waiting until carbon limits are actually imposed and the Department of Energy's research and development efforts bring costs down.<sup>40</sup>

Consistent with the approach recommended by Professor Schrag, Excelsior has proposed three new covenants to the PPA that legally bind the Project to undertake the work referenced in the Project's Carbon Management Plan.<sup>41</sup> As the Project's Carbon Management Plan describes in more detail, the Project will commit \$2 million of its renewable development fund award to necessary research and development and will complete its collaboration with the Department of Energy's Plains CO<sub>2</sub> Reduction Partnership and the Energy & Environmental Research Center to finalize the full plans and specifications to implement carbon capture and sequestration at the Project. A concrete plan will then be proposed to the Commission. The Commission can then order carbon capture and sequestration at the point where carbon constraints are imposed and the Commission determines that it is cost-effective to adjust the tariff under the PPA to cover the net costs, if any, required to undertake capture and storage. These legally binding terms—the first binding commitment relating to carbon dioxide from a fossil fuel plant anywhere in the nation—provide an appropriate balance between ensuring the ability to pursue cost-effective carbon capture and sequestration when carbon constraints are imposed, and achieving a financeable project today, at a time when there is no corresponding benefit to the cost of current capture.

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<sup>39</sup> EE 1119 (Schrag Supplemental Testimony), p. 9.

<sup>40</sup> Professor Schrag states that “[s]uch an investment does not make sense in advance of actual regulations controlling carbon dioxide emissions. EE 1119 (Schrag Supplemental Testimony), p. 8. Unless a revenue-generating project, like enhanced oil recovery, is available to transport and sequester carbon dioxide, consumers would simply pay a higher price for electricity without any real benefit. Moreover, the Department of Energy is still working with various parties to develop the optimal capture technology for an IGCC plant, so waiting may result in better and cheaper designs. When the political will exists to regulate carbon at the level that carbon sequestration is economical, then fitting an IGCC plant with appropriate devices to capture the carbon should be relatively straightforward.” *Id.*

<sup>41</sup> See Sections 14.1(H)-(J) of the PPA, as set forth in Exhibit B to this Reply Brief.

### **C. Size of the PPA**

Commissioner Garvey's letter suggests that if the IEP Statute is used for the sole justification of the Project, the PPA should be limited to 450 MW,<sup>42</sup> and he notes that "[a]ny PPA amount beyond 450 MW may be considered pursuant to Minn. Stat. 216B.1693."<sup>43</sup> Excelsior is amenable to this approach, and Excelsior's original Petition and its Proposed Findings contemplate approval of the first 450 MW of the PPA under the IEP Statute and the remaining 153 MW of the PPA under Minn. Stat. § 216B.1693 ("CET Statute").<sup>44</sup> Excelsior notes that, in the alternative, the Commission is empowered by the IEP Statute to approve the entire 603 MW under that statute alone,<sup>45</sup> but the Commission need not reach that question. Because the only credible plant-to-plant comparative cost evidence in the record is uncontroverted, and demonstrates that IGCC is a least-cost resource for Xcel today,<sup>46</sup> the remaining 153 MW is mandated separately by the CET Statute. Therefore, approval of the entire 603 MW PPA under the IEP and CET Statutes as requested by Excelsior is consistent with Commissioner Garvey's letter.

### **III. CORRECTING THE RECORD**

When evaluating the extensive record amassed in this proceeding, it is important not to confuse repetition of an incumbent's misstatements about applicable legal standards or factual matters by other allied stakeholders with what is the true weight of competent evidence. Avoiding this confusion is particularly important in resolving the contested legal and factual issues in this case. This Section III, by topical area, replies to mischaracterizations of the principal issues in the

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<sup>42</sup> Commissioner Garvey Letter, p. 1.

<sup>43</sup> *Id.* at 2.

<sup>44</sup> EE 1002 (Petition for Approval of a PPA Determination that Clean Energy Technology is or is Likely to be a Least-Cost Resource, and Establishment of the CET Minimum), pp. 13–14; Excelsior Proposed Conclusions of Law 9.

<sup>45</sup> Order on [XLI's] Motion for Summary Disposition, Oct. 25, 2006, p. 5.

<sup>46</sup> Excelsior Proposed Findings 302–327, 332–334, 338–347 and corresponding citations to the record; EE 1090 (Cortez Direct); EE 1016 (Exhibit F: Fluor Report, public), EE 1017 (Exhibit F: Fluor Report, non-public); EE 1018 (Exhibit G: Fluor Report Addendum, public), EE 1019 (Exhibit G: Fluor Report Addendum, non-public).

record made by the incumbent utilities and other allied stakeholders in their initial briefs, and discusses the relevance of new information that became part of the record in this proceeding after the initial briefs were filed on January 5, 2007.

#### **D. Cost**

The initial briefs once again confirm that no party disputes the detailed comparative “plant-to-plant” cost evidence from the most qualified source, Fluor.<sup>47</sup> The comparative cost analysis presented in Section III of Excelsior’s original December 2005<sup>48</sup> filing remains uncontroverted, and the ALJs necessarily should adopt Excelsior’s Proposed Findings 302–27,<sup>49</sup> confirming that the record demonstrates that IGCC is a least-cost resource today, and that it is certainly likely to be a least-cost resource in the future as ever-stricter environmental regulations take effect.

Section 1 below demonstrates that new information in the record further validates Fluor’s comparative cost analysis. This new information also invalidates the cost assumptions provided by the utilities to the Department, which form the basis for the only other cost analysis in the record.

Section 2 below addresses MCGP’s false assertion that there is new cost information regarding the Project that is not reflected in the record, and confirms that the \$2.1 billion total project cost basis that has been a matter of public record throughout this proceeding is identical to the cost basis under consideration in this docket. Excelsior also demonstrates that Xcel has knowingly used MCGP’s false information in a manner that impeaches its credibility in this proceeding.

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<sup>47</sup> EE 1006 (Section III, public), EE 1007 (Section III, non-public); EE 1090 (Cortez Direct); EE 1016 (Exhibit F: Fluor Report, public), EE 1017 (Exhibit F: Fluor Report, non-public); EE 1018 (Exhibit G: Fluor Report Addendum, public), EE 1019 (Exhibit G: Fluor Report Addendum, non-public); Excelsior Proposed Findings 302–327 and corresponding citations to the record.

<sup>48</sup> EE 1006 (Section III, public), EE 1007 (Section III, non-public).

<sup>49</sup> Xcel in its Initial Brief continues to baldly ignore the only compelling plant-to-plant cost evidence in the record, and therefore mischaracterizes the record, saying “the record shows that Mesaba 1 LLC is not a least-cost resource.” Xcel Initial Brief, p. 16 n. 16. Xcel is apparently referring only to its own system cost analysis, which is legally irrelevant in this proceeding, as described in Section III.C.

1. The Sherco upgrade filing—reflecting \$905 million in bare, unadjusted, overnight costs—substantiates Fluor’s SCPC cost build-up, impeaches the Department’s cost analysis, and confirms that IGCC is least-cost

The only plant-to-plant cost analysis in the record, other than the detailed studies by Fluor and Excelsior witness Edward C. Bodmer and testimony demonstrating that IGCC is least-cost, was that undertaken by Dr. Eilon Amit of the Department of Commerce.<sup>50</sup> Dr. Amit based his entire analysis on superficially low cost assumptions provided by the utilities for a hypothetical new Sherco 4 unit and Big Stone II unit. The flaws in the cost assumptions supplied by the utilities are well documented in expert testimony in the record.<sup>51</sup>

Recent additions to the record now demonstrate that the utilities themselves do not stand by the assumptions they provided to Dr. Amit. The Big Stone II Co-Owners in their Initial Brief urge the Commission not to adjudicate the comparative cost of Big Stone II and the Project in this docket.<sup>52</sup> Further, on January 2, 2007, Xcel filed with the Commission a plan to retrofit and life-extend Sherco, which would result in an increase of 140 MW of capacity, at a total estimated overnight construction cost of \$905 million.<sup>53</sup> Xcel’s analysis in the Sherco filing provides dramatic evidence that unequivocally validates the comparative cost evidence presented by Fluor, invalidates the cost assumptions provided by Xcel to Dr. Amit for Sherco 4 (as those assumption are substantially lower than what Xcel currently asserts is realistic for Sherco), and establishes that

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<sup>50</sup> See Department of Commerce Initial Brief, p. 27. Other parties relied on Dr. Amit’s analysis. See Xcel Energy Initial Brief, pp. 19–20; MP Initial Brief, p. 21; Big Stone II Co-Owners Initial Brief, pp. 9–10.

<sup>51</sup> See Excelsior Initial Brief, pp. 23–28; Excelsior Proposed Findings 469–490, 502–510 and corresponding citations to the record.

<sup>52</sup> Rather than embracing Dr. Amit’s cost assumptions for the Big Stone II plant and encouraging the ALJs to make cost findings for Big Stone II based upon Dr. Amit’s analysis, in their initial brief the Big Stone II Co-Owners strongly say, “the ALJs and the Commission should not make specific, direct findings with regard to the absolute costs of Big Stone II.” Big Stone Co-Owners Initial Brief, p. 8. Excelsior has not submitted any proposed findings about the actual costs of Big Stone II because Excelsior agrees with the Big Stone II Co-Owners that the cost estimates used by Dr. Amit are preliminary estimates that do not reflect the actual costs that the Big Stone II Co-Owners will seek to recover once construction of the plant is complete. Unlike the Mesaba PPA where construction costs will be fixed and certain at the start of construction, there is significantly less price certainty for Big Stone II customers since the final bill for that plant will not be known until construction is completed.

<sup>53</sup> EE 1220 (Sherco Filing), p. 4-3.

even after Xcel seeks recovery of well over a billion dollars from ratepayers,<sup>54</sup> Mesaba One will still achieve significantly lower emissions than the *post-retrofit* Sherco plant.<sup>55</sup>

Xcel attributes \$326 million of the total \$905 million cost estimate to the cost of the 140 MW of new capacity provided by the retrofit. This translates into an overnight construction cost of \$2312/kW.<sup>56</sup>

All of the figures quoted throughout the Sherco upgrade filing refer to bare “unadjusted overnight” capital costs.<sup>57</sup> These unadjusted overnight costs are the equivalent of what Excelsior refers to as “overnight” costs and what Fluor refers to as “EPC” costs for a supercritical pulverized coal (“SCPC”) plant in its analysis. Below is a comparison of the overnight cost numbers in the record in this proceeding and the comparable costs reflected in Xcel’s Sherco analysis:

Mesaba IGCC	[TRADE SECRET BEGINS SECRET ENDS] <sup>58</sup>	TRADE
Fluor SCPC	[TRADE SECRET BEGINS SECRET ENDS] <sup>59</sup>	TRADE
Sherco 4 New Capacity	\$2312/kW <sup>60</sup>	

“Overnight” costs represent the bare construction costs of a facility. These costs are a subset of the total costs associated with financing, constructing and operating a power plant.<sup>61</sup>

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<sup>54</sup> In describing the quoted \$905 million figure, footnote 7 on page 4-2 of Xcel’s Sherco Filing says, “This figure is based on 2006 dollars and represents the unadjusted overnight cost. This amount must be adjusted [in other words increased to provide recovery for the significant project costs in excess of the bare overnight cost] using standard ratemaking tools as described in Chapter 6 to determine the amount to be recovered through rates.” Xcel will undoubtedly seek to recover well more than \$1 billion through customer rates when Xcel files for recovery of the total project costs.

<sup>55</sup> See Figures 1 and 2, in this Reply Brief.

<sup>56</sup> EE 1220 (Sherco Filing), p. 4-3.

<sup>57</sup> EE 1220 (Sherco Filing), p. 4-3.

<sup>58</sup> EE 1006 (Section III, public), EE 1007 (Section III, non-public), p. 4.

<sup>59</sup> EE 1018 (Fluor Report, public), EE 1019 (Fluor Report, non-public), p. A7.

<sup>60</sup> EE 1220 (Sherco Filing), p. 4-3.

<sup>61</sup> Total engineering, procurement and construction (“EPC”) costs are higher than the overnight costs, because final EPC prices cover the cost of escalation during the construction period, as well as risk fees and other payment for services provided by the contractor. See EE 1016 (Exhibit F: Fluor Report, public), EE 1017 (Exhibit F: Fluor Report, non-public), p. 18. Additional “soft” costs are incurred in any construction project. These soft costs include initial

Parties often use \$/kW overnight costs as a basis for comparison of different resource options because the overnight costs are the largest single cost component of a project and it is assumed that the various additional cost categories, while material, will remain constant in a given type of resource, regardless of the specific plant alternative ultimately selected.

Ultimately, the cost of electricity from a particular project must be sufficient to cover the total project costs. In this proceeding Excelsior and Fluor have taken the overnight costs listed above for Mesaba One and the Fluor SCPC plant, provided a cost build up of the other costs described above, and calculated the associated cost of electricity.<sup>62</sup> The Fluor analysis demonstrates that the output from Mesaba One is competitive with the energy from a new SCPC plant with a full suite of environmental control equipment, using Fluor's [TRADE SECRET BEGINS           TRADE SECRET ENDS] overnight cost.<sup>63</sup>

Xcel's new Sherco cost information demonstrates that Xcel expects that the costs of new SCPC capacity will be significantly higher than the costs estimated by Fluor. Therefore, IGCC is least-cost even if the Project's overnight costs were materially higher than those used in Fluor economic comparison.

This cost evidence completely invalidates the assumptions provided by Xcel and used by Dr. Amit as the basis for his cost comparison. The costs of Mesaba One as set forth in the record of this proceeding are well within the bounds of the reasonable, and in fact are less than Xcel expects to incur to expand its existing coal-fired generation at Sherco.

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development costs (such as engineering, permitting and other development costs that the owner incurs prior to the start of construction ), owner's costs during construction (such as insurance costs and project management costs), preoperational costs (such as startup costs, inventory costs, and working capital costs) financing costs related to debt and equity (such as closing costs on loans, upfront guarantee fees, interest during construction—or AFUDC—and any debt service reserves), and additional third party consultant costs and contingency.

<sup>62</sup> EE 1006 (Section III, public), EE 1007 (Section III, non-public).

<sup>63</sup> EE 1006 (Section III, public), EE 1007 (Section III, non-public); EE 1016 (Exhibit F: Fluor Report, public), EE 1017 (Exhibit F: Fluor Report, non-public); EE 1018 (Exhibit G: Fluor Report, public), EE 1019 (Exhibit G: Fluor Report, non-public).

In addition, Xcel's Sherco analysis reflects an implicit assumption by Xcel that SCPC capacity cost will be will even more than the higher \$2312/kW number analyzed above. Xcel analyzes various retrofit alternatives and recommends the option with the largest capacity addition, even though the overnight construction cost of the incremental capacity, as compared to the retrofit option with a smaller capacity addition, is \$3506/ kW.<sup>64</sup> Xcel advocates for this capacity, costing [TRADE SECRET BEGINS            TRADE SECRET ENDS] more than the projected overnight price for Mesaba One, even though the post-retrofit emissions of Sherco will continue to greatly exceed Mesaba One's emission profile.<sup>65</sup>

Finally, Xcel also gives clear notice at page 5-1 of its Sherco upgrade filing that stakeholders in Minnesota should brace themselves for a long series of multi-billion dollar special emission reduction rate riders over the coming decade, saying, "During the next 12 years, Xcel Energy will be required to make a number of major environmental improvements to its generating facilities to comply with upcoming regulations." This statement once again highlights the immense intrinsic value of IGCC's inherently lower criteria pollutant emission profile that acts as a hedge against ever-increasing environmental regulations, even ignoring the implications of coming carbon dioxide regulation.

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<sup>64</sup> In Table 3-1 of the Sherco upgrade filing Xcel includes unadjusted overnight cost estimates for the four different options it considered in evaluating Sherco expansion opportunities. EE 1220 (Sherco Filing), p. 3-3. Option 2 in Table 3-1 would yield a 78.8 MW capacity expansion for \$108.4 million. Option 4, Xcel's recommended option, would yield a 141 MW capacity expansion for \$326.5 million. Because Xcel is recommending Option 4 over Option 2, Xcel is implicitly and necessarily arguing that the additional 62.2 MW of capacity (141 minus 78.8) for the additional \$218.1 million (\$326.5M minus 108.4M) is worth the incremental \$3,506/ kW (\$218.1M divided by 62.2 MW) unadjusted overnight cost increase.

<sup>65</sup> See Figures 1 and 2 in this Reply Brief for a summary of the comparative emissions profile of Mesaba One and the post-billion dollar retrofit to Sherco.

2. Xcel impeaches its credibility by endorsing MCGP's factual misrepresentations of the total costs of the Project

There is no discrepancy between the cost information provided by Excelsior to the Department of Energy, cited by MCGP,<sup>66</sup> and the cost information that is the subject of this docket. MCGP makes repeated reference to the Project's approximately \$2.1 billion total project cost figure in support of the false proposition that the Project's costs have increased dramatically since the filing of the Petition.<sup>67</sup> All of the cost information in the record, including the analysis conducted by Excelsior and the other parties, is based upon the \$2.1 billion total project cost figure quoted by MCGP.

MCGP may be confused on this issue. Xcel cannot claim to be similarly confused. Xcel knows that all of Excelsior's cost evidence and analysis in this proceeding is based on the approximately \$2.1 billion total cost figure that MCGP repeatedly references, and Xcel understands fully how that figure breaks down into various cost components.<sup>68</sup> Rather than clarifying the record on this point, Xcel encourages confusion by citing MCGP's incorrect \$/kW calculation of the Project's construction costs in its Initial Brief as though it were fact.

