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

FOR THE MINNESOTA PUBLIC UTILITIES COMMISSION  
121 7<sup>th</sup> Place East, Suite 350, St Paul MN 55101-2147

In re of Sherco Unit 3 Energy replacement Costs.	OAH Docket No. 65-2500-38476
In re the Application of Northern States Power Company for Authority to Increase Rates for Electric Service in the State of Minnesota, et al.	MPUC Docket No. E-002/GR-12-961
In re the Application of Northern States Power Company for Authority to Increase Rates for Electric Service in the State of Minnesota, et al.	MPUC Docket No. E-002/GR-13-868
In re the Review of the 2012-13 Annual Automatic Adjustment Reports for All Electric Utilities	MPUC Docket No. E-999/AA-13-599
In re the Review of the 2013-14 Annual Automatic Adjustment Reports for All Electric Utilities	MPUC Docket No. E-999/AA-14-579
In re the Review of the 2015-16 Annual Automatic Adjustment Reports for All Electric Utilities	MPUC Docket No. E-999/AA-16-523
In re the Review of the 2016-17 Annual Automatic Adjustment Reports for All Electric Utilities	MPUC Docket No. E-999/AA-17-492
In re the Review of the 2017-18 Annual Automatic Adjustment Reports for All Electric Utilities	MPUC Docket No. E-999/AA-18-373

**DIRECT TESTIMONY AND ATTACHMENTS OF MATTHEW J KING**

**ON BEHALF OF**

**THE DIVISION OF ENERGY RESOURCES OF  
THE MINNESOTA COMMERCE DEPARTMENT**

**JUNE 16, 2023**

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I. INTRODUCTION

**Q. Please state your name, occupation and business address.**

A. My name is Matthew J. King. I am a consultant with GDS Associates, Inc. (“GDS”). My business address is GDS Associates, Inc., 1850 Parkway Place, Suite 800, Marietta, GA 30067.

**Q. Please describe GDS.**

A. GDS is an engineering and consulting firm headquartered in Marietta, Georgia, with offices in Austin, Texas; Auburn, Alabama; Kirkland, Washington; Madison, Wisconsin; Manchester, New Hampshire; Orlando, Florida; and Portland, Oregon. GDS has over 180 employees with backgrounds in engineering, accounting, management, economics, finance, and statistics. GDS provides a variety of supply planning, transmission planning, wholesale/retail rates, North American Electric Reliability Corporation compliance, as well as rate and regulatory consulting services in the electric, natural gas, and water utility industries.

**Q. Please describe your education and professional experience.**

A. I have a Bachelor of Science in Industrial and System Engineering from the Georgia Institute of Technology and a Master of Science in Management Science and Engineering from Stanford University. I began working at GDS in May 2009, and my specific work experience includes integrated resource planning, Regional Transmission Organization (RTO) market policy and operational issues, RTO market evolution and

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1 stakeholder processes, long- and short-term hedging and risk management strategy and  
2 fulfillment, economic feasibility analyses of supply alternatives, solicitations and  
3 procurement of supply resources, financial planning and budgeting, and participation in  
4 federal and state regulatory proceedings. My professional resume is attached as  
5 Schedule 1. Ex. DOC-2, MJK-D-1 (King Direct).

6

7 **Q. On whose behalf are you testifying?**

8 A. I am testifying on behalf of the Division of Energy Resources of the Minnesota  
9 Department of Commerce (Department).

10

11 **Q. Was your testimony, associated schedules and exhibits, prepared by you or under  
12 your direct supervision?**

13 A. Yes.

14

15 **Q. Have you ever testified before the Minnesota Public Utilities Commission?**

16 A. Yes. In 2021, I testified before the Minnesota Public Utilities Commission (Commission)  
17 in MPUC Docket No. G-008/M-21-138 et al that related to Minnesota natural gas  
18 utilities' requests to recover natural gas costs following extreme market conditions in  
19 February 2021.