Xcel directly acknowledges the falsity of this information in its Initial Brief. It states that "Xcel Energy recognizes that using [sic] the \$2.156 billion or \$3,593/ kW estimated cost in calculating the Capacity Price are not the construction costs estimated by Mesaba 1 LLC."<sup>69</sup>

Xcel then proceeds to use this admittedly false information as though it is credible evidence. At page 24 of its Initial Brief, quoting MCGP, as though it is new information to Xcel, Xcel claims that "Other data suggests that Mesaba 1 LLC's total project costs are approximately

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<sup>66</sup> MCGP Initial Brief, p. 1.

<sup>67</sup> MCGP Initial Brief, pp. 1-2, 10-13.

<sup>68</sup> In addition to the fact that the Department of Energy has publicly disclosed Mesaba One's total project cost number, Xcel through discovery in this proceeding reviewed all of Excelsior's cost inputs and assumptions, including the fact that total project costs are approximately \$2.1 billion.

<sup>69</sup> Xcel Initial Brief, p. 24.



\$2.156 billion in 2005 dollars.” Xcel uses this reference to the incorrect MCGP “construction cost” number as a basis to support the notion that the capacity price for Mesaba One may dramatically increase, perhaps by as much as 55% if the “Final EPC Contract Cost” under the PPA is based on approximately \$2.156 billion or \$3,593/kW. Xcel knows the “Final EPC Contract Cost” under the PPA is derived from the overnight cost figure (*i.e.* [TRADE SECRET BEGINS

TRADE SECRET ENDS]), and *not* from the total project cost number (*i.e.* \$3,593/kW).<sup>70</sup>

Xcel then deliberately exports the confusion it has created to the Sherco docket. Xcel misleadingly and disingenuously includes the following table in its Sherco filing that purports to compare overnight costs for the listed projects:

**TABLE 4-1**  
**COST COMPARISONS**

<b>Project</b>	<b>Size (Gross MW)</b>	<b>Cost</b>	<b>Cost/ kW</b>
Big Stone II	600	\$1.25 billion	\$2,083
Mesaba Unit 1	603	\$2.155 billion	\$3,574
Sherco Upgrades	140	\$326 million	\$2,312
Sherco Upgrades, Environmental and Life Extension	2,243	\$905 Million	\$403

Nowhere in the Sherco filing does Xcel reference the fact that it recognizes that the Mesaba One cost/kW number is false, in contrast to its admission of that fact in this docket. As discussed above, the appropriate “apples-to-apples” number that Xcel should have included in the above chart for Mesaba One is [TRADE SECRET BEGINS TRADE SECRET ENDS]. In

<sup>70</sup> See Xcel Initial Brief, pp. 24–25 and Attachment 1; See also MCGP Initial Brief, p. 1; MCGP 5055 (DOE Notice of Financial Award and Agreement, May 23, 2006).

any event, Excelsior's proposed cap on the Capacity Price adjustment under the PPA makes Xcel's misleading statements moot.<sup>71</sup>

It is nonetheless troubling that Xcel adopts and incorporates figures that it knows to be false into its analysis, seriously impeaching its credibility in this proceeding and violating the Commission's directive to build a clear record in this case.

Despite these unconstructive efforts, the new information in the record firmly confirms again that the Fluor and Bodmer evidence on the comparative costs of SCPC and IGCC technologies is the only credible evidence that is relevant to the determination by the Commission as to whether IGCC "is or is likely to be a least-cost resource."

#### **E. Emissions**

The incumbent utilities opposing the Mesaba Project in this proceeding have gone to great lengths to minimize the significance of the emissions reductions achieved by the Project's IGCC technology. Meanwhile, these same incumbents are seeking cost recovery for expensive capacity additions and environmental retrofits to their own traditional pulverized coal plants, justifying the prudence of their expenditures with claims of "significantly reduced emissions."<sup>72</sup> However, *even after* at least \$905 million dollars are expended on upgrades to Xcel's Sherco pulverized coal units, Mesaba One will be the cleanest coal plant in Minnesota by a significant margin.<sup>73</sup> Xcel and MP are fully aware of the superior emissions profile of Mesaba One. Both resort to gross mischaracterizations of the record on emissions in support of traditional pulverized coal technologies. Their initial briefs confirm that they will "stop at nothing" to defeat the Mesaba Energy Project,<sup>74</sup> including the willingness to undercut their credibility by mis-characterizing

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<sup>71</sup> See Section II.A.1.a. and the Revised PPA, Schedule 1, attached as Exhibit B to this Reply Brief.

<sup>72</sup> See, e.g., EE 1220 (Sherco Filing), p. 5.

<sup>73</sup> See Figures 1 and 2 below.

<sup>74</sup> See EE 1137 (Chen Rebuttal Testimony), p. 5.

objective data. For instance, Xcel goes so far as to say “*Nothing* in the record supports a finding that Mesaba 1 LLC has satisfied its burden of proving that Mesaba Unit 1 will have significantly reduced sulfur dioxide, nitrogen oxide, particulate, and mercury emissions when compared to traditional technologies.”<sup>75</sup>

1. Xcel’s assertion that the Mesaba One “emissions profile is not materially better than other traditional technologies” cannot be reconciled with Xcel’s recent compliance filing regarding the Sherco upgrades; Mesaba One will be the cleanest coal plant in Minnesota, even after retrofits are implemented to the existing fleet

In its Initial Brief, Xcel claims that because “the emissions profile is not materially better than other traditional technologies, IGCC technology must offer something else to justify its higher cost.”<sup>76</sup> However, as justification for the minimum \$905 million price tag on its recently proposed emissions reduction program for the Sherco pulverized coal facilities, Xcel touts the “significant emissions reductions” that will be achieved post-retrofit.<sup>77</sup> If the Sherco retrofit emissions reductions are “significant” compared to the “traditional” pulverized coal technology currently in operation at Sherco, then the emissions reductions that will be achieved by Mesaba One are more than “significant”—even “dramatic” in comparison.

As Figures 1 and 2 demonstrate, Mesaba One achieves significant emissions reductions compared to Sherco, *even after* the minimum \$905 million of investment in retrofits and upgrades. Mesaba One will emit 84% less sulfur dioxide, 32% less nitrogen oxide, 21% less mercury, and 47–73% less particulate matter<sup>78</sup> per megawatt hour than *post-retrofitted* Sherco. In fact, as the

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<sup>75</sup> Xcel Initial Brief, p. 33 (emphasis added). As numerous graphic illustrations in the record since December 2005 demonstrate, including the graphic illustrations in this section of this Reply Brief comparing Mesaba emissions to Xcel’s post-billion dollar retrofit of Sherco, the only conclusion that can be reached based upon the record in this proceeding is that the Project will significantly reduce emissions from traditional coal technologies.

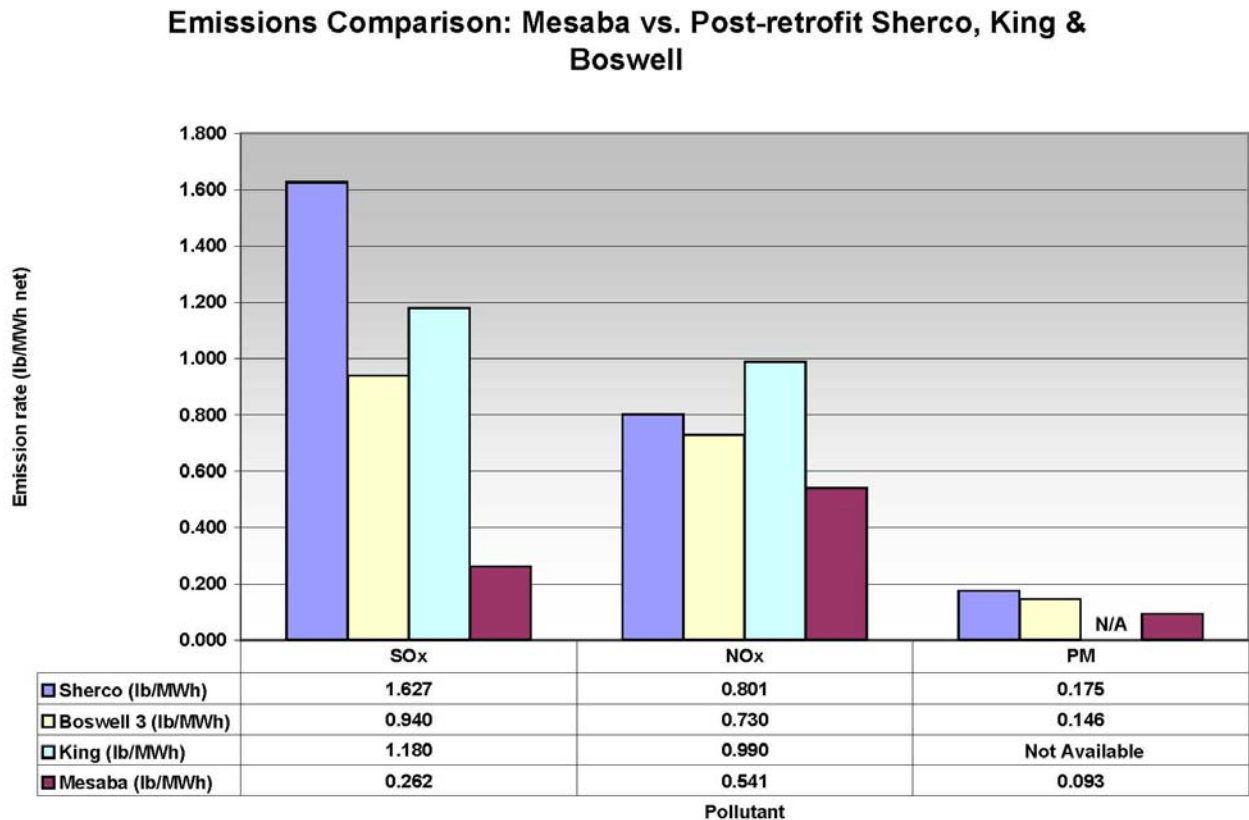
<sup>76</sup> Xcel Initial Brief, p. 14.

<sup>77</sup> EE 1220 (Sherco Filing), p. 5.

<sup>78</sup> The particulate matter emission rate comparison illustrated in Figure 1 below disadvantages Mesaba One, because the numbers available for Sherco include only filterable particulate matter and not condensable particulate matter (see EE 1220 (Sherco Filing), Table 4-2, note 4), while those available for Mesaba include both. As noted in the supplemental rebuttal testimony of Robert Evans, he indicates that “[i]nclusion of the condensable fraction is

figures below illustrate, even after Xcel and MP’s costly endeavors to retrofit the existing pulverized coal fleet with state of the art emissions control equipment, Mesaba One will be the cleanest coal plant in the state when it comes online early in the next decade.

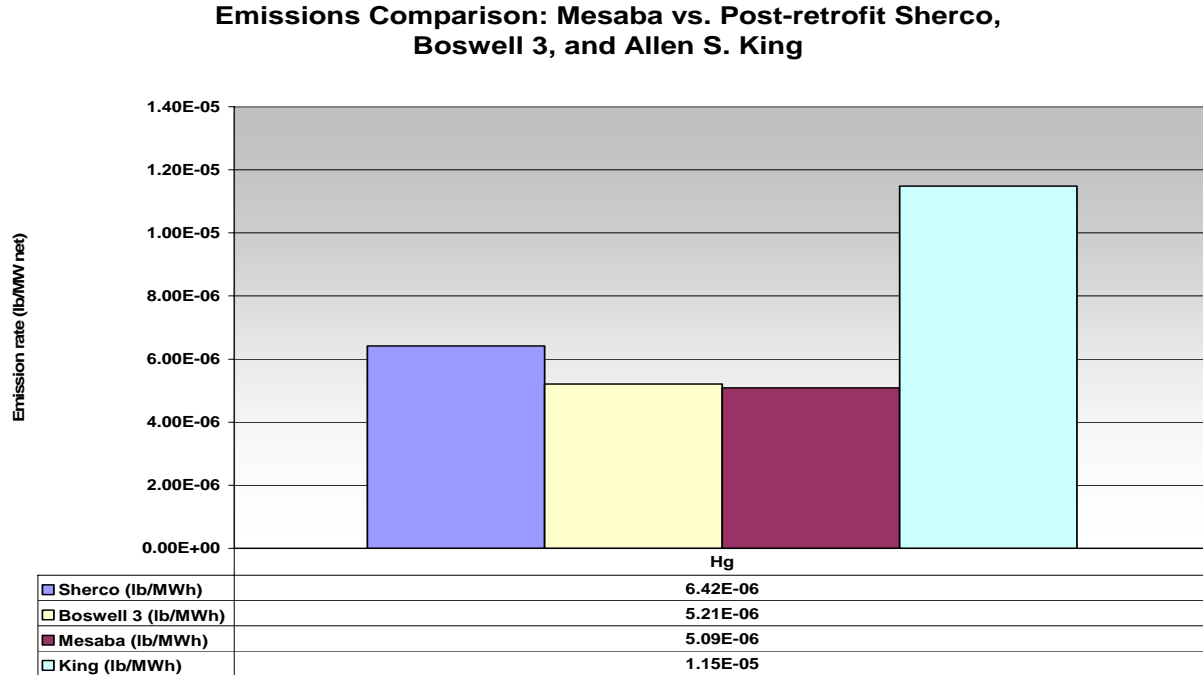
**Figure 1: Emissions Profile Comparison**<sup>79</sup>



anticipated to double the particulate matter emission rate for coal-fired boilers.” EE 1088 (Evans Supplemental Rebuttal), p. 11 (quoting from Sithe Global Energy’s Desert Rock air permit application). Similarly, conventional coal plants such as Sherco are known to emit condensable particulate matter in significant quantities relative to filterable particulate matter. Therefore, if Sherco’s *total* particulate matter emissions are assumed to be twice that of filterable alone, Mesaba One would achieve a 73% reduction over post-retrofit Sherco.

<sup>79</sup> Figures 1 and 2 compare the worst-case scenario emissions limits contained in Mesaba One’s June 2006 New Source Review Permit Application to the projected emissions from Minnesota’s existing coal fleet post-retrofit. Based on Xcel’s January 2, 2007 filing with the Public Utilities Commission, “Compliance Filing and Filing to Initiate Emissions Reduction Project at the Sherco Generating Plant,” see EE 1220 (Sherco Filing), Excelsior has prepared an emissions comparison between the Project and the Sherco facility after the proposed environmental retrofits and capacity upgrades are implemented. In order to compare the two facilities on an apples-to-apples basis, the emissions for both facilities were converted to units of pounds of emissions per net megawatt per hour (lbs/MWh<sub>(net)</sub>). For Sherco, this involved multiplying the annual emissions in tons per year listed in Table 4-2 of Xcel’s Sherco Filing, p.

**Figure 2: Mercury Emissions Comparison**<sup>80</sup>



4-4) by 2000 pounds per ton to yield emissions in pounds per year. The emissions in pounds per year for each pollutant was then divided by the sum of the net capacity of each Sherco unit (as indicated on EE 1220 (Sherco Filing), p. 4-1) multiplied by the capacity factor for each unit indicated on EE 1220 (Sherco Filing), p. 4-4 and multiplied by 8,670 hours per year. The following example represents the calculation for SO<sub>2</sub> emissions from Sherco:  $[2000 \text{ lb/ton} * 11,917 \text{ ton/yr}] / [(697\text{MW} * 0.81 + 682\text{MW} * 0.81 + 884\text{MW} * 0.84 * 0.59 + 140\text{MW} * 0.84) * 8760 \text{ hr/yr}] = 1.627 \text{ lbs/MWh}$ . Note that the Sherco Unit 3 capacity is multiplied by 0.59 to reflect SMMPA's 41% ownership interest in Unit 3. See EE 1220 (Sherco Filing), p. 4-1.

The Mesaba One annual emissions for NO<sub>x</sub>, SO<sub>2</sub>, and PM are listed on page 132 of the Mesaba New Source Review Air Permit Application, and the emissions assume 100% capacity factor. Therefore, each was multiplied by 2000 lbs per ton and divided by 606 MW (net) times 8760 hrs/yr. For example, for SO<sub>2</sub>, the calculation was:  $[694.5 \text{ tons/yr} * 2,000 \text{ lbs/ton}] / [606 \text{ MW} * 8760 \text{ hr/yr}] = 0.262 \text{ lb/MWh}$ . The Mesaba One annual emissions, as indicated in the NSR permit application, represent the worst case scenario.

The emissions for Boswell 3 post-retrofit in units of lbs/MWh are included in the record and are listed in MPCA's Attachment 1 to Exhibit MPCA 8000 for an "existing subcritical pulverized coal with BACT controls". MPCA acknowledges that these numbers were derived from "Minnesota Power Boswell 3 retrofit, August 2006 Application". See MPCA 8000 (Report), Attachment 1, Reference (c).

It should be noted that these comparisons presented in Figure 1 and Figure 2 reflect units of lb/MWh<sub>net</sub>. As noted in Exhibit EE 1088 (Evans Supplemental), p. 3, the U.S. Environmental Protection Agency has chosen to use units of lbs/MWh<sub>gross</sub> in its regulations governing emissions from new sources. A comparison on this basis would further widen the already striking difference in emission rates between Mesaba One and conventional coal-fired technologies. *Id.*

The emissions for the post-retrofit Allen S. King Plant are included in the record in Figures 11-13 of Excelsior's December 2005 filing. See EE 1004 (Section I), pp. 29-30. The particulate matter emissions from Allen S. King post-retrofit are unavailable in the record.

<sup>80</sup> Figure 2 indicates that Boswell 3, a wet scrubbed unit, will emit just 2% more mercury post-retrofit than Mesaba One. However, this assumes 90% removal at Boswell 3 according to MP's August 2006 application to the MPCA. But as Xcel states in its Sherco filing, however, "it is unlikely that any technology exists for wet scrubbed units [that] will achieve more than 40 to 60 percent mercury removal." EE 1220 (Sherco Filing), p. 9-1. The Mercury Emissions for Mesaba One are derived from Mesaba One's New Source Review Air Permit Application, Form HG-2003: Mercury Release, which can be found in Section 10 of the Application.

Figures 1 and 2 along with numerous other graphical and tabular emissions comparisons through the record,<sup>81</sup> confirm Xcel's own statement to the Colorado Public Utilities Commission that "[t]he main benefit of an IGCC plant is the emission reductions potential over a pulverized coal plant."<sup>82</sup> The figures also resoundingly confirm that the Project will achieve significant emissions reductions compared to traditional technologies.

2. MP's claim that "the Mesaba Project would not have significantly reduced emissions compared to traditional technologies" is contravened by its own testimony

Minnesota Power's ("MP") Initial Brief contends that "the percentage differences between the Mesaba Project and an SCPC unit are small and are not indicative of 'unrivaled' . . . performance."<sup>83</sup> This argument is supported by a startlingly disingenuous characterization of the record by MP.

On page 5 of its Initial Brief, citing the direct testimony of Michael Cashin, MP states that

Excelsior's own air permit application to the Minnesota Pollution Control Agency ("MPCA") containing emission reduction data for the Mesaba Project and a hypothetical SCPC facility indicates that the Mesaba Project's NO<sub>x</sub> reductions would be 91% compared to SCPC at 88% (or 3% lower), its SO<sub>2</sub> reductions would be 99.9% compared to SCPC at 99.8% (or .1% lower) and its mercury reduction is about equivalent.

MP's statement is misleading because it suggests that 91% NO<sub>x</sub> removal of "uncontrolled emissions" from Mesaba One versus 88% removal of "uncontrolled emissions" from an SCPC plant would result in only "3% lower" emissions. The 91% and 88% figures refer to the percent of NO<sub>x</sub> removed relative to "uncontrolled emissions" for each technology. It is flatly incorrect to

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<sup>81</sup> See, e.g., EE 1086 (Evans Rebuttal), Table RSE-1, Figure RSE-3; EE 1088 (Evans Supplemental), Figure RSE-S1, Figure RSE-S4, Figure RSE-S5, Figure RSE-S6, Figure RSE-S7, Exhibit RSE-S1; XE-2023 (Clarke Direct), Graph 6; MP 4011 (Cashin Surrebuttal), pp. 6 ("Criteria Emissions Performance Comparison"), 8 ("NO<sub>x</sub> Emissions comparison," 9 ("SO<sub>2</sub> Emissions Comparison"), 11 ("Particulate Matter Emissions Comparison").

<sup>82</sup> EE 1284 (PSCo 2003 Least-cost Resource Plan), p. 1-98. See also XE-2023 (Clarke Direct Testimony), p. 2 (stating that "[IGCC] technology offers the promise of low emissions of air pollutants").

<sup>83</sup> MP Initial Brief, p. 5.

equate removal rates with emissions, and meaningless to subtract one removal rate from another. The emission rate, reflecting the actual amount of NO<sub>x</sub> or other pollutant that comes out of the stack, is the only relevant consideration. IGCC achieves significantly reduced emissions out of the stack compared to traditional technologies.

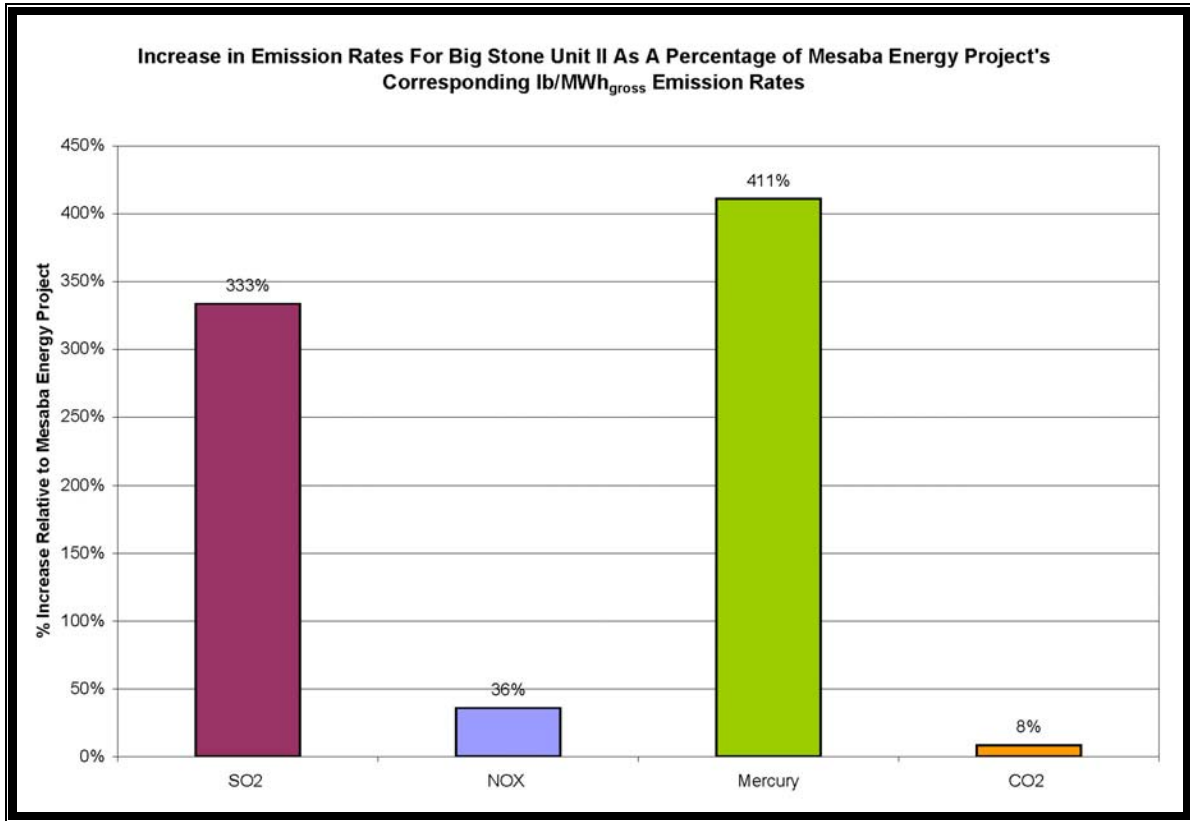
In fact, Table 5.4-1 in the Mesaba One air permit application<sup>84</sup> demonstrates that Mesaba One's actual, worst-case NO<sub>x</sub> emissions are 0.057 lbs/MMBtu, or 25% lower than the 0.076 lbs/MMBtu NO<sub>x</sub> for the supercritical pulverized coal unit—not 3% lower, as MP's Initial Brief would suggest. More striking, Mesaba One's SO<sub>2</sub> emissions are actually 0.025 lbs/MMBtu, or 76% lower than the PC unit's 0.140 lbs/MMBtu of SO<sub>2</sub>—not 0.1% lower. Similarly, Mesaba One's particulate matter emissions are 44% lower out of the stack than the PC unit noted in the Project's air permit application. These emission reduction percentages demonstrate the material nature of MP's misleading analysis. MP's statement that these emission reductions are “insignificant” is false.

Further, as MP witness Michael Cashin stated, “[t]he best comparison between the two technologies are the projected values for the Big Stone II project” because Big Stone II represents a currently proposed SCPC facility that will serve retail load in Minnesota. However, no party disputes the significance of the emissions reductions achieved by Mesaba One over Big Stone II, as illustrated by the chart below appearing originally in the testimony of Excelsior expert Robert Evans:

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<sup>84</sup> MP witness Michael Cashin first described these removal percentages in his Direct Testimony wherein he identified the source of the information as the “Mesaba Project MPCA Application in Table 5.4-1 at page 92.” MP 4004 (Cashin Direct), p. 4. *See* Appendix 5 to the Joint Application (June 16, 2006), In the Matter of the Combined Application for a Site Permit, a Transmission Line Route Permit and a Natural Gas Pipeline Routing Permit (Partial Exemption) for the Mesaba Energy Project, MPUC Docket No. E-6472/GS-06-668.

**Figure RSE-S7<sup>85</sup>**



To the extent that Big Stone II is representative of the traditional solid fuel baseload facilities that can be expected to come online in the upper Midwest at the beginning of the next decade, the figure above speaks for itself: the Project will achieve significantly reduced emissions.

3. The MPCA's comparison of Mesaba One's permitted emission limits to the emission levels EPA predicts may be achieved in the future by "generic" supercritical and ultrasupercritical facilities does not affect the evidence of Mesaba One's significantly reduced emissions as compared to "traditional" solid fuel baseload technologies; the record confirms that Mesaba One will have an emissions profile that is superior to any existing or currently proposed utility-scale SCPC plant in the nation

Both Xcel and MP rely on the MPCA's comparison of the emissions limits in the Project's air permit application to the EPA's projection of emissions that may ultimately be achieved by

<sup>85</sup> EE 1088 (Evans Supplement Rebuttal Testimony), p. 14.



supercritical (“SC”) and ultrasupercritical (“USC”) facilities in the future to support their claim that Mesaba One’s emissions reductions are not “significant.”<sup>86</sup> This comparison is inaccurate for at least two reasons.

First, as a threshold matter, a comparison of Mesaba One to purportedly achievable future emissions from generic technologies ignores the reality that no pulverized coal plants currently being proposed anywhere in the world claim to achieve the emission levels that EPA predicts USC and SC plants may one day be capable of achieving. Future technologies do not fall within the statutory category of “traditional” technologies in any event. By the MPCA’s own admission, the emissions of “generic” SC and USC plants in Figures 3 and 4 of the MPCA report are merely “estimates” of “future performance.”<sup>87</sup> The simple fact is that all technologies can be expected to improve as they evolve with time.<sup>88</sup> The MPCA’s own figures indicate that “generic” IGCC plants will also achieve greater emissions reductions in the future compared to what they are capable of achieving today, thereby maintaining their significant advantage over SC and USC facilities as all three technologies mature.<sup>89</sup>

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<sup>86</sup> Xcel Initial Brief, p. 13; MP Initial Brief, p. 21.

<sup>87</sup> See MPCA 8001 (MPCA Response to Comments on its Report), Figures 3 and 4; MPCA 8000 (Jackson Direct Testimony), p. 4.

<sup>88</sup> The record reflects that IGCC is positioned for more rapid and greater improvement than boiler-based technologies. See Excelsior Proposed Finding 333 and corresponding citations to the record.

<sup>89</sup> Requiring an actual, proposed IGCC facility to demonstrate “significantly reduced emissions” compared to all predictions of future emissions levels that may ultimately be achieved by “generic” facilities is equally as absurd as Xcel’s argument that an IEP facility should be required to demonstrate significantly reduced emissions as compared to the zero emissions achieved by nuclear or hydroelectric plants. Xcel in its initial brief contends that the legislature intended for an IEP or CET to demonstrate “significantly reduced emission” from zero-emission hydroelectric or nuclear generation facilities: “The record is clear that *the proposal does not reduce emissions compared to hydroelectric or nuclear generation*, both of which are properly classified as ‘traditional technologies.’” Xcel Initial Brief, pp. 13-14 (emphasis added). It would be absurd to require an Innovative Energy Project to demonstrate significant emissions reductions compared to “traditional technologies” that have zero emissions, because it is obviously impossible for *any* facility, much less a facility “utilizing coal as a primary fuel” to achieve emissions that are less than zero. “The legislature does not intend a result that is absurd . . . or unreasonable.” Minn. Stat. § 645.17. Instead, the proper reading of the statutes requires a comparison of Mesaba One’s emissions to traditional “solid fuel baseload technologies,” as indicated in subdivision 2(a)(7) of the IEP statute. As noted in the direct testimony of Professor Chen, “[i]t is a cardinal canon of statutory interpretation that statutes *in pari materia*, let alone statutes as intimately related as these, should be interpreted in harmony with one another.” EE 1137 (Chen Rebuttal Testimony),

Second, the MPCA’s own testimony implies a comparison of the Project’s proposed emission limits in its air permit application to the predicted emissions from future, “generic” facilities unfairly disadvantages Mesaba One because “[l]imits in air quality permits are based on expected ‘worst case’ performance level in order that the full range of operations is taken into account. Actual emissions are less than permitted emissions.”<sup>90</sup> The briefs of Xcel and MP both omit the fact that, as the MPCA’s own Figure 3 demonstrates, when the permit emission limits of two of the cleanest proposed pulverized coal facilities in the country are compared to Mesaba One’s permit limits, Mesaba One achieves significantly better emissions reductions.<sup>91</sup>

The significant emissions reductions that will be achieved by Mesaba One over traditional technologies have been demonstrated in this record by an overwhelming preponderance of the evidence. These emission reductions are critically important to the health and welfare of Minnesota’s citizens.<sup>92</sup>

**F. Xcel’s Need and System Impact Analysis Ignores Minnesota Law and Is Not Relevant or Useful to the Determinations to Be Made by the Commission**

Many of the parties continue to assert in their initial briefs that Xcel’s need for baseload capacity and Xcel’s modeled system impacts are factors that the Commission must consider under

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p. 8 (citing *Quackenbush v. Allstate Ins. Co.*, 517 U.S. 706 (1996); *United States v. Riverside Bayview Homes, Inc.*, 474 U.S. 121 (1985)).

<sup>90</sup> MPCA 8000 (Report), p. 2.

<sup>91</sup> See MPCA 8001 (Response) Corrected Fig. 3, p. 1. The figure demonstrates that Sithe Global Energy’s Desert Rock SCPC plant will emit 12% more NO<sub>x</sub>, 144% more SO<sub>2</sub>, and 18% more PM than Mesaba One per MWh. SWEPSCO’s Hempstead Co. USC PC plant will emit 24% more NO<sub>x</sub>, 289% more SO<sub>2</sub>, and 68% more particulate matter than Mesaba One. Figure 4 demonstrates that The Desert Rock SCPC will emit 302% more mercury than Mesaba One per MWh. The MPCA acknowledges that it does not use the mercury emissions for the Hempstead Co. facility indicated in its air permit application, instead electing to substitute the “mercury emission rate provided by EPA in the “Environmental Footprints and Costs of Coal-Based Gasification Combined-Cycle and Pulverized Coal Technologies.” MPCA 8001 (Response), p. 3. The number represented in MPCA’s Figure 4, therefore, is not an apples to apples comparison with Mesaba One’s permit application mercury limit. A proper comparison would show that the Hempstead Co. facility will emit 1,495% more mercury per MWh than Mesaba One. EE 1088 (Evans Supplemental Rebuttal Testimony), p. 10 (Figure RSE-S4).

<sup>92</sup> See EE 1011 (ICF Air Quality Report).

the IEP statute<sup>93</sup> despite the express exemption from the “requirements for a certificate of need under section 216B.243 for the generation facilities” and related transmission facilities.<sup>94</sup> As Excelsior noted in its Initial Brief and Proposed Findings, in order for the legislative exemption from the requirements for a certificate of need to have any meaning at all, the Commission may not consider Xcel’s standard system impact analysis and related system impact cost determinations.<sup>95</sup> Further, the position of these parties totally ignores a “need” that the 2003 Legislature was addressing: the need for new technology and new competition in the State to further environmental and economic goals, and to ensure that the State is positioned for a future carbon-constrained world.

With respect to the CET Statute Xcel in its Initial Brief continues to ignore the plain language of Minnesota law and to substitute certificate of need requirements for the comparative technology cost analysis specifically prescribed by the CET Statute. Xcel ignores the CET Statute’s directive to compare IGCC technology with other technologies<sup>96</sup> when it argues that “[u]nder the Clean Energy Technology Statute, Mesaba 1 LLC must establish that its PPA ‘is or is likely to be a least-cost resource.’”<sup>97</sup> In a section entitled “Relevant Comparisons for Legal Analysis,” Xcel argues that the “costs and risks under that contract [the PPA]—not its technology or the technology of any other facility—must be the determinative considerations” in the Commission’s decision.<sup>98</sup> Xcel also seeks to rewrite the CET Statute when it states that “[t]his case is also not about whether Mesaba 1 LLC’s proposed facility is superior to Super-Critical

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<sup>93</sup> Xcel Initial Brief, p. 16; MCEA Initial Brief, p. 6; MP Initial Brief, p. 22–23; Manitoba Hydro Initial Brief, p. 6; Department of Commerce Initial Brief, p. 38; Chamber Initial Brief, p. 10; Xcel XLI Initial Brief, p. 2.

<sup>94</sup> Minn. Stat. § 216B.1694, subd. 2(a)(1).

<sup>95</sup> Excelsior Initial Brief, pp. 41–45; Excelsior Proposed Findings 739–52 and corresponding citations to the record; EE 1137 (Chen Rebuttal Testimony), pp. 18–22.

<sup>96</sup> Minn. Stat. § 216B.1693(a); Excelsior Initial Brief, p. 12; Excelsior Proposed Findings 742–52 and corresponding citations to the record. *See also* Excelsior Proposed Findings 302–03, 311, 316–17, 325–27 and corresponding citations to the record.

<sup>97</sup> Xcel Initial Brief, p. 15.

<sup>98</sup> Xcel Initial Brief, p. 4.