20

1 **Q. Have you previously testified before other regulatory commissions?**

2 A. Yes. I have testified before the Federal Energy Regulatory Commission and other state  
3 commissions. Additionally, I have been involved with GDS participation in a variety of  
4 other proceedings, all of which is described in my professional resume.

5  
6 **Q. What is the purpose of your direct testimony?**

7 A. The purpose of my testimony is to present my review of a reasonable level of energy  
8 replacement costs associated with the catastrophic failure of the Sherburne County  
9 Generating Station Unit 3 (Sherco 3) from November 2011 to October 2013 (Outage  
10 Period) that should be refunded to the customers of Northern States Power Co. d/b/a  
11 Xcel Energy (Xcel). In Section II, I provide background and context related to energy  
12 replacement costs for Xcel including how they flow to customers and the Midcontinent  
13 Independent System Operator (MISO) market. In Section III, I discuss how energy  
14 replacement costs for the Sherco 3 outage should be calculated, Xcel's modeling efforts  
15 at doing such, and additional calculations that need to be performed to quantify the  
16 impact to Xcel's Minnesota customers. In Section IV, I provide my recommendation of  
17 how Sherco 3 outage replacement costs should be refunded to customers.

18  
19 **Q. Are there other GDS witnesses providing testimony?**

20 A. Yes. Richard Polich is providing testimony related to the causes of the Sherco 3 outage  
21 and the prudence of Xcel's actions surrounding the outage.

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**II. BACKGROUND**

**Q. Is there any background information that would be helpful to understand your testimony?**

A. Yes. Some background on energy replacement costs generally and the MISO market are helpful to understanding the appropriate way to calculate the replacement power costs incurred by Xcel from the Sherco 3 outage.

**A. Energy Replacement Cost**

**Q. What are energy replacement costs?**

A. As I understand the Commission to use the term in its Notice and Order for Hearing, energy replacement costs are incurred by utilities when a generation asset (such as a coal-fired power plant) goes offline for a scheduled or forced outage. Xcel is obligated to provide retail electric service to its customers. Therefore, when a generation asset goes offline, Xcel must purchase additional wholesale power from another source, such as its other generation assets, bilateral purchases from an independent power producer, or purchases from the MISO energy market. Correspondingly, Xcel also loses the ability to sell power for the unit on outage at wholesale into the regional market.<sup>1</sup>

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<sup>1</sup> As discussed further below, Xcel purchases all of its load requirements and sells all of its generation supply into the MISO market. However, the financial netting of such purchases and sales is how utilities like Xcel effectively meet their load obligations in organized markets like MISO's.

1 **Q. How were Xcel's energy replacement costs recovered from Minnesota ratepayers?**

2 A. I understand that for the Outage Period, Xcel used a pass-through mechanism called the  
3 Fuel Clause Adjustment (FCA) to recover, on a monthly basis, actual fuel expenses and  
4 purchased power costs, including energy replacement costs due to planned and forced  
5 outages. The FCA is an 'adjustment' rate mechanism, meaning the base cost of energy is  
6 set in Xcel's most recent rate case, and the monthly FCA provides an adjustment true-up  
7 to actual fuel costs.

8

9 **Q. How were fuel expenses and purchase power costs, including replacement power  
10 costs reviewed at the time of the Sherco 3 outage?**

11 A. I understand that electric utilities filed annual automatic adjustment (AAA) reports to  
12 support their fuel expenses and purchase power costs including replacement costs due  
13 to planned and forced outages, as well as addressed what the utilities did to mitigate  
14 overall fuel costs. The Department and other interested parties then reviewed the  
15 utilities' AAA reports and filed comments recommending approval or denial of these  
16 fuel related expenses to the Commission.