Pulverized Coal (‘SCPC’) technology.”<sup>99</sup> All of Xcel’s purported cost analysis then flows from application of these incorrect statements of the law that ignore the Project’s exemption from the requirements for a certificate of need and the evaluation criteria prescribed by the Statutes. Even after expert testimony pointed out the error in this approach,<sup>100</sup> Xcel elected not to provide any relevant cost analysis to the record in this case.<sup>101</sup>

In addition to ignoring the cost comparison methodology prescribed by the CET Statute, Xcel compounds the problem by arguing in its Initial Brief—employing numerous logical leaps and again ignoring the exemption from certificate of need in the IEP Statute—that the CET Statute actually directs a certificate of need analysis: “The Commission considers least-cost resources by comparing the costs of different energy resources in meeting the 1) size, 2) type and 3) timing of a utility’s need for energy.”<sup>102</sup> Xcel claims that its system capacity needs also must be considered as part of the CET analysis by suggesting that the Mesaba Project is not and is not likely to be a least-cost resource because its output is “[m]ore [c]apacity and [s]ooner than [n]eeded.”<sup>103</sup> Thus, all of Xcel’s cost analysis contravenes the Project’s statutory exemption from certificate of need.<sup>104</sup> The Legislature recognized the importance of removing this Xcel-controlled need analysis from Xcel in this docket<sup>105</sup> in order to ensure that a clean coal IGCC facility would get built quickly.<sup>106</sup>

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<sup>99</sup> Xcel Initial Brief, p. 6.

<sup>100</sup> EE 1137 (Chen Rebuttal Testimony), pp. 18–22.

<sup>101</sup> Excelsior Proposed Findings 325–26 and corresponding citations to the record. *See* Excelsior Initial Brief, p. 15.

<sup>102</sup> Xcel Initial Brief, p. 15.

<sup>103</sup> Xcel Initial Brief, p. 16.

<sup>104</sup> Excelsior Initial Brief, pp. 41–45; Excelsior Proposed Findings 739–752 and corresponding citations to the record.

<sup>105</sup> The Commission shares this concern, as reflected in its statement with regard to Xcel’s role in the selection of resources for its own system: Xcel “has too much control over resource selection” and has “a clear and understandable conflict of interest.” XE-2075 (IRP Order, MPUC Docket No. E002/RP-04-1752, May 31, 2006), p. 7. Xcel’s tactics in this proceeding provide compelling justification for the Commission’s fears. Only after prevailing on its motion against Xcel to compel discovery was Excelsior even permitted access to all of the Strategist inputs requested, and even then the data disks produced were unaccompanied by any explanation and therefore virtually incomprehensible, even to ICF’s and FTI’s national resource planning experts. *See, e.g.*, EE 1169 (Scheller Rebuttal Testimony), p. 12; XE-2075 Order Establishing Resource Acquisition Process, Establishing Bidding Process Under Minn. Stat. §

Xcel does not even attempt to apply the statutory standards to the evidence, in violation of the Commission's directive to keep the proceeding focused on the issues referred. As a result, Xcel's flawed need and system impact analysis, which is not related to the required statutory determinations and serves as the sole basis for its cost conclusions, does not add anything useful to the record in this docket.

In addition to being precluded by statute, Xcel's need analysis is problematic in many regards. Xcel continues to create confusion in the record when it states in its Initial Brief that the Commission decided in July 2006 that Xcel has no need for new baseload power prior to 2015, despite the fact that the record shows that no particular energy forecast or resource expansion plan was approved by the Commission.<sup>107</sup> In addition, the expert testimony in this docket establishes

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216B.2422, Subd. 5, and Requiring Compliance Filing, MPUC Docket No. E002/RP-04-1752, (May 31, 2006)), p. 7. See also Excelsior Proposed Finding 760 and corresponding citations to the record.

<sup>106</sup> As Chief Sponsor of the IGCC Enabling Legislation, Senator David Tomassoni wrote to Judge Johnson in his public comments in the record dated December 22, 2006,

We exempted the project from certificate of need in order to expedite the construction of the plant. We didn't want Xcel's control over its resource planning to bog down the decision. The legislature also, by enacting the statutes, directed the PUC not to entertain Xcel's arguments that the plant isn't needed, which is essentially an argument that the growing electric need in Minnesota can be met by natural gas plants. A single utility's decision to use huge volumes of natural gas for power generation can affect gas prices and supply in the whole state, and the IGCC statutes are part of what's necessary to avoid this outcome. In any event, given the number of consumers that already can't pay their home heating bills because of high and volatile natural gas prices, the IGCC statutes are an important component of a plan to avoid big bets on natural gas prices placed by utilities but paid for by consumers.

Pub. Comment Letter from Sen. David Tomassoni to Hon. Bruce Johnson, Dec. 22, 2006, MPUC Docket No. E-6472/M-05-1993. The Commission has also noted that "Baseload development requires extremely long planning horizons," and that "[s]ince the need to keep the lights on ultimately trumps other interests, delays along the way favor unilateral action by Xcel, who, as the provider of last resort, must step in and build, buy, or otherwise secure the generating capacity required to fulfill its duty to serve." XE-2076 (IRP Order, MPUC Docket No. E002-RP-04-1752, Jul. 28, 2006), p. 9.

<sup>107</sup> EE 1039 (Osteraas Rebuttal), pp. 34-36; EE 1277 (Staff Briefing Papers), p. 4; XE-2076 (Order Approving Resource Plan As Modified), pp. 16-19. The motion unanimously adopted stated that the Commission would "[d]ecide not to adopt a specific forecast or expansion plan ... and instead [approve six courses of action]." EE 1277, p. 4. Other parties echo Xcel's mis-characterization of the Commission's IRP order, including MP, Manitoba Hydro, the Department of Commerce, the Chamber, and MCEA, each of whom states that Xcel only needs 375 MW of baseload in 2015 relying on the Commission's July 28, 2006 IRP Order. MP Initial Brief, p. 25; Manitoba Hydro Initial Brief, p. 6; Department of Commerce Initial Brief, p. 38; Chamber Initial Brief, pp. 4, 14; MCEA Initial Brief, p. 7.

that (1) Xcel's Strategist system analysis is patently flawed, is insufficiently narrow in its focus, and has no probative value in this proceeding,<sup>108</sup> (2) Xcel's analysis does not in any way dispute the need for new capacity; rather, the Strategist runs conducted by Xcel demonstrate that Xcel assumes unreasonably low natural gas prices<sup>109</sup> and intends to rely on natural gas to meet growing baseload need, in the absence of the Project,<sup>110</sup> and (3) notwithstanding Xcel's arguments to the contrary in its Initial Brief, Xcel needs very significant new baseload capacity during the planning period.<sup>111</sup> The record includes at least two different admissions from Xcel that NSP needs new baseload capacity and a timely addition of the Mesaba Project to the fleet will protect ratepayers from natural gas price volatility.<sup>112</sup>

In sum, Xcel's need analysis is not relevant to the determinations required by the Statutes. Even if need were properly considered, expert testimony in the record establishes that the Project is needed<sup>113</sup> and will protect ratepayers from unbounded exposure to natural gas price volatility.<sup>114</sup>

### **G. Carbon Capture and Sequestration Is Feasible**

Xcel questions in its Initial Brief whether carbon capture and sequestration is feasible from the Project.<sup>115</sup> Xcel confuses the record on carbon capture and sequestration by focusing on the

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<sup>108</sup> Excelsior Initial Brief, pp. 46–50; Excelsior Proposed Findings 757–85 and corresponding citations to the record.

<sup>109</sup> Excelsior Proposed Findings 770–79 and corresponding citations to the record.

<sup>110</sup> Excelsior Initial Brief, pp. 45–46; Excelsior Proposed Findings 753–56 and corresponding citations to the record.

<sup>111</sup> See Excelsior Initial Brief, pp. 51–52 and corresponding citations to the record. Even if the Commission could properly consider need in its determination, the record clearly indicates Xcel's need for baseload power. See Excelsior Initial Brief, pp. 52–54; Excelsior Proposed Findings 786–807 and corresponding citations to the record. Most recently, Xcel admits in its January 2, 2007 filing on the Sherco upgrade that its 2004 Resource Plan identified a need for additional base load capacity. EE 1220 (Sherco Filing), p. 5. In addition, Xcel's own model runs show a need for **[TRADE SECRET BEGINS      TRADE SECRET ENDS]** MW of new coal baseload capacity after 2015. EE 1169 (Scheller Rebuttal Testimony, public), EE 1170 (Scheller Rebuttal Testimony, non-public), p. 10; Excelsior Proposed Finding 741 and corresponding citations to the record.

<sup>112</sup> See EE 1220 (Sherco Filing), pp. 1-2, 2-3 (citing Xcel's "needed base load capacity additions" as soon as possible "given that our 2004 Resource Plan identified a need for additional base load capacity"); *Id.* at 9-3 ("Natural gas prices have been volatile and we share the concern expressed in recent proceedings [about] expanded use of natural gas as a fuel for electrical generation other than for peaking purposes."); EE 1271 (NSP 2004 Integrated Resource Plan), p. 3-11 (identifying a need for additional coal-based generation as soon as possible in the coming decade in order to protect consumers); Excelsior Proposed Findings 758, 798, 803 and corresponding citations to the record.

<sup>113</sup> Excelsior Proposed Findings 786-88, 797-807 and corresponding citations to the record.

<sup>114</sup> Excelsior Proposed Findings 789-96 and corresponding citations to the record.

worst-case cost scenario for capture and transportation to oil fields, and then ignoring the revenues from enhanced oil recovery that would offset the higher initial costs associated with that scenario.<sup>116</sup> In the absence of those revenues, closer carbon sinks would be selected, at much lower cost than those quoted by Xcel.<sup>117</sup> These alternative scenarios are delineated in Excelsior's Plan for Carbon Capture and Sequestration<sup>118</sup> and in the testimony of Edward Steadman, Senior Research Advisor at the Energy & Environmental Research Center at the University of North Dakota.<sup>119</sup>

Xcel and the other parties that questioned the economic feasibility of carbon capture and sequestration do not dispute the potential availability of significant revenue from enhanced oil recovery and carbon credits that could offset the costs involved in carbon capture and sequestration.<sup>120</sup> These parties also do not dispute the fact that Kinder Morgan CO<sub>2</sub> Company, Encana Corporation, and Denbury Resources are operating commercially successful carbon dioxide pipelines of lengths up to 500 miles.<sup>121</sup>

Xcel acknowledges that IGCC has a superior capability to respond to carbon constraints, but summarily dismisses the value of that capability in the absence of current, actual sequestration.<sup>122</sup> As described above in Section II.B., Professor Daniel Schrag disagrees with

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<sup>115</sup> See Xcel Initial Brief, p. 15. Xcel's statements are echoed by other parties. See the Department of Commerce Initial Brief, p. 42; MP Initial Brief, p. 18; MCEA Initial Brief, pp. 11–12.

<sup>116</sup> See Xcel Initial Brief, p. 15.

<sup>117</sup> See EE 1067 (Stone Exhibit RS-1, public), EE 1068 (Stone Exhibit RS-1, non-public), pp. 21–24. Xcel further ignores Excelsior's proposed 30% capture plan, which can be achieved with commercially available technologies, at a much lower cost than the figures that Xcel cites. See EE 1091 (Cortez Rebuttal Testimony), p. 9. Xcel also does not acknowledge the significant research and development efforts of the DOE that are targeted toward reducing the costs associated with 90% capture and sequestration. See EE 1067 (Stone Exhibit RS-1, public), EE 1068 (Stone Exhibit RS-1, non-public), pp. 1–2, 5, 7; EE 1119 (Schrag Direct Testimony), p. 8.

<sup>118</sup> EE 1067 (Stone Exhibit RS-1, public), EE 1068 (Stone Exhibit RS-1, non-public).

<sup>119</sup> EE 1177 (Steadman Rebuttal Testimony); EE 1188 (Steadman Surrebuttal Testimony).

<sup>120</sup> EE 1067 (Stone Exhibit RS-1: Plan for Carbon Capture and Sequestration, public), EE 1068 (Stone Exhibit RS-1, non-public), pp. 6–7.

<sup>121</sup> EE 1091 (Cortez Rebuttal Testimony), pp. 18–19.

<sup>122</sup> Xcel states in its Initial Brief that IGCC has an “enhanced ability to sequester carbon to respond to increased societal concerns over global warming and the emerging demand for further mitigation and reduction of carbon

Xcel's conclusion that IGCC's inherent capture flexibility will not be of value in the face of carbon constraints.<sup>123</sup> Xcel's own recent Sherco expansion filing<sup>124</sup> does not propose any carbon mitigation plan<sup>125</sup> nor does it forecast the costs in the event that capture and sequestration are required from the Sherco plant, after more than \$1 billion is expended to extend its life.<sup>126</sup>

In short, Excelsior's Plan for Carbon Capture and Sequestration and the testimony of national experts demonstrate that sequestration is both economically and technically feasible. Expert testimony establishes that the Mesaba Project offers ratepayers "option value" and an inherent hedge not offered by other fossil technologies, and that in the event carbon constraints are imposed, IGCC will be the least-cost alternative for avoiding carbon emissions from a fossil fuel based plant.<sup>127</sup>

## **H. Transmission Costs and Required Upgrades Are Minimal**

Because the Commission has specifically requested as complete and comprehensive a record as possible on transmission interconnection issues, and in light of the recent new record evidence from MISO confirming that Mesaba One has passed the MISO deliverability tests and can become a Network Resource without any additional Network Upgrade costs, the following section is necessarily more detailed than other sections of this Reply Brief. Before addressing the significance of the recent MISO deliverability study results, Excelsior offers the following short

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emissions. But the mere potential to sequester carbon does not actually contribute to the move toward a carbon neutral environment." Xcel Initial Brief, p. 14.

<sup>123</sup> See EE 1119 (Schrage Direct Testimony), pp. 7–9.

<sup>124</sup> EE 1220 (Sherco Filing).

<sup>125</sup> See EE 1220 (Sherco Filing), p. 5-3 (stating that Xcel is committed to ensuring carbon neutrality, but failing to commit to significant carbon emission reductions).

<sup>126</sup> See supra note 54 for an explanation of why Xcel will almost certainly request recovery of more than \$1 billion in connection with the Sherco upgrades.

<sup>127</sup> Excelsior Proposed Findings 343–345, 347 and corresponding citations to the record.



summary of the context and MISO terminology required to understand the MISO interconnection process and its relationship to the PPA.

There are three separate sets of MISO study results that have been or currently are being processed by MISO in connection with the proposed interconnection of Mesaba One to the existing transmission grid. Although each set of study results is related to Mesaba One, the first two sets of MISO study results address Excelsior's request to interconnect Mesaba One to the grid and have Mesaba declared a "Network Resource," meaning that all of Mesaba One's output can be delivered anywhere within the existing MISO transmission system and that Mesaba One's output can be deemed accredited capacity for NSP.<sup>128</sup> The third set of MISO study results are independent of and unrelated to the first two sets of study results, and address NSP's request to declare Mesaba One a "Local Capacity Resource" for NSP, meaning that Mesaba One's output could be deemed creditable capacity for NSP even if Mesaba One were not deemed a "Network Resource."<sup>129</sup>

The first set of studies, conducted by MISO in response to Excelsior's "Network Resource Interconnection Service" or "NRIS" request and referred to as "System Impact Studies for Interconnection" or "Interconnection Studies", dealt with what is required for Mesaba One to physically interconnect to the grid and inject power at its point of interconnection (Blackberry at the West Range Site and Forbes at the East Range Site). The Interconnection Studies identify cost estimates for both "Interconnection Facilities" and "Network Upgrades" that would be required solely in order to interconnect a new plant to the grid. The Interconnection Studies have been

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<sup>128</sup> EE 1072 (Sherner Rebuttal), p. 28.

<sup>129</sup> EE 1072 (Sherner Rebuttal), pp. 4–8.

completed, and they identified the following estimated costs for Mesaba One to interconnect to the East Range Site (Forbes) and West Range Site (Blackberry):<sup>130</sup>

	Interconnection Facilities	Network Upgrades	Total
East Range Site	\$73	\$0	\$73
West Range Site	\$17	\$53	\$70

Under the terms of the PPA, Excelsior has assumed full responsibility and all risks for “Interconnection Facilities” costs (the estimated \$17 million at the West Range Site and \$73 million at the East Range Site shown above). Those costs are embedded in the “Base Capacity Charge” quoted in the PPA, and the actual final costs for Interconnection Facilities will not flow through the PPA under Schedule I to the PPA as “Unreimbursed Transmission Costs.”<sup>131</sup> All “Network Upgrade” costs, in contrast, will be allocated pursuant to the MISO tariff 50% to the generation project owner and 50% to the incumbent transmission owner.<sup>132</sup> Excelsior’s 50% of actual Network Upgrade costs (estimated to be approximately \$26.5 million) will likely be Unreimbursed Transmission Costs that will flow through the PPA under Schedule I to the PPA.

The second set of studies, also conducted in response to Excelsior’s “Network Resource Interconnection Service” or “NRIS” request and referred to as a “Deliverability Analysis” or “Deliverability Tests”, deal with what additional Network Upgrades (in addition to those required to interconnect to the grid, as identified in the Interconnection Studies) are required for Mesaba One to be designated a “Network Resource.”<sup>133</sup> Actual costs for Network Upgrades required to become a Network Resource would be allocated under the MISO tariff 50% to the generation

<sup>130</sup> EE 1070 (Sherner Supplemental Testimony), pp. 11–12. Note that amounts shown are in millions of dollars.

<sup>131</sup> EE 1024 (Section V, non-public), Section 4.10(A) and (E).

<sup>132</sup> EE 1070 (Sherner Supplemental Testimony), pp. 14–15.

<sup>133</sup> EE 1072 (Sherner Rebuttal), p. 28.

owner and 50% to the incumbent transmission owner,<sup>134</sup> and Excelsior's 50% of any such costs would likely be Unreimbursed Transmission Costs that would flow through the PPA under Schedule I to the PPA.

Initially, Mesaba One failed the Deliverability Analysis conducted by MISO.<sup>135</sup> However, because MISO revised its Deliverability Analysis methodology, MISO redid its analysis of Mesaba One, and the final revised Deliverability Analysis for Mesaba One's NRIS request was completed and the results issued publicly on January 5, 2007. These results are the new evidence accepted into the record of this proceeding as EE 1302 and EE 1303 pursuant to the ALJs Order dated January 17, 2007.<sup>136</sup> The Mesaba One Deliverability Analysis results confirm that no additional Network Upgrades (in addition to the \$53 million of costs reflected in the table above) are required for Mesaba One to be designated a "Network Resource."<sup>137</sup> Therefore no additional Network Upgrade costs will flow through the PPA in order for Mesaba One to be designated a Network Resource.

The third set of studies, conducted in response to NSP's "Network Integrated Transmission Service" or "NITS" request (sometimes also called a "Transmission Service Request" or a "TSR") and referred to as "System Impact Studies for Long-Term Firm Transmission Service" or the "Firm Transmission Studies", deal with what Network Upgrades would be required for Mesaba One to become a "Local Capacity Resource" for NSP.<sup>138</sup> The Firm Transmission Studies do not impact and cannot change the Deliverability Analysis completed under the NRIS process. The costs of any Network Upgrades identified through the NITS process will be allocated solely to the

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<sup>134</sup> EE 1070 (Sherner Supplemental Testimony), pp. 14-15.

<sup>135</sup> EE 1070 (Sherner Supplemental), p. 5.

<sup>136</sup> Order Granting Motion for Leave to Submit Late-Filed Exhibits, January 17, 2007, at p. 1.

<sup>137</sup> See EE 1302 (Deliverability Study Report, MISO Project G519 – West Range Site) and EE 1303 (Deliverability Study Report, MISO Project G477 – East Range Site).

<sup>138</sup> EE 1072 (Sherner Rebuttal), pp. 4-8..

incumbent transmission owners under the applicable MISO tariff,<sup>139</sup> and therefore none of those costs would flow through the PPA. NSP's Firm Transmission Studies for Mesaba One have not yet been completed, but an "Interim TSR Report" was issued on January 4, 2007. This Interim TSR Report is also new evidence accepted into the record of this proceeding as EE 1301 pursuant to the ALJs Order dated January 17, 2007.<sup>140</sup>

New information relating to the NRIS "Network Resource" determination and the NITS "Local Capacity Resource" analysis is provided below.

1. MISO has determined that Mesaba One is fully deliverable without the need for additional network upgrades, reducing assumed transmission costs by as much as \$180 million

Excelsior has taken a dual approach to transmission infrastructure associated with Mesaba One to ensure that it can avail itself of the most cost effective transmission solution, including pursuit of Network Resource Interconnection Service ("NRIS") and evaluation of Xcel's requests made on behalf of Mesaba One for Network Integrated Transmission Service ("NITS") on a parallel track.<sup>141</sup> Excelsior's plan is designed to ensure that transmission capacity is available to serve Xcel's customers and that Mesaba One will be fully accredited by the Mid-Continent Area Power Pool ("MAPP") and counted towards Xcel's mandated reserve requirements.<sup>142</sup>

In their Initial Briefs, Xcel, MCGP, MP, the Department and Manitoba, argue that transmission costs associated with Mesaba One could reach or exceed \$250 million and allege that the magnitude of such costs are a substantive barrier to the Commission determining that the proposed PPA is in the public interest.<sup>143</sup> These parties acknowledge, however, that only MISO

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<sup>139</sup> XE 2025 (Shiro Direct), p. 12.

<sup>140</sup> Order Granting Motion for Leave to Submit Late-Filed Exhibits, January 17, 2007, at p. 1.

<sup>141</sup> Excelsior Proposed Findings 390–400 and corresponding citations to the record.

<sup>142</sup> Excelsior Proposed Findings 401–04 and corresponding citations to the record.

<sup>143</sup> See MCGP Initial Brief, pp.13–21; Xcel Initial Brief, pp. 25–26; MP Initial Brief, pp. 14–15; DOC Initial Brief, pp. 31–32; Manitoba Initial Brief, pp. 11–12.

can determine the Network Upgrades that would need to be built to achieve designation as a Network or Local Capacity Resource.<sup>144</sup>

As noted above, through its earlier System Impact Studies, MISO has determined the following expected costs associated with interconnecting Mesaba One to the transmission system:<sup>145</sup>

	Interconnection Facilities	Network Upgrades	Total
East Range Site	\$73	\$0	\$73
West Range Site	\$17	\$53	\$70

MISO had also initially determined, however, that Mesaba One did not pass MISO's Deliverability Analysis associated with its NRIS requests.<sup>146</sup> According to Mr. Sherner, this was not unexpected since many of the higher queued generation projects in the MAPP region (which includes Minnesota), including the Big Stone II Project, also failed this test.<sup>147</sup>

Therefore, to obtain status as a Network Resource, it was prematurely assumed by some parties in this proceeding that additional Network Upgrades would be needed to provide transmission solutions to resolve the deliverability issues identified by MISO. Mr. Sherner cautioned against such a presumption, however, noting that MISO recently changed its deliverability analysis associated with NRIS in a manner that would likely limit the network issues that must be resolved to more local/regional issues—narrowing the scope of potential upgrades.<sup>148</sup> Mr. Sherner's caution was well-placed.

On January 5, 2007, MISO released the results of its new deliverability analyses associated with Excelsior's requests for NRIS for Mesaba One at both the preferred West and East Range

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

<sup>145</sup> See EE 1070 (Sherner Supplemental Testimony), p. 11–12. Note that amounts shown are in millions of dollars.

<sup>146</sup> EE 1070 (Sherner Supplemental Testimony), p. 5.

<sup>147</sup> *Id.*

<sup>148</sup> EE 1072 (Sherner Rebuttal Testimony), pp. 4–5, 9–10. See also EE 1073 (Schiro PowerPoint Presentation, "General Deliverability Study Task Force Report and Proposal" (August 8, 2006)).

Sites.<sup>149</sup> MISO's Deliverability Study Reports concluded that **no** additional Network Upgrades are necessary to make Mesaba One fully deliverable at 600 MW at the preferred West Range Site, and 531 MW for the East Range Site.<sup>150</sup>

MISO's determination with respect to the full deliverability of Mesaba One is contingent upon two planned transmission upgrades being completed.<sup>151</sup> Because the two upgrades are "planned" facilities identified for system reliability and are projected to be in-service before 2011, it is reasonable to assume that these contingencies will be satisfied.<sup>152</sup> Moreover, both lines are included in MISO's 2006 Transmission Expansion Plan Report (MTEP-06).<sup>153</sup>

Therefore, despite other parties' previous speculation regarding "several hundred millions dollars" of expected transmission costs,<sup>154</sup> MISO has now completed additional analyses and determined that no additional investment in Network Upgrades has been identified beyond the cost shown above for Mesaba One to be interconnected to the grid as a Network Resource.<sup>155</sup> In this respect, Excelsior submits that its Proposed Findings that a reasonable estimate of Network Upgrades at the West Range Site is \$53 million (half of which would likely be "Unreimbursed Transmission Costs" under the PPA) and at the East Range Site is \$0 should be adopted in this

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<sup>149</sup> See EE 1302 (Deliverability Study Report, MISO Project G519 – West Range Site) and EE 1303 (Deliverability Study Report, MISO Project G477 – East Range Site).

<sup>150</sup> See EE 1302 (Deliverability Study Report, MISO Project G519 – West Range Site) and EE 1303 (Deliverability Study Report, MISO Project G477 – East Range Site). As Mr. Sherner testified in his Surrebuttal Testimony, Power Technologies International ("PTI") completed a sensitivity study for the additional 69 MW not currently evaluated through the MISO generator interconnection request for the East Range Site and concluded that existing local transmission infrastructure can handle the full 600 MW, without the need for Network Upgrades. PTI was the contractor to MISO for the original G477 (East Range) System Impact Study done at 531 MW and utilized the same base case study models and contingency files to perform an identical set of analyses of Mesaba One with the output at 600 MW. EE 1072 (Sherner Rebuttal Testimony), pp. 32–34.

<sup>151</sup> See EE 1302 (Deliverability Study Report, MISO Project G519 – West Range Site) and EE 1303 (Deliverability Study Report, MISO Project G477 – East Range Site).

<sup>152</sup> See EE 1077 (Regional Plan 2006 through 2015 NM-SPG Report), p. 22 and MAPP Form 1 and 2.

<sup>153</sup> See Appendix A—Project Facilities Recommended for Board Approval p. 346, and Appendix B—Project Facilities Requiring Additional Planning or Review p. 363 (December 2006), available at [http://www.midwestmarket.org/publish/Document/3c9065\\_7c430a48324a/MTEP06\\_Report\\_1206\\_draft.pdf?action=download&\\_property=Attachment](http://www.midwestmarket.org/publish/Document/3c9065_7c430a48324a/MTEP06_Report_1206_draft.pdf?action=download&_property=Attachment), \_10e9e96031d\_

<sup>154</sup> See, e.g., MP 4000 (Anderson Direct Testimony), p. 15.

<sup>155</sup> See EE 1072 (Sherner Rebuttal Testimony), p. 9.

case.<sup>156</sup> As Mr. Richard Gonzalez testified on behalf of Xcel, “the official study of required upgrades and estimated costs can only be provided by MISO,”<sup>157</sup> and MISO has made its determination.

2. MISO’s determination that Mesaba One is deliverable will allow Excelsior to access the existing transmission system to deliver power to Xcel

In its Initial Brief, Xcel asserts that MISO “concluded that the request for 603 MW for firm transmission service cannot be granted at this time” due to constraints on the transmission system.<sup>158</sup> In support of its statement, Xcel cites MISO’s January 4, 2007 Interim Report entitled “System Impact Study for Long-Term Firm Transmission Service” (“Interim TSR Report”) related to NSP’s request for Long-Term Firm Transmission Service from Mesaba One to NSP’s load.<sup>159</sup> Xcel’s criticism is not related to MISO’s determination that Mesaba One can be designated a Network Resource.

As noted above, MISO has determined that Mesaba One does not require additional Network Upgrades to be interconnected to the grid as a Network Resource. As such, it is reasonable to expect that the NRIS process provides the most cost effective transmission solution that would allow Mesaba One to be fully accredited by MAPP. As Mr. Sherner testified, designation as a Network Resource would allow Mesaba One to access the *existing* transmission system (which has been determined to be adequate) on a priority basis to serve Xcel’s load.<sup>160</sup> A firm transmission service reservation under NITS is not also required. This fact was confirmed by Xcel Witness Schiro, who correctly testified that under NRIS “MISO requires the facility to pass a deliverability test that demonstrates there is *sufficient transmission capacity* available to deliver

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<sup>156</sup> Excelsior Proposed Findings 414, 443–446.

<sup>157</sup> XE-2028 (Gonzalez Direct Testimony), p. 7.

<sup>158</sup> Xcel Initial Brief, p. 26.

<sup>159</sup> *Id.*

<sup>160</sup> EE 1020 (Section IV), p. 83.

the unit's output within the MISO system.”<sup>161</sup> Although Xcel speculated that “obtaining transmission access through this mechanism [NRIS] is highly unlikely,” MISO has now determined through the NRIS process that Mesaba One can be a Network Resource.<sup>162</sup>

Now that MISO has determined that Mesaba One will be fully deliverable, Excelsior expects Xcel (and, perhaps, Excelsior's competitors MP and Manitoba) to argue that a firm transmission reservation may be necessary to reduce probable congestion and losses costs. There is no support in the record for such proposition, however.

Moreover, it should be understood that any transmission owner may propose to upgrade the existing transmission system through additional Network Upgrades in an effort to reduce anticipated congestion or transmission loss costs. This is not an exercise that is required to accredit Mesaba One's capacity. Ultimately, however, consistent with existing MISO and state processes, that transmission owner would need to determine whether the costs of additional transmission upgrades are outweighed by a reduction of the anticipated congestion or transmission loss costs. Evaluation of the economics of upgrading the existing transmission system is an ongoing process for all transmission owners, and it has nothing to do with whether or not new generation, such as Mesaba One, can deliver its energy on the existing system, which MISO has determined Mesaba One can.

It is also important to recognize that the Interim Report on the transmission service request provides very preliminary results that have not been scrutinized in any substantive manner for accuracy. As noted in the Interim TSR Report's disclaimer, “[a]ny person using the information contained in this draft report should understand that the information cannot be relied on as

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<sup>161</sup> XE-2025 (Schiro Direct Testimony), p. 5. (Emphasis added.)

<sup>162</sup> EE 1302 (Deliverability Study Report G519); EE 1303 (Deliverability Study Report G477).



accurate.”<sup>163</sup> Furthermore, as Xcel recognized in its testimony in this proceeding, it expects the final NRIS and NITS results to be comparable, which suggests that, like Excelsior, Xcel believes that MISO may ultimately conclude that significant Network Upgrades associated with Xcel’s NITS request may be unnecessary.<sup>164</sup>

Finally, it must also be noted that the results of MISO’s Interim Report are somewhat skewed. As Mr. Sherner confirmed in his Surrebuttal Testimony, Xcel’s NITS requests submitted on behalf of Excelsior are impacted by the proposed interconnection of an 800 MW coal-fired baseload generation resource in Northern Minnesota, which the project sponsors claimed is scheduled to be in-service by 2012. The transmission service request for the hypothetical 800 MW coal facility was submitted by Great River Energy (“GRE”) on behalf of incumbent generators GRE, MP, and Xcel.<sup>165</sup> As Mr. Sherner testified,

In checking on the status of the Mesaba One Network Integrated Transmission Service (NITS) requests, submitted by Xcel in July 19 and August 2, I was told that the System Impact Study (SIS) associated with these requests were next in the queue once the area study engineer finished the SIS in progress. Earlier this summer I had been told that MISO was studying Transmission Service Requests (TSR) requests associated with one of the 800 MW sites and still had the other to complete before the Mesaba One NITS requests could be studied—so these studies appear to be taking significant time and resources.<sup>166</sup>

As a result of the higher-queued TSR request associated with the hypothetical 800 MW unit, in evaluating Mesaba One’s NITS request, MISO has assumed that existing capacity would be used by proponents of the 800 MW unit. Therefore, if the proposed 800 MW unit is not built, it can be reasonably assumed that Mesaba One will be able to use the “released” capacity tied up in the TSR, mitigating against any need to upgrade the transmission system. As Mr. Sherner noted, this is likely to occur for the following reasons:

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<sup>163</sup> See EE 1301 (Interim TSR Report), p. 4.

<sup>164</sup> XE-2027 (Schiro Surrebuttal Testimony), p. 4.

<sup>165</sup> EE 1082 (Sherner Exhibit SDS-10, Xcel Response to Excelsior IR No. 43).

<sup>166</sup> EE 1081 (Sherner Surrebuttal Testimony), p. 5.

- Xcel has indicated in these proceedings that it is not planning any new solid fuel baseload additions before 2016 at the earliest.
- MP forecasted in its 2004 IRP a baseload need of 200 MW in 2011–2012 and that the Taconite Harbor generation transfer would satisfy this need for new generation until at least 2015.
- Great River Energy is taking a large ownership position in Big Stone II now scheduled to be in-service in 2011 and its 2005 Resource Plan indicates no need for baseload generation before 2013. *See the “2005 Great River Energy Integrate Resource Plan” at: [http://www.greatriverenergy.com/partners/\\_images/2005\\_irp\\_public.pdf](http://www.greatriverenergy.com/partners/_images/2005_irp_public.pdf).*<sup>167</sup>

In this respect, Mr. Sherner concluded that “[i]t would seem unlikely that this [800 MW] unit will proceed as proposed especially if the Commission orders Xcel to purchase power from Mesaba One to meet its baseload needs starting in 2011.”<sup>168</sup> In sum, any effort by Xcel to continue to argue that significant Network Upgrades associated with Mesaba One to deliver power to its control area will be required is contrary to the record in this case.

3. MISO’s transmission cost allocation is fair and supported by the State’s utilities

In its Initial Brief, MP expresses concerns with the prospect that MISO’s cost allocation rules may operate to allocate to it and its customers as much as \$77 million in transmission costs associated with Mesaba One.<sup>169</sup> As noted in Excelsior’s Initial Brief, MP’s inflated \$77 figure incorrectly assumes well over \$200 million in Network Upgrade costs will be required for Mesaba One to be declared a Network Resource.<sup>170</sup> As discussed above, MISO has recently confirmed that the cost of Network Upgrades for the preferred West Range Site will be approximately \$53 million.<sup>171</sup>

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<sup>167</sup> *Id.* at 5–6.

<sup>168</sup> *Id.*

<sup>169</sup> MP Initial Brief, p. 28.

<sup>170</sup> XE-2025 (Schiro Direct Testimony), p. 12.

<sup>171</sup> See Section III.E.1.

In addition, as Excelsior noted in its Proposed Findings 433–446, MP and its large customers have candidly acknowledged that their issue is with cost allocation under MISO’s FERC-approved tariff—a cost allocation regime that Xcel and MP supported in comments filed on October 28, 2005, in FERC Docket No. ER06-18-000.<sup>172</sup> While MP intimates in its Initial Brief that it should be the sole arbitrator of whether the costs of transmission upgrades are justified, FERC has rejected such anticompetitive posturings in accepting MISO’s cost allocation rules and requiring that transmission owners allow generators to interconnect to the bulk transmission system and participate in the competitive markets.<sup>173</sup> Accordingly, MP’s apparent belief that it is the gate keeper to participation in the competitive power markets through accessing the bulk transmission system should be rejected.