17

18 **B. MISO Energy Market**

19 **Q. How are generating units dispatched in Minnesota?**

20 A. Minnesota is a part of MISO, which is a Regional Transmission Organization (RTO) that  
21 covers a large part of the central United States. MISO is a not-for-profit, independent  
22 entity that does not own generation or transmission. In its role as RTO, MISO

1 administers a centralized and organized wholesale electricity market for its footprint.  
2 Essentially MISO acts as a clearing house by matching demand (i.e., the load  
3 requirements of the system) with supply (i.e., offers by resources including generating  
4 units), while respecting the physical limitations of the transmission system. Thus,  
5 generating units in MISO are dispatched according to their participation in and the  
6 results of MISO's energy markets. MISO's energy markets existed and were applicable to  
7 Minnesota during the Outage Period. For context, RTO markets were promoted and  
8 developed to gain efficiencies and cost savings by economically dispatching over a larger  
9 region rather than individual utilities dispatching their own systems.

10

11 **Q. How do MISO's energy markets determine generating unit dispatch?**

12 A. MISO's energy markets consist of two parts. The first is a Day-Ahead Market which, as  
13 its name suggests, determines dispatch at an hourly granularity for the next operating  
14 day. The second is a Real-Time Market which determines dispatch at a five-minute  
15 granularity. The Real-Time Market effectively adjusts the Day-Ahead Market results to  
16 meet actual conditions as they manifest. At a high level, the markets determine unit  
17 dispatch according to the least cost economic dispatch that respects the physical  
18 limitations of the transmission system.

19

20 **Q. How do generating units participate in MISO's energy markets?**

21 A. Generating units participate in MISO's energy markets by relaying their availability,  
22 operating characteristics, and dispatch economics to MISO in a supply offer. MISO clears



1 the market and awards unit dispatch to the resources whose supply offers were the  
2 most economical in meeting the demand requirements of the system. Such resources  
3 then generate energy according to MISO’s dispatch and are paid corresponding energy  
4 revenues. The price at which resources are paid is called a Locational Marginal Price  
5 (LMP), because it is specific to the physical location of energy generation (such location  
6 being referred to generally as a node) and is determined according to the marginal  
7 resource offer that cleared the market. LMPs are an output of MISO’s energy markets.

8

9 **Q. How do utilities like Xcel interact with MISO’s energy markets?**

10 A. Vertically integrated utilities in MISO, like Xcel, generally have both a load obligation and  
11 resources which are meant to help meet that load. Such utilities bid both their load  
12 requirements and resource supply offers into the MISO’s energy markets. Based on the  
13 clearing of the market, a utility will pay for its load and receive revenue for its supply.

14

15 **Q. Why do utilities own generation, given MISO’s market construct?**

16 A. Utilities own (or contract for) resources primarily due to an obligation to serve load, but  
17 also as a means of providing a degree of supply and cost certainty, since the results of  
18 the MISO market are uncertain and can be volatile. To illustrate with a simple, stylized  
19 example, suppose a utility has 100 megawatt hours (MWh) of load and no generation  
20 resources. That utility, on behalf of its customers, will incur a cost based on its 100 MWh  
21 load requirement at whatever the corresponding LMP turns out to be per the results of  
22 MISO’s energy markets. If the utility instead owned a resource capable of generating

1 100 MWh, it would still incur a cost based on its load requirement, but it would also  
2 receive revenue based on its resource generating 100 MWh if it were to clear the  
3 market. As a part of owning and operating a generating unit, the utility is also  
4 responsible for paying for the costs of operating the unit (i.e., the fuel and other  
5 operating and maintenance costs associated with generating). If the market LMP was  
6 \$30/MWh but the resource's variable cost was only \$20/MWh, the utility could  
7 effectively hedge its load energy cost at the resource's lower variable cost instead of the  
8 market price.

9  
10 **III. ASSESSMENT OF ENERGY REPLACEMENT COSTS**

11 **Q. What issues are you addressing?**

12 A. In this section, I am addressing how the energy replacement costs for the Sherco 3  
13 outage should be assessed including how Xcel has modeled these costs and other  
14 calculations that are necessary to determine the cost impact of the Sherco 3 outage on  
15 Xcel's customers in Minnesota including interest and allocation to the Minnesota  
16 jurisdiction.

17  
18 **A. Energy Replacement Cost Modeling**

19 **Q. How should the amount of energy replacement costs associated with the Sherco 3  
20 outage be determined?**

21 A. The amount of energy replacement costs associated with the Sherco 3 outage should be  
22 determined according to the additional energy costs Xcel's customers paid due to the

1 outage. That amount should be determined according to a comparison of what Xcel's  
2 energy costs would have been but for the outage versus what they actually were.

3

4 **Q. How should Xcel's energy costs but for the Sherco 3 outage be determined?**

5 A. Whereas Xcel's actual energy costs are straightforward, what Xcel's energy costs would  
6 have been if Sherco 3 had not suffered catastrophic failure requires the development of  
7 that counterfactual scenario. Such a counterfactual needs to construct what the MISO  
8 energy market results would have been absent the Sherco 3 outage. Because the MISO  
9 energy market results are determined by the demand and supply bids of numerous  
10 market participants (as well as the relevant physical limitations of the transmission  
11 system as discussed in Section II) and affect the costs and revenues for all load and  
12 supply in MISO, such an undertaking is complex and involved.

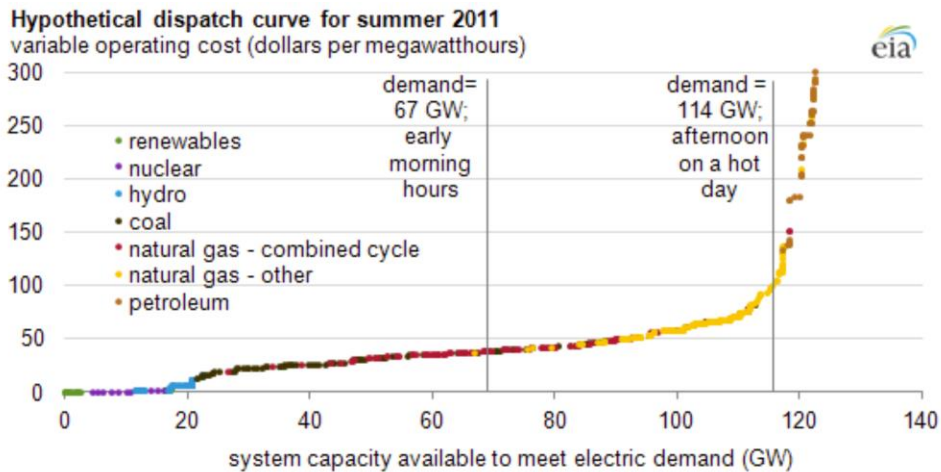
13

14 **Q. How does a generation outage affect MISO Market results?**

15 A. At a very simplified level, the unavailability of a large generation resource reduces the  
16 quantity of energy supply offered into the market which would be expected to have an  
17 impact on market results. Figure 1 depicts a hypothetical dispatch curve for an electric  
18 system, with the capacity of generating plants ordered in terms of escalating variable  
19 operating cost. There are also two vertical lines to represent hypothetical demand at  
20 different times. If this hypothetical curve represented MISO, the market price result  
21 would be the intersection of the demand and supply curve (i.e., the marginal price). The  
22 removal of a large generation resource with a low variable operating cost (i.e., due to an

1 outage) would essentially result in the supply curve being shifted to the left. The result  
2 would be a higher market price and additional generation clearing the market.<sup>2</sup>

3 *Figure 1: Hypothetical Dispatch Curve<sup>3</sup>*



Note: The dispatch curve above is for a hypothetical collection of generators and does not represent an actual electric power system or model results. The capacity mix (of available generators) differs across the country; for example, the Pacific Northwest has significant hydroelectric capacity, and the Northeast has low levels of coal capacity.