Finally, as Excelsior demonstrated in its Initial Brief, all transmission users will benefit from the Network Upgrades associated with Mesaba One and the cumulative benefits outweigh the costs.<sup>174</sup>

4. MCGP’s argument that the interconnection of Mesaba One to the grid will negatively impact existing generation is without merit

In its Initial Brief, MCGP alleges that MISO determined interconnecting Mesaba One to the transmission system would result in curtailments of other generation resources, including wind resources in southwest Minnesota.<sup>175</sup> MCGP’s contentions misinterpret factual information and have been completely rebutted by Mr. Sherner and the MISO deliverability results. As noted in Mr. Sherner’s Rebuttal Testimony, MCGP’s argument reflects a fundamental misunderstanding of

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<sup>172</sup> See EE 1072 (Sherner Rebuttal Testimony), p. 21; December 18 Public Hearing Transcript at page 68 (“[T]he PUC does not have jurisdiction . . . [t]hat’s a FERC tariff . . . the Commission has absolutely no jurisdiction to dispute the applicability of that tariff.”).

<sup>173</sup> *Midwest Independent Transmission System Operator, Inc.*, 116 FERC ¶ 61,252 at 9 (2006).

<sup>174</sup> Excelsior Proposed Findings 439–441 and corresponding citations to the record.

<sup>175</sup> MCGP Initial Brief, pp. 17–18.

the manner in which MISO conducts its transmission studies.<sup>176</sup> According to Mr. Sherner, “the confusion stems from the misinterpretation of the Mesaba One G477 and G519 System Impact Reports.”<sup>177</sup> In advancing its arguments in its Initial Brief, MCGP completely ignores Mr. Sherner’s rebuttal testimony.

Finally, as discussed above, MISO has now determined that Mesaba One is fully deliverable at the preferred West Range Site. Such a determination would not have been made by MISO if the addition of Mesaba One to the bulk transmission system resulted in a significant curtailment of existing or higher queued generation resources, including wind resources in southwestern Minnesota.

#### **I. The Five Public Interest Factors in the IEP Statute Favor the Project**

The IEP Statute directs the Commission to consider five public interest factors, as part of the “regulatory incentives” afforded the IEP.<sup>178</sup> The statute acknowledges that these factors, while not readily susceptible to quantification, are tangible benefits that an IGCC plant in Northeastern Minnesota offers the State. Xcel and other parties in this proceeding attempt to recast this incentive, which is intended to remove obstacles to implementation of an IEP, as creating new, additional obstacles that the Project must overcome, over and above the requirements that are applied to conventional coal plants. While proposing an analyzing a long list of factors that are not

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<sup>176</sup> Specifically, Mr. Sherner testified in this proceeding, “Some have incorrectly suggested that interconnecting Mesaba One will cause the curtailment of wind generation in SW Minnesota/South Dakota area, and the redispatch of MP and Big Stone II generation. This is not true.” EE 1072 (Sherner Rebuttal Testimony), p. 35.

<sup>177</sup> EE 1072 (Sherner Rebuttal Testimony), p. 36. “[T]he System Impact Studies were analyzing the local injection issues and not dealing with the deliverability issues. The studies associated with evaluating the NRIS and NITS requests outlined earlier in my testimony would deal with any adverse impacts the Mesaba One might have on the deliverability of existing and higher queued generation, and Network Upgrades would be required to eliminate (mitigate) such adverse impacts so that curtailments and redispatch would not be expected to occur for normal system operation.” *Id.*

<sup>178</sup> Section 2 of MINN. STAT. § 216B.1694, where these public interest factors are delineated, is entitled “Regulatory Incentives.”

prescribed by the IEP Statute, Xcel simultaneously argues that the Project must fail if it does not “satisfy its burden” of proving the statutory prescribed public interest factors.<sup>179</sup>

In fact, the record contains overwhelming evidence of the public interest benefits that the Project offers Minnesota. Significantly, none of these benefits are factored into the cost analysis of the Project in this proceeding, validating further the superiority of the IGCC product to the SCPC alternative.

1. The Project offers significant economic development benefits

Xcel, the Department, the Chamber, and other parties assert, in essence, that there are no economic development benefits associated with a \$2 billion investment in an economically depressed region of the State.<sup>180</sup> In support of this counterintuitive assertion, which creates the appearance that the Chamber and the Department would discourage the largest single construction investment ever in the State, the parties resort to strained legal arguments that Excelsior failed to take “net”<sup>181</sup> and “incremental”<sup>182</sup> economic development benefits to the State into account.

The record establishes clear economic development benefits from the Project. These benefits include (1) direct and indirect job creation throughout the State,<sup>183</sup> (2) potential industrial development as businesses locate in the region to take advantage of excess syngas from an

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<sup>179</sup> For example, after mis-applying the economic development benefits factor, Xcel concludes that “Mesaba 1 LLC has not satisfied its burden of providing that it will provide an overall net economic development benefit to the state of Minnesota.” Xcel Initial Brief, p. 29.

<sup>180</sup> See Xcel Initial Brief, pp. 28–29; Chamber Initial Brief, pp. 11–13; Department of Commerce Initial Brief, p. 39; MP Initial Brief, pp. 12–16; MCGP Initial Brief, pp. 24–25, 28, 31, 34; XLI Initial Brief, p. 2.

<sup>181</sup> Xcel Energy Initial Brief, pp. 28–29. There is no ambiguity in the IEP Statute’s “economic development benefits” language, unlike other provisions within Chapter 216B of Minnesota Statutes in which a “net economic analysis” could reasonably be impliedly required by the statute. See Minn. Stat. 216B.812, subd. 2(b)(9), listing the economic “impact” of a pilot hydrogen project as a proper consideration; Minn. Stat. 216B.2425, subd. 3(3), directing consideration of economic “interests” associated with state transmission project list approvals. Further, the IEP Statute does not contain any provisions that require a comparison of the economic development benefits of the Mesaba Project to alternative baseload projects.

<sup>182</sup> Department of Commerce Initial Brief, p. 39. The IEP Statute does not contain any provisions that require a comparison of the economic development benefits of the Mesaba Project to alternative in-state baseload projects.

<sup>183</sup> See Excelsior Proposed Findings 131–140 and corresponding citations to the record.

expanded Mesaba One or subsequent units,<sup>184</sup> (3) a stable price of energy, which will promote a strong business and investment environment,<sup>185</sup> and (4) a clean environment, which will support the tourism industry.<sup>186</sup> Additionally, the record reflects that no party provided expert testimony that contested the methodology underlying the University of Minnesota-Duluth Report, and witnesses for Xcel and the Department testified that the methodology was appropriate.<sup>187</sup>

2. The Project will operate primarily on domestically abundant coal

Xcel argues that because the Mesaba Project's IGCC technology is fuel flexible, the plant could operate on imported natural gas, cutting against its contribution to the public interest under Minn. Stat. §216B.1694, subd. 2(a)(7).<sup>188</sup> However, the record demonstrates that the plant is being designed to run primarily on domestically abundant coal feedstocks and the proposed PPA ensures that the Mesaba Project will utilize coal as a primary fuel through monetary incentives and termination clauses.<sup>189</sup>

3. The price of the power from the Project will be stable

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<sup>184</sup> See Excelsior Proposed Findings 141–146 and corresponding citations to the record.

<sup>185</sup> See Excelsior Proposed Findings 147–154 and corresponding citations to the record.

<sup>186</sup> See Excelsior Proposed Findings 155–156 and corresponding citations to the record.

<sup>187</sup> See DOC 3018 (Amit Surrebuttal Testimony, public), DOC 3023 (Amit Surrebuttal Testimony, non-public), p. 6; XE-2030 (Sheesley Direct Testimony), p. 3.

<sup>188</sup> Xcel Energy Initial Brief, pp. 29–31.

<sup>189</sup> See Excelsior Proposed Findings 76–83 and corresponding citations to the record. This is a puzzling criticism, given that Xcel's "Plan A," in the absence of the Project, is to rely solely on natural gas to meet baseload demand. Implicitly, Xcel argues that its own preferred plan is contrary to the public interest.

Several parties make arguments that purport to be concerned with price stability that actually relate to price certainty issues.<sup>190</sup> Section II.A. above and the record fully establish the price level certainty afforded by the tariff structure under the PPA.<sup>191</sup>

Price *stability* relates to avoiding the price volatility associated with natural gas-fired generation. Notably, the Department does not disagree with Excelsior's analysis of the stability of price from Mesaba One.<sup>192</sup>

Xcel argues that because the plant's fuel is not yet subject to long-term fuel supply contracts, the cost of electricity will not be stable.<sup>193</sup> Xcel's argument ignores the significant evidence in the record that the IGCC capacity will displace gas-fired generation with high price

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<sup>190</sup> For example, Xcel argues that because costs, such as final EPC costs, are not currently known, somehow this means that the price of the output will not be stable. Xcel Energy Initial Brief, p. 31. Three other parties echoed Xcel's argument. *See* MCGP Initial Brief, p. 36; MCEA Initial Brief, p. 13, MP Initial Brief, p. 17. MP claims that technology risk somehow makes the price unstable (MP Initial Brief, p. 17), a cost certainty argument that ignores the proposed PPA terms and the record on IGCC technology, which reflect that the capacity payment is adjusted for hours the plant is not available, offering ratepayers much greater certainty in terms of price per kilowatt hour than a utility-built plant. *See* Excelsior Proposed Finding 530; EE 1138 (Gale Rebuttal), p. 16. MP's assertion that IGCC technology poses risks disregards the record about the successful operational experience of other ConocoPhillips IGCC projects (Excelsior Proposed Findings 89–91 and corresponding citations to the record; EE 1104 (Lynch Supplemental), pp. 3–5), the addition of a spare gasification train to the design of Mesaba Unit 1 (Excelsior Proposed Finding 250; EE 1020 (Section IV), p. 48), and the ability to use natural gas as a back-up fuel in emergency situations (Excelsior Proposed Finding 251; EE 1004 (Section I), p. 20). Consequently, the proposed PPA provides cost certainty protections for ratepayers that utilities do not match and the Project provides price certainty hedges that pulverized coal plants cannot achieve. MCEA claims that the likelihood of future carbon regulation makes the price less stable. (MCEA Initial Brief, p. 13.) Again, this is an argument about certainty as to the level of the price, not the stability (versus volatility) of the price. As to this certainty issue, the record is undisputed that the Project has a significant advantage over every other fossil-fuel fired generation facility for capturing and sequestering carbon dioxide, a fact even Xcel admits. (Excelsior Proposed Findings 252–260, 341; Xcel Energy Initial Brief, p. 5; EE 1268 (Xcel Response to Excelsior IR No. 134, public), EE 1269 (Xcel Response to Excelsior IR No. 134, non-public), p. 7–23.) In addition, the Project is ready for equipment that would allow 30% carbon dioxide capture and has the potential for 90% capture of carbon dioxide when the Department of Energy's FutureGen project perfects the technology for such capture. (Excelsior Proposed Finding 366 and corresponding citations to the record.) Thus, the price terms of the PPA, which pass through the cost of future environmental regulations, are actually more certain than any traditional coal-fired plant since those plants must spend significantly more for carbon dioxide capture if such capture can even be accomplished in traditional coal plants. (Excelsior Proposed Findings 338–347 and corresponding citations to the record.)

<sup>191</sup> With the proposed cap described in Section II.A. above, not only will the capacity price be fixed at the start of construction for the 25-year term of the PPA, but effective immediately there will be an upper limit on the automatic adjustment to the capacity price.

<sup>192</sup> *See* Department of Commerce Initial Brief.

<sup>193</sup> Xcel Energy Initial Brief, p. 31. Two other parties echoed Xcel's argument. *See* MCGP Initial Brief, p. 36; MP Initial Brief, p. 17.

volatility,<sup>194</sup> coal prices are much more stable than gas prices,<sup>195</sup> and the fuel component of a coal facility represents a much smaller component of the total cost of energy than the gas consumed in a gas-fired plant.<sup>196</sup> Additionally, since Xcel has the deciding vote on how to manage the fuel procurement for the Project, the Commission and the Department will have the same prudence oversight as they do for all of Xcel's other generation facilities.<sup>197</sup> Thus, even the fuel portion of the PPA costs will be at least as stable as any other coal-fired plants owned and operated by Xcel. In the event that Xcel determines that long-term fuel supply contracts are in the best interests of ratepayers, Xcel could elect to eliminate all risk of coal price fluctuations.

Contrary to the baseless assertion of several opponents in this proceeding, the substantial evidence in the record overwhelmingly establishes that the PPA's price terms result in price stability showing that the terms and conditions are in the public interest as required by Minn. Stat. § 216B.1694, subd. 2(a)(7).<sup>198</sup>

4. The Project has the potential to contribute to a transition to hydrogen as a fuel resource

Xcel states that the record "contains no evidence demonstrating that Mesaba 1 LLC will actually contribute to the transition to hydrogen as a fuel source as required by law."<sup>199</sup> This mischaracterizes Minn. Stat. § 216B.1694, subd. 2(a)(7) as requiring actual production of hydrogen, even though the statute by its plain terms only requires Mesaba One to have the "potential to contribute to a transition to hydrogen as a fuel resource" (emphasis added). In addition to mischaracterizing the applicable legal standard, Xcel completely ignores the record

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<sup>194</sup> See Excelsior Proposed Finding 124 and corresponding citations to the record; see also Excelsior Finding 239.

<sup>195</sup> See Excelsior Proposed Finding 111 and corresponding citations to the record.

<sup>196</sup> See Excelsior Proposed Finding 171 and corresponding citations to the record.

<sup>197</sup> See Revised PPA Sections 5.5, 10.5(C).

<sup>198</sup> See generally Excelsior Proposed Findings 164–260 and corresponding citations to the record.

<sup>199</sup> Xcel Initial Brief, p. 31.



evidence that the Project can produce large quantities of hydrogen from coal,<sup>200</sup> reflecting that the Project has the potential to contribute to a transition to hydrogen as a fuel source.

5. The Project will achieve significant emissions reductions compared to other solid fuel baseload technologies

As discussed in Section III.B. of this Reply Brief, the contention that IGCC technology will not achieve significant emissions reductions is without merit.

In sum, the Project offers the significant public interest benefits delineated in the IEP Statute. The Project is in the public interest and the PPA should be approved.

**J. As Required by the IEP Statute, Excelsior Has Certified as Its Developer and Owner That the Project Is “Capable Of Offering a Long-Term Supply Contract at a Hedged, Predictable Cost.”**

Xcel argues that the plain language of the IEP Statute, which requires an IEP to *certify* that the project is “*capable* of offering a long-term supply contract at a hedged, predictable price,”<sup>201</sup> should mean that Excelsior must *actually* offer a fixed price today in order to qualify as an IEP.<sup>202</sup>

The record contains unequivocal evidence that Excelsior and the Project have satisfied the IEP Statute owner certification requirement. The Petition in this docket states: “Excelsior Energy Inc., the owner and developer of the Mesaba Project, certifies that the Mesaba Project is capable of offering a long-term supply contract at a hedged, predictable cost” and the Direct Testimony of Thomas L. Osteraas provides the foundation for the Petition.<sup>203</sup> Indeed, the Department of Commerce agrees that Excelsior and the Project have satisfied this and the other requirements of the IEP statute’s definition of an “innovative energy project.”<sup>204</sup>

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<sup>200</sup> Excelsior Proposed Finding 262 and corresponding citations to the record.

<sup>201</sup> Minn. Stat. § 216B.1694, subd. 1(2) (emphasis added).

<sup>202</sup> Xcel Energy Initial Brief, pp. 22–27.

<sup>203</sup> EE 1002 (Petition for Approval of a PPA Determination that Clean Energy Technology is or is Likely to be a Least-Cost Resource, and Establishment of the CET Minimum), p. 10; EE 1030 (Osteraas Supplemental).

<sup>204</sup> Department Initial Brief, p. 16.

Xcel suggests that the ALJs should look behind the certification that is required by the Statutes, contravening the statutory standard.<sup>205</sup> In any event, there is considerable testimony and evidence in the record that, in fact, the Project's output will have a hedged, predictable price.<sup>206</sup> In addition to the considerable evidence in the record on this point, Xcel reinforces the importance of the hedge offered by coal-based facilities in its Sherco filing earlier this month, where it stated,

Natural gas prices have been volatile and we share the concern expressed in recent proceedings [about] expanded use of natural gas as a fuel for electrical generation other than for peaking purposes.<sup>207</sup>

In short, Excelsior has provided the requisite certification with regard to Minn. Stat. § 216B.1694, subd. 1(2), but even if the Commission could look beyond Excelsior's certification the record contains substantial evidence establishing that the Mesaba Project is capable of offering a long-term supply contract at a hedged, predictable cost.

**K. The Record Demonstrates That Xcel Will Not Suffer Negative Credit Impacts as a Result of the PPA.**

Xcel summarily states in its Initial Brief that the PPA will have serious financial consequences to Xcel Energy.<sup>208</sup> Xcel cites the testimony of Marvin E. McDaniel in support of the proposition that the PPA will be consolidated on Xcel's balance sheet. Xcel ignores the testimony of financial expert Michael J. Hamilton, who points out that Xcel does not—and has not indicated any plans to—consolidate its other PPAs on its balance sheet, which impeaches Xcel's assertion.<sup>209</sup> In

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<sup>205</sup> The ALJs have already rejected a nearly identical question raised by MCGP's Motion For Summary Disposition challenging the IRR Commissioner's designation under Minn. Stat. § 216B1694, subd. 1(3). As in the case of the MCGP challenge, Xcel's challenges of the certification required under Minn. Stat. § 216B1694, subd. 1(2) must be rejected.

<sup>206</sup> See Excelsior Proposed Findings 100–126 and corresponding citations to the record.

<sup>207</sup> EE 1220 (Sherco Filing), p. 9-3.

<sup>208</sup> Xcel Initial Brief, p. 2.

<sup>209</sup> EE 1147 (Hamilton Rebuttal Testimony), pp. 7, 8, 11.

addition, Xcel cites the conclusion of George E. Tyson II that one rating agency will impute debt into Xcel's balance sheet as support for the proposition that the PPA is not in the public interest.<sup>210</sup>

These purported impacts on holding company shareholders and bondholders are not one of the public interest factors prescribed by statute and are properly excluded from consideration in this docket.<sup>211</sup> In addition to being excluded by the Statutes, consideration of these factors ignores the Commission's directive to keep the proceeding tightly focused on the narrow issues referred.<sup>212</sup>

Further, Xcel's assertions do not address the evidence in the record that: (1) bondholder and shareholder concerns are not public interest factors in general,<sup>213</sup> (2) Xcel's (as opposed to NSP's) credit concerns do not flow from Minnesota's need for new baseload power,<sup>214</sup> (3) NSP's credit situation is strong, and on a stand-alone basis, no additional profits to Xcel are required to maintain NSP's credit strength,<sup>215</sup> (4) only one credit agency, Standard & Poors, considers imputed debt as a component of assessing utility credit,<sup>216</sup> (5) Standard & Poors' only stated concerns about Xcel's and NSP's credit relate to Xcel's high debt burden and its current and future level of capital expenditures relating to expansion of its utility subsidiaries' rate base,<sup>217</sup> (6) the

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<sup>210</sup> Xcel Initial Brief, pp. 35–36.

<sup>211</sup> Excelsior Proposed Finding 676 and corresponding citations to the record; Minn. Stat. § 216B 1694, subd. 2(a)(7).

<sup>212</sup> Excelsior Initial Brief, pp. 25, 35, n. 125. *See also* Excelsior Proposed Finding 675 and corresponding citations to the record; Minn. Pub. Util. Comm'n, Notice and Order for Hearing and Order Granting Intervention Petition, p. 4, Docket E-6472-M-05-1993 (Apr. 25, 2006), p. 3.

<sup>213</sup> Excelsior Initial Brief, p. 36; EE 1137 (Chen Rebuttal Testimony), p. 14, 39–40.

<sup>214</sup> Excelsior Proposed Finding 691 and corresponding citations to the record; EE 1149 (Meal Rebuttal Testimony), pp. 34–35; Excelsior Proposed Finding 692 and corresponding citations to the record; EE 1149 (Meal Rebuttal Testimony), p. 55.

<sup>215</sup> Excelsior Proposed Finding 693 and corresponding citations to the record; EE 1149 (Meal Rebuttal Testimony), p. 54.

<sup>216</sup> Excelsior Proposed Finding 708 and corresponding citations to the record; EE 1149 (Meal Rebuttal Testimony), pp. 26–27

<sup>217</sup> Excelsior Proposed Finding 707 and corresponding citations to the record; EE 1149 (Meal Rebuttal Testimony), p. 45

PPA poses no material risk of adverse credit ratings to NSP or Xcel,<sup>218</sup> (7) the PPA is beneficial to Xcel's credit situation, as compared to constructing a new rate-based facility or continuing to increase consumption of natural gas for power generation,<sup>219</sup> (8) the larger concern for Minnesota is the need to identify a means to meet the need for massive new investment, given the deferral of the building program to date and the need to have multiple plants under construction simultaneously in order to meet the need projected by Xcel,<sup>220</sup> (9) Xcel's unfounded credit impacts assumption and analysis is used by Xcel as a basis to overstate the costs of the PPA to NSP's ratepayers by more than a billion dollars, and as a basis to assume that the Commission would agree to raise rates to increase NSP's annual profits by 10% beginning when the PPA is signed, to the detriment of the ratepayers, the Project and all future competition in the state,<sup>221</sup> and (10) Xcel's and NSP's own securities filings do not reflect any concern about either imputed debt or consolidation.<sup>222</sup>

In sum, Xcel's credit impact analysis relating to the PPA is not credible and is an attempt to completely overturn the IEP and CET Statutes. Xcel's assertion of a right to receive a billion dollars in additional profits from NSP's ratepayers as part of the PPA transaction should be rejected.

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<sup>218</sup> Excelsior Proposed Finding 718 and corresponding citations to the record; Excelsior Initial Brief, p. 41; EE 1138 (Gale Rebuttal Testimony), pp. 3, 10, 11; EE 1149 (Meal Rebuttal Testimony), pp. 34, 35, 42, 56–57.

<sup>219</sup> Excelsior Proposed Finding 705 and corresponding citations to the record; EE 1149 (Meal Rebuttal Testimony), pp. 34–35; EE 1138 (Gale Rebuttal Testimony), p. 7–8.

<sup>220</sup> EE 1138 (Gale Rebuttal Testimony), p. 7–8; EE 1149 (Meal Rebuttal Testimony), p. 15.

<sup>221</sup> Excelsior Initial Brief, pp. 33, 37.

<sup>222</sup> Excelsior Initial Brief, pp. 39–41. Further, although the IEP and CET Statutes became law in 2003, the fact that Xcel's and NSP's first reference to the Statutes in its Securities and Exchange filings occurred in 2006 confirms that neither Xcel nor NSP believed that the 2003 laws would cause any material impacts that warranted disclosure to Xcel's and NSP's stock and bondholders under applicable federal securities laws.

#### **IV. XCEL'S LEGAL AND CONSTITUTIONAL CHALLENGES ARE MERITLESS**

Xcel raises a large number of legal issues and challenges in its Initial Brief. Most are addressed in Excelsior's Initial Brief and Proposed Findings.<sup>223</sup> This section of Excelsior's Reply Brief will address (1) whether the IEP and CET Statutes mandate a PPA with an innovative energy

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<sup>223</sup> The following legal challenges and issues raised by Xcel are addressed elsewhere:

- (1) Burden of Proof. Xcel's legal argument on burden of proof (Xcel's Initial Brief at 1, 3–4) is addressed by Excelsior Proposed Conclusions of Law 5–6.
- (2) The nature of the Public Interest Test—whether the traditional public interest standard for competitive PPAs applies. Xcel addresses this issue at pages 6–8 of its Initial Brief. Excelsior addresses this issue at pages 11–12 of its Initial Brief and pages 48–52 of this Reply Brief.
- (3) Meaning of “traditional technologies” in the definition of “clean energy technology.” Xcel addresses this issue in its Initial Brief at pages 13–14 and page 14, footnote 14. This issue is addressed by Excelsior in footnote 89 of this Reply Brief.
- (4) Consideration of Need/Exemption from Certificate of Need. Xcel addresses this issue at pages 16–17 and page 22 of its Initial Brief. Excelsior addresses this issue at pages 41–45 of its Initial Brief and pages 31–35 of this Reply Brief.
- (5) Whether the Commission's decision in Xcel's 2004 IRP docket collaterally estops Excelsior from rebutting evidence of Xcel's Strategist Model that baseload power is not needed. Xcel addresses this legal argument at pages 16–17 of its Initial Brief. Excelsior addresses this argument at pages 46–51 of its Initial Brief, and in *supra* note 107 and accompanying text of this Reply Brief. Collateral estoppel only precludes a party from “raising issues that are identical with issues previously litigated and which are necessary and essential to the former judgment.” *Aufderhar v. Data Dispatch, Inc.*, 452 N.W.2d 648, 650 (Minn. 1990). Indeed, collateral estoppel “requires the party asserting it to establish ‘that the precise question was in fact presented and necessarily determined.’” *Roseberg v. Steen*, 363 N.W.2d 102 (Minn. Ct. App. 1985) (quotation omitted); *see also Hauser v. Mealey*, 263 N.W.2d 803, 806 (Minn. 1978). The doctrine therefore is inapplicable. First, the present issue is not the precise question presented and determined in the previous proceedings. In this proceeding, Excelsior essentially challenges Xcel's manipulation of its model and the model's input variables to achieve an outcome that differs in each proceeding. Excelsior's challenge to the accuracy of the model in this context could not have been previously considered because Xcel did not use the model in the same manner in the previous proceeding. Second, even if the Commission were to construe the issue as identical to the previous issue, the Commission never made a determination of need that would operate to bar the issue from future consideration, especially in the context of the IRP process, which is an ongoing process of review with an evolving record. *See Care Instit., Inc. v. County of Ramsey*, 576 N.W.2d 734, 737 (Minn. 1998) (stating that collateral estoppel should only apply when controlling facts remain unchanged and declining to apply collateral estoppel in part because valuation year was different). Third, Xcel has failed to demonstrate that the issue was necessary and essential to the previous order. A determination of need was neither necessary nor essential to the IRP Order, and any consideration of the issue in the previous proceeding does not preclude its consideration in the proceeding. Finally, even when collateral estoppel is applicable, the Commission has discretion in determining whether to preclude an issue and should not rigidly apply the doctrine if it would result in an injustice. *See Hauschildt v. Beckingham*, 686 N.W.2d 829, 837 (Minn. 2004); *Pope County Bd. of Comm'rs v. Pryzmus*, 682 N.W.2d 666, 669 (Minn. Ct. App. 2004), *rev. denied* (Minn. Sept. 29, 2004).
- (6) Whether the consideration of “economic benefits to the State” under the IEP Statute requires a “net benefits” analysis. Xcel addresses this issue at pages 28–29 of its Initial Brief. Excelsior addresses this issue in its Proposed Findings 139–140, and in *supra* notes 181–182 and accompanying text of this Reply Brief.
- (7) Whether the Project must produce hydrogen fuel or install hydrogen fuel making equipment to meet the IEP public interest criteria of “potential to contribute to a transition to hydrogen as a fuel resource. Xcel addresses this issue at pages 31–32 of its Initial Brief. Excelsior addresses this issue at page 12 of its Initial Brief, Proposed Findings 261–272, and in *supra* note 200 and accompanying text of this Reply Brief.

project as a matter of law; (2) Xcel's constitutional arguments; and (3) whether the power purchase obligations of the IEP and CET Statutes are cumulative.

**L. The Enabling Statutes Mandate a PPA With a Qualifying Innovative Energy Project as a Matter of Law**

Xcel argues “[t]he [IEP and CET] statutes were never meant to constitute a mandate or requirement that Xcel Energy be compelled to enter into a contract.”<sup>224</sup> Xcel argues that the IEP Statute language, “shall be entitled to enter into a contract,” merely “is voluntary and provides a framework for the parties to work together to come to a consensual contract.”<sup>225</sup> Xcel also argues that the CET Statute language, “shall supply” and “electric energy required by this section shall be supplied by the innovative energy project,” is similarly voluntary:

Minn. Stat. § 216B.1693 subd 2 [sic] provides that a clean energy technology *may* supply at least two percent of Xcel Energy's retail electric energy needs if the Commission finds the clean energy technology ‘is or is likely to be a least-cost resource . . . .’<sup>226</sup>

Finally, Xcel alternatively argues that the Commission has no authority to interpret the IEP Statute to mandate a contract.<sup>227</sup>

Xcel's argument that the IEP and CET Statutes fail to require an off-take PPA from an innovative energy project and only authorize consensual contracts is unfounded. This argument

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<sup>224</sup> Xcel Initial Brief, p. 9.

<sup>225</sup> *Id.*

<sup>226</sup> *Id.* at 13 (emphasis added).

<sup>227</sup> Xcel also argues that several cases interpreting the scope of administrative agency power support this argument. Xcel Initial Brief at 10, n.11. These cases are distinguishable. Xcel's quote from *Bowie v. La. Pub. Serv. Comm'n*, 627 So.2d 164 (La 1993) is tellingly incomplete. The case did not involve the application of administrative agency powers to a utility's contracts but an agency's power to deprive utility shareholders of their “rights to contract and to dispose of their private property” through the sale and transfer of their shares in a regulated utility. *Peoples Natural Gas. Co. v. Minn. Pub. Util. Comm'n*, 369 N.W.2d 530 (Minn. 1985) concerned the Commission's implied authority to order refunds (as opposed to prospective ratemaking). Finally, *Waller v. Powers Dept. Store*, 343 N.W.2d 655 (Minn. 1984) recites the nondelegation doctrine as a general proposition of administrative law, with which Excelsior agrees, in the inapposite context of interpreting the district court's authority to enlarge agency powers under the grounds of statutory interpretation to compel discovery in administrative proceedings before the Minneapolis Department of Civil Rights.

ignores the express language and plain meaning<sup>228</sup> of the Statutes, their legislative history, and the public purpose of the Statutes to ensure baseload energy innovation through a “pivotal entitlement [to a PPA] conferred by the IGCC enabling legislation.”<sup>229</sup> To accept Xcel’s interpretation of the statutes would be to give Xcel a veto over the implementation of explicit statutory directives.

1. Plain language of the IEP Statute

According to well settled canons of statutory interpretation, the first stage of statutory analysis must focus on the language that the statute actually uses. Unless the statute itself defines the terms it uses, the terms should be given their ordinary meaning.<sup>230</sup> Where words are

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<sup>228</sup> Xcel mistakenly relies on a Texas Court of Appeals case for the proposition that the plain meaning of “shall be entitled to enter into a contract” in the IEP Statute does not obligate Xcel to enter a contract. *See* Xcel’s Initial Brief at 10, n. 10 (citing *Power Res. Group v. Pub. Util. Comm’n of Texas*, 73 S.W.3d 354 (Ct. App. Tx. 2002)). If anything, the case supports the conclusion that the Minnesota Legislature, by using the express language “shall be entitled to enter into a contract,” meant to impose an obligation on Xcel to enter into a contract as opposed to merely be obligated to purchase power. The Texas court interpreted the “plain meaning” of a Texas regulation (16 Tex. Admin. Code § 23.66(d)(1)(C)), which reads, in pertinent part,

Each electric utility shall purchase energy and capacity from a qualifying facility with a design capacity of 100 kW or more within 90 days of being notified by the qualifying facility that such energy and capacity are or will be available, provided that the electric utility has sufficient interconnection facilities available. . . . Nothing in this subsection shall be construed in such a manner so as to preclude a qualifying facility from notifying and contracting for energy and/or capacity with a utility prior to 90 days before delivery of such energy and/or capacity.

*Power Res. Group*, 73 S.W.3d 354, 358–59 (emphasis in original). The Texas court was reviewing the Texas Public Utilities Commission interpretation of this rule refusing to require a utility to enter a contract with a QF even though it had the obligation to purchase power supplied by a QF. “According to the Commission, the requirement in the rule to purchase is not the same as the requirement to contract.” *Id.* (emphasis in original). The Texas court concluded that the plain meaning of “purchase” is not the same as “contract.”

The rule’s first sentence specifies when “each electric utility shall purchase energy and capacity,” the last sentence specifies that “contracting for energy and/or capacity” may occur at any time, including prior to ninety days. To read the rule as Power Resource suggests would give “purchase” the same meaning as “contract.”

*Id.* at 361 (emphasis in original). Thus, if anything, this case supports the conclusion that the plain meaning of the IEP Statute mandates NSP to enter a contract with an IEP, as opposed merely to purchase power.

<sup>229</sup> EE 1137 (Chen Rebuttal Testimony), p. 27.

<sup>230</sup> *See Nadeau v. Austin Mut. Ins. Co.*, 350 N.W.2d 368, 373 (Minn. 1984) (“First, the terms of a statute generally should be construed according to their plain and ordinary meaning.”); *State v. Engholm*, 290 N.W.2d 780, 784 (Minn. 1980) (“[a]bsent statutory definition, words are to be construed according to their common and approved usage.”).

unambiguous, their meanings are conclusive and courts must not engage in further statutory construction.<sup>231</sup>

The plain language of the IEP Statute, Minn. Stat. § 216B.1694, subd. 2(a)(7), states that, subject to the MPUC’s approval, Excelsior “is entitled to enter into a contract” to provide NSP with “450 megawatts of base load capacity and energy under a long-term contract.” This language provides Excelsior with (1) the right to supply clean energy to NSP, (2) the right to enter into a contract; and (3) the right to enter into a long-term contract.

The plain language of Minn. Stat. § 216B.1694, subd. 2(a)(7) makes it clear that Excelsior has the right to supply NSP with clean energy because the Statute states that Excelsior “is entitled” to enter into a contract. The word “entitled” ordinarily means “to have the right to.” The U.S. Constitution,<sup>232</sup> the U.S. Supreme Court,<sup>233</sup> the Supreme Court of Minnesota,<sup>234</sup> and the Minnesota Legislature<sup>235</sup> all use “entitled” in a manner consistent with its ordinary meaning.

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<sup>231</sup> “When the words of a law in their application to an existing situation are clear and free from all ambiguity, the letter of the law shall not be disregarded under the pretext of pursuing the spirit.” Minn. Stat. § 645.16. *See also Swenson v. Emerson Elec. Co.*, 374 N.W.2d 690, 699 (Minn. 1985) (“[The] first task in interpreting a statute is simply to examine the language of the statute and, absent a clearly expressed legislative intention to the contrary, that language must ordinarily be regarded as conclusive.”); *Tuma v. Comm’r of Economic Sec.*, 386 N.W.2d 702, 706 (Minn. 1986) (“Where the words of a statute are clear and free from ambiguity, [a court] has no right to construe or interpret the statute’s language. [A court’s] duty in such a case is to give effect to the statute’s plain meaning.”).

<sup>232</sup> The U.S. Constitution uses the word “entitled” only once, in granting American citizens a fundamental right, “[t]he Citizens of each State shall be entitled to all the Privileges and Immunities of Citizens in several States. U.S. CONST. art. IV, § 2.

<sup>233</sup> The U.S. Supreme Court also uses the word “entitled” when referring to important, fundamental rights. Those rights include: a defendant’s right to a trial by jury when charged with a serious crime, *See Duncan v. Louisiana*, 88 S. Ct. 1444, 1454, 391 U.S. 145, 162 (1968) (“[A]ppellant was *entitled* to a jury trial.”) (emphasis added); the right to a speedy trial, *see Will v. U.S.*, 88 S. Ct. 269, 274, 389 U.S. 90, 96 (1967) (“[I]n criminal cases . . . the defendant is *entitled* to a speedy resolution of the charges against him.”) (emphasis added); and the *Miranda* right to counsel during an interrogation, *see Miranda v. Arizona*, 86 S. Ct. 1602, 1628, 384 U.S. 436, 474 (“[I]f police propose to interrogate a person, they must make known to him that he is *entitled* to a lawyer.”) (emphasis added).