4  
5  
6 **Q. Has Xcel modeled the energy replacement costs associated with the Sherco 3 outage?**

7 **A.** Yes. My understanding is that Xcel has modeled the energy replacement costs  
8 associated with the Sherco 3 outage in two separate venues: (1) in its regular AAA  
9 reports with the Commission; and (2) as a part of its lawsuit, alongside its insurers,  
10 against the Sherco 3 turbine manufacturer General Electric Company (GE Litigation).

11

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<sup>2</sup> In this stylized example, the effect of potential transmission constraints, losses, and differences between the Day-Ahead and Real-Time market are omitted for simplification.

<sup>3</sup> <https://www.eia.gov/todayinenergy/detail.php?id=7590>

1 **Q. How did Xcel model energy replacement costs in the GE Litigation?**

2 A. In the GE Litigation, Xcel undertook a complex modeling effort to create the MISO  
3 market results under a scenario where Sherco 3 remained available (Sherco 3 as  
4 Available Scenario) and its corresponding energy costs. Xcel, its insurers, and GE also  
5 extensively litigated the appropriate modeling.<sup>4</sup> That modeling effort was compared to  
6 the actual MISO energy market results to determine “Loss of Use” damages which are  
7 broken down into three components.<sup>5</sup>

8

9 **Q. What are the three components of Xcel’s loss of use?**

10 A. The first component of Xcel’s loss of use is the lost margin or energy profits from Sherco  
11 3 itself. This straightforward, first-order component assesses the amount of MISO  
12 market energy revenue, based on the modeled LMPs under the Sherco 3 as Available  
13 Scenario, in excess of plant variable costs, Xcel would have received from Sherco 3 had it  
14 been generally available and operating during the Outage Period. The second  
15 component is the increased cost Xcel incurred for its load due to the Sherco 3 outage.  
16 This component is determined based on the difference between the actual LMP Xcel  
17 paid for its load versus what the LMP would have been under the Sherco 3 as Available  
18 Scenario. The third component is the increased margin or energy profits that Xcel

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<sup>4</sup> In the litigation with GE, Xcel used both internal and outside experts to support its cost modeling. See Ex. DOC-\_\_\_, MJK-D-2 (King Direct) (Metcalfe Report); Ex. DOC-\_\_\_, MJK-D-3 (King Direct) (Detmer Report). Xcel ultimately settled with GE before trial, and Xcel’s insurers stipulated to an amount for damages before trial. See Docket No. 12-961, DOC Comments at Attach 1 at 4–5 (Jan. 14, 2019) ([20191-149180-06](#)) (Public Version) (Stipulation as to Damages); DOC Comments at Attach. 2 at (Jan. 14, 2019) (Xcel Response to DOC IR 2150) (Trade Secret Version).

<sup>5</sup> Ex. DOC-\_\_\_, MJK-D-2 (King Direct) (Metcalfe Report).

1 received from its other, non-Sherco 3 resources, and this component acts as an offset to  
2 the other two components. This component is determined based on the difference of  
3 Xcel’s actual MISO market energy margin at its non-Sherco 3 resources versus what that  
4 energy margin would have been under the Sherco 3 as Available Scenario.<sup>6</sup>

5  
6 **Q. Why would Xcel’s load cost or energy margins at non-Sherco 3 resources be at issue?**

7 A. Lost energy margin at Sherco 3 itself is the most obvious and significant energy  
8 replacement cost associated with the outage. However, if Sherco 3 had been available  
9 and participating in MISO’s energy markets during the Outage Period, the MISO market  
10 results would have theoretically been different based on Sherco 3’s participation.  
11 Because Sherco 3’s variable cost is generally lower than the MISO LMP results during the  
12 Outage Period, Sherco 3’s participation would be expected to generally have decreased  
13 LMPs. Therefore, the Sherco 3 outage likely increased Xcel’s load cost (by increasing the  
14 relevant nodal LMP) and, in an offsetting manner, increased the energy revenue at  
15 Xcel’s non-Sherco 3 resources (again by increasing their relevant nodal LMPs). For the  
16 latter, loss of Sherco 3 generation may also have led to some of Xcel’s other resources  
17 generating more at a higher LMP.

18

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<sup>6</sup> See Ex. DOC-\_\_\_, MJK-D-2 at 28–30 (King Direct) (Metcalf Report).

1 **Q. What are the results of Xcel’s GE Litigation modeling?**

2 A. The results and methodology of Xcel’s modeling efforts in the GE Litigation are  
 3 summarized in the Expert Report of Kenneth P. Metcalfe.<sup>7</sup> That report discussed and  
 4 quantified damages beyond loss of use and for Xcel and the other Sherco 3 co-owner.  
 5 The results of the loss of use damages for Xcel’s ownership share of Sherco 3 are  
 6 summarized below in Figure 2.

7 *Figure 2: GE Litigation Results*<sup>8</sup>

<u>Damage Elements</u>	<u>Amount</u>	<u>Interest<sup>42</sup></u>	<u>Total</u>
<b>Loss Of Use</b>			
Lost Net Revenue From Sherco 3	\$ 39,887,518	\$ 15,069,934	\$ 54,957,452
Increased Expense Of NSP Purchases	106,620,753	39,420,367	146,041,120
Increased Net Revenue From Other NSP Resources ( <i>Offset</i> )	<u>(101,125,865)</u>	<u>(37,646,358)</u>	<u>(138,772,223)</u>
<b>Subtotal Loss Of Use</b>	<u>\$ 45,382,406</u>	<u>\$ 16,843,943</u>	<u>\$ 62,226,349</u>

8  
 9  
 10 **Q. In the AAA report, what was the amount of replacement energy costs?**

11 A. In the 2012-2013 AAA proceeding, Xcel provided the November 19, 2011 to October 31,  
 12 2013, replacement energy costs for the Sherco 3 outage.<sup>9</sup> The total Company  
 13 replacement power costs as calculated by Xcel for the Sherco 3 outage were  
 14 \$55,517,206.<sup>10</sup> Xcel cites the sources for this information as the Unit Outage

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<sup>7</sup> Ex. DOC-\_\_\_, MJK-D-2 (King Direct) (Metcalfe Report). Further detail on Xcel’s modeling is provided in the expert report of Xcel’s Manger of Commercial Operations, Nicholas Detmer. See Ex. DOC-\_\_\_, MJK-D-3 (King Direct) (Detmer Report).

<sup>8</sup> Ex. DOC-\_\_\_, MJK-D-2 at 28 (King Direct) (excerpt of Table 2 of Metcalf Report).

<sup>9</sup> *In re 2012-2013 Annual Automatic Adjustment of Charges*, E999/AA-13-599, Xcel Energy Reply Comments, Attach. I at 7 (Nov. 10, 2014) (eDocket No. [201411-104580-02](#)) (Public Version).

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

1 Information, Monthly FCA and AAA reports.<sup>11</sup> Xcel emphasized at that time that “the full  
2 amount of replacement power cost for the event is known.”<sup>12</sup>

3

4 **Q. What did Xcel say was the difference between the AAA and GE Litigation calculation**  
5 **methodologies for replacement energy costs?**

6 A. According to Xcel:

7 It is important to recognize the calculation methodology used for  
8 the AAA is consistent with how the cost of replacement power has  
9 been calculated for all other plant outage situations. The  
10 distinction is for the AAA we compare to the market using the  
11 LMP at the NSP load node whereas for the litigation, the whole  
12 portfolio is considered as a hedge against losses at the Sherco  
13 node.<sup>13</sup>

14

15 **Q. How did Xcel model energy replacement costs in its AAA reporting?**

16 A. Xcel provided very little information related to the specifics of how it modeled energy  
17 replacement costs in its AAA reporting and provided no supporting calculation data for  
18 that modeling