<sup>234</sup> In construing the language of a trust agreement, the Minnesota Supreme Court followed the ordinary meaning of “entitled:” “The word *entitled* means to have a right to receive.” *First Nat’l Bank of Minneapolis v. Comm’r of Taxation*, 84 N.W.2d 122, 129 (Minn. 1957).

<sup>235</sup> Where the Minnesota Legislature uses the word “entitled” in Chapter 216B, it consistently refers to a vested right. The Legislature uses the phrase in Minn. Stat. § 216B.16(3)(d) to declare that the MPUC “shall be entitled to recover reasonable attorney’s fees, court costs and estimated cost” after refunding excessive interim rate charges by utilities, and the Legislature uses the phrase in Minn. Stat. § 216B.17 to declare that the utility and complainant “are entitled to be heard and to be represented by counsel” during the investigation of complaints. According to a search of the Minnesota State Legislature’s webpage, the phrase “entitled to” appears in 1398 different sections of Minnesota law.



2. Ordinary meaning of the IEP Statute

“Entitlement” is plainly understood to mean “a right to benefits specified especially by law or contract; furnished with proper grounds for seeking or claiming something.”<sup>236</sup>

Thus, the plain language of Minn. Stat. § 216B.1694, subd. 2(a)(7) makes it clear that Excelsior has the right to enter a contract, not the mere right to bid on or the mere right to negotiate a contract. Courts should defer to the Legislature and assume the language appearing in laws reflect lawmakers’ intentions.<sup>237</sup>

3. Plain language of the CET Statute

Minnesota Statute Section 216B.1693 states that if the MPUC finds that IGCC technology “is or is likely to be a least-cost resource,” NSP “shall supply at least two percent of the electric energy provided to retail customers from clean energy technology.” The Statute uses “shall” twice, once in subdivision (a) where it states NSP “shall supply at least two percent of the electric energy provided to retail customers from clean energy technology,” and once in subdivision (b) where it states “[e]lectric energy required by this section shall be supplied by the innovative energy project.” According to Minn. Stat. § 645.44, subd. 16, “[s]hall is mandatory.”<sup>238</sup> Thus, the plain

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Among other things, the laws declare that government employees who are also Minnesota Legislators are “entitled to [an unpaid] leave of absence from the public office,” Minn. Stat. § 3.088; that the spouses of retired and deceased legislators “shall be entitled to one-half of the amount of the allowance being paid to the legislator,” Minn. Stat. § 3A.04; and that retiring Supreme Court Justices “shall be entitled to receive the compensation allotted to the office for the remainder of the term for which the justice was elected.

<sup>236</sup> See MERRIAM-WEBSTER’S COLLEGIATE DICTIONARY (11th ed. 2006). See also BLACK’S LAW DICTIONARY (8th ed. 2004) (“entitle” means “to grant a legal right to or qualify for;” “entitlement” means “an absolute right to a benefit granted immediately upon meeting a legal requirement”). According to *Garner’s Modern American Usage*, “entitle means: (1) “to provide with a right or title to something,” <entitled to a discount>; and (2) “to give a title to” <a book entitled *Woe Unto You, Lawyers!*>. Sense 1 is more common. “Entitled,” B. Garner, GARNER’S MODERN AMERICAN USAGE, (Oxford Univ. Press, 2003). According to *American Heritage Dictionary*, “to entitle” means: (1) to give a name to; (2) to furnish with a right or claim to something: <The coupon entitles bearer to a 25 percent savings. Every citizen is entitled to equal protection under the law.> “Entitle,” AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE (Joseph P. Pickett ed., 4th ed. 2000), available at <http://www.bartleby.com/61/>.

<sup>237</sup> See *State v. West*, 173 N.W.2d 468, 474, 285 Minn. 188, 197 (1970) (“It is not for the courts to make, amend, or change statutory law, but only to apply it.”).

<sup>238</sup> See also *Koch Refining Co. v. U.S. Dept. of Energy*, 497 F. Supp. 879, 891 (D.C. Minn. 1980) (“Specifically, where the words ‘shall’ and ‘may’ are used in the same statute or regulation, ‘shall’ is usually interpreted to impose a

language of the statutes creates two separate and independent power supply obligations which are mandatory.<sup>239</sup>

4. Legislative history

The record is unchallenged that under the Omnibus Energy Bill of 2003, NSP and its ratepayers received substantial economic and regulatory benefits it requested to extend the life of its nuclear and metropolitan baseload power plants in return for legal obligations to support renewable and innovative energy projects through grants and mandated off-take agreements.<sup>240</sup> To argue now, as Xcel does, that the Statutes only authorize negotiations, which could have occurred in the absence of the IEP and CET Statutes, and do not mandate an off-take PPA from an innovative energy project ignores this legislative history and Xcel's recognized obligations for its receipt of legislatively authorized saving of billions of dollars in capital expense obligations had nuclear storage not been extended as part of the 2003 law.

5. Public purpose

There can be no doubt that the public purpose of the IEP and CET Statutes is to spur competition and the actual development and deployment of innovative energy technologies. And, as Professor Chen explained, legislative mandates for innovation are necessary to overcome the resistance of incumbent utilities to those public policy goals:

The Minnesota IGCC Enabling Legislation follows a proud tradition of forward-looking, technologically transformative lawmaking in the United States. The IGCC Enabling Legislation was passed in 2003, on the 25th anniversary of the epochal Public Utilities Regulatory Policies Act of 1978 (PURPA). The fortuitous timing is entirely appropriate, because a similar set of public policy goals motivated

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mandatory obligation and 'may' is usually interpreted to grant discretion."); *State by Beaulieu v. RSJ, Inc.*, 552 N.W.2d 695, 701 (Minn. 1996) ("The word 'shall' is mandatory."); *Agassiz & Odessa Mut. Fire Ins. v. Magnusson*, 136 N.W.2d 861, 868, 272 Minn. 156, 165 (1965) ("It is also well established that the words 'may' and 'shall,' when used in statutes, ordinarily are not to be construed as interchangeable but are to be given their literal meanings unless a contrary legislative intent appears.").

<sup>239</sup> See also Order on [XLI's] Motion for Summary Disposition, Oct. 25, 2006, Memo. at § IV, p. 8.

<sup>240</sup> EE 1137 (Chen Rebuttal Testimony), pp. 29–30; Transcript of 12/18/06 Public Hearing (Beard Testimony), p. 24–27; MCGP Initial Brief; Letter from Senator David J. Tomassoni to The Honorable Bruce Johnson, Dec. 22, 2006.

both PURPA and the Minnesota IGCC Enabling Legislation. These statutes demonstrate how legislative mandates can and do spur innovation in regulated industries. Incumbent utilities' resistance to technology- and market-driven change, which has obstructed the realization of these statutory schemes, is another salient (if unfortunate) hallmark of PURPA and of Minnesota's IGCC Enabling Legislation.

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Finally, I address the ability of incumbent utilities to offer credible commentary on the Mesaba Energy Project. Incumbent utility companies and their shareholders have an overwhelming incentive to maintain their monopolistic grip on all aspects of the electrical industry, including the structurally competitive generation sector. Like any other incumbent, Xcel Energy will stop at nothing to prevent new baseload generation from being provided by an independent power company. In particular, Xcel's statement of the case and Judy Pofert's direct testimony offer interpretations of the relevant statutes that are so implausible as to support only one inference: incumbent resistance by any means to any competitive entry. It is imperative that the MPUC not allow utility self-interest to supersede the public interest as embodied in the Minnesota IGCC Enabling Legislation.<sup>241</sup>

Professor Chen also testified regarding the validity of similar legal challenges by incumbent utilities frustrate the public purpose goals of PURPA.

FERC aggressively seized its mandate under PURPA. The Commission issued one rule requiring "electric utilities to purchase electric energy from cogenerators and small power producers at a rate equal to the purchasing utility's full avoided cost." *American Paper Inst., Inc. v. American Elec. Power Serv. Corp.*, 461 U.S. 402, 404 (1983). Another rule required "utilities to make such interconnections with cogenerators and small power producers as are necessary to effect [full avoided cost] purchases or sales of electricity. *Id.* FERC intended these transactions to reform an electricity generating industry that had not lost its appetite "for traditional fossil fuels" or its "reluctan[ce] to purchase power from, and to sell power to, ... nontraditional facilities. *FERC v. Mississippi*, 456 U.S. 742, 750 (1982) (footnote omitted); accord *American Paper Inst.*, 461 U.S. at 405, 417.

Confronted with FERC's aggressive implementation of Congress's call to reform the electric utility industry, recalcitrant incumbents and their allies in state public utility commissions challenged the federal government's constitutional authority. See *FERC v. Mississippi*, 456 U.S. 742 (1982). Only when that effort failed did the opponents of deregulation attack the full avoided cost rule on its merits. The Supreme Court, however, unflinchingly upheld the full avoided cost rule as a proper discharge of FERC's statutory responsibility to set "just and reasonable" rates. See *American Paper Inst.*, 461 U.S. at 413-18.

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<sup>241</sup> EE 1137 (Chen Rebuttal Testimony), p. 4-5.

By requiring utilities to pay full avoided cost, FERC transformed a “statutory ceiling” into “the floor price” for electricity supplied by QFs. Steven J. Ferrey, *Shaping American Power: Federal Preemption and Technological Change*, 11 Va. Envtl. L.J. 47, 78 (1991). Almost certainly moved by the need to address the energy crisis of the 1970s, *cf., e.g., Puerto Rico Dep’t of Consumer Affairs v. Isla Petroleum Corp.*, 485 U.S. 495, 497-98 (1988) (describing Congress’s passage of the Emergency Petroleum Allocation Act of 1973, Pub. L. No. 93-159, 87 Stat. 627, as a response “to severe market disruptions by an embargo on oil exports to the United States”); *FERC v. Mississippi*, 456 U.S. at 745 & n.2 (describing PURPA as “part of a package of legislation . . . designed to combat the nationwide energy crisis”), the Supreme Court endorsed the agency’s desire to “decrease . . . the nation’s dependence on fossil fuels” by promoting “increased development” of cogeneration and small power production. *American Paper Inst.*, 461 U.S. at 417; *see also Greensboro Lumber Co. v. Georgia Power Co.*, 643 F. Supp. 1345, 1368 n.28 (N.D. Ga. 1986) (“FERC has prescribed an above-market rate in order to encourage the development of qualifying facilities.”), *aff’d*, 844 F.2d 1538 (11th Cir. 1988).

The rule conferred upon QFs a generous “range of privileges otherwise unavailable to any other entity,” principally the power to force electric utilities to “purchase any energy and capacity offered to them.” Ferrey, *supra*, at 78. Indeed, the rule arguably *created* the entire market for power from cogenerators and small power producers. *See* Bernard S. Black & Richard J. Pierce, Jr., *The Choice Between Markets and Central Planning in Regulating the U.S. Electricity Industry*, 93 COLUM. L. REV. 1339, 1348 (1993) (“PURPA . . . foster[ed] the rapid growth of an independent power production industry.”).<sup>242</sup>

Adopting Xcel’s argument that the plain language of the IEP and CET Statutes mandating a contract with an innovative energy project merely creates a “framework for negotiations” would not only be inconsistent with the public purpose behind the Statutes, but would effectively nullify them.

#### **M. The Constitutionality of the IEP Statute Is Not Reviewable in This Proceeding**

NSP asserts two constitutional challenges to Minn. Stat. § 216B.1694 based on its allegedly discriminatory nature: an Equal Protection challenge and a Dormant Commerce Clause challenge. These constitutional issues, however, are not properly before the ALJs or the

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<sup>242</sup> EE 1137 (Chen Rebuttal Testimony), pp. 34–36.

Commission because administrative agencies generally “lack the power to declare legislation unconstitutional” and thus may only exercise the “uniquely judicial power to review the constitutionality of laws”<sup>243</sup> when the case was “transferred to the agency from a district court.”<sup>244</sup> And the statute that NSP cites to support its argument, Minn. Stat. § 645.17, expressly limits the presumption of constitutionality to interpretation by the courts, not agencies.<sup>245</sup>

Thus, NSP’s constitutional arguments are nothing more than transparent threats to invoke judicial review if the Commission implements the IEP statute. In evaluating this threat of constitutional challenge, the Commission should take note of the fact that NSP consented to the statute as part of the “package deal” to obtain legislative benefits for its nuclear and metropolitan coal plants and raised no constitutional challenges to the legislation until after it received these benefits.<sup>246</sup> A threat to seek to judicially block a project that the Legislature took extraordinary measures to encourage, after the Commission confirms that the public interest is served by the Project, is not befitting a state public service franchisee. Consequently, the Commission should ignore NSP’s threat and refrain from engaging in a constitutional analysis of the statute because such analysis is the exclusive province of the judiciary.

**N. The Power Purchase Obligations Under the IEP and CET Statutes Are Independent and Cumulative**

The ALJs have stated that “the IEP and CET Statutes establish two separate and independent power purchase obligations for Xcel Energy. What is less clear is whether those obligations are cumulative or whether the latter is subsumed into the former.”<sup>247</sup> In addition, the

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<sup>243</sup> *McCannel v. County of Hennepin*, 301 N.W.2d 910, 919 (Minn. 1980); see also *Johnson v. Robison*, 415 U.S. 361, 367, 94 S. Ct. 1160, 1166 (1974); *Defendants of Ondler v. Peace Officers Benefit Fund*, 289 N.W.2d 486, 487 n.1 (Minn. 1980).

<sup>244</sup> *Quam v. State*, 391 N.W.2d 803, 809 n.6 (Minn. 1986); *McCannel*, 301 N.W.2d at 920.

<sup>245</sup> Minn. Stat. § 645.17 (2006) (stating that “[i]n ascertaining the intention of the legislature *the courts* may be guided by the following presumptions” (emphasis added)).

<sup>246</sup> EE 1137 (Chen Rebuttal), pp. 29–30.

<sup>247</sup> Order on Motion for Summary Disposition, Oct. 25, 2006, p. 8.

ALJs determined that they would address after post-hearing submissions the question “whether the legislature intended Xcel’s power purchase obligations under the IEP and CET statutes to be cumulative. . . .”<sup>248</sup>

NSP argues that “there is no basis to conclude that the at-least-two-percent obligation under the Clean Energy Technology statute is to be added on top of the 450 MW that Mesaba 1 LLC is proposing under the Innovative Energy Project statute.”<sup>249</sup>

To the contrary, principles of statutory construction dictate that the IEP and CET statutes be read separately<sup>250</sup> to give full effect to each of their provisions, thereby authorizing the Commission to approve a PPA under the IEP Statute and additional capacity under the CET Statute of “at least two percent of the electric energy provided to [NSP’s] retail customers.”<sup>251</sup>

The plain language of the Statutes creates two separate and independent power purchase obligations which are mandated for the following reasons.

First, the Legislature passed the two statutes at same time and, other than making the innovative energy project the supplier under the CET Statute, did not refer to either provision in the other. If the Legislature had intended the 450 MW contract to be part of the two percent mandate it would have used that language.<sup>252</sup> It is indisputable that both now and in 2003, 450 MW of baseload generation would produce enough energy to supply far more than 2% of NSP’s

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<sup>248</sup> *Id.* at 10.

<sup>249</sup> Xcel Initial Brief , p. 21.

<sup>250</sup> Excelsior incorporates by reference its argument on this point appearing at pp. 8-11 of its September 25, 2006 Memorandum in Opposition to Xcel Industrial Intervenors’ Motion for Summary Judgment.

<sup>251</sup> The ALJs have also determined that the IEP Statute permits the Commission to raise the ceiling on Excelsior’s statutory power sale entitlement above 450 MW. Order on [XLI’s] Motion for Summary Disposition, Memorandum III.B., pp. 5–7. Thus, the Commission has the statutory authority to approve a PPA for the full capacity of Mesaba One under the IEP Statute alone, and not reach or decide whether the power purchase obligations under the IEP and CET Statutes are cumulative in this first phase of the proceeding.

<sup>252</sup> *See State v. West*, 173 N.W.2d 468, 474, 285 Minn. 188, 197 (1970) (“It is not for the courts to make, amend, or change the statutory law, but only to apply it.”).

retail load.<sup>253</sup> Since the Legislature expressly determined that an innovative energy project “shall be entitled to enter into a contract...to provide 450 megawatts,” the same legislature logically could not have had this 450 MW capacity in mind when it further directed that “at least 2%” of retail electric load “shall be supplied by” the same innovative energy project.

Second, to read one of the Statutes synonymously with, or as an extension of, the other is to violate the rule of statutory interpretation that “[w]henver possible, no word, phrase, or sentence should be deemed superfluous, void, or insignificant.”<sup>254</sup> To read one statute as an extension of the other would render all or portions of one of the statutes superfluous. If the Legislature had intended for the 450 MW contract to replace part or all of the two percent mandate, the legislature would have enacted a single statute, instead of two.

## **V. CONCLUSION**

For all the foregoing reasons, the ALJs should recommend adoption of Excelsior’s Proposed Findings of Fact and Conclusions.

Dated: January 19, 2007

Respectfully submitted,

EXCELSIOR ENERGY INC.

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<sup>253</sup> “Two percent of Xcel Energy’s Minnesota energy requirements is approximately 180 MW.” Xcel Initial Brief, p. 20.

<sup>254</sup> *Vlahos v. R&I Const. of Bloomington, Inc.*, 676 N.W.2d 672, 679 (Minn. 2004).

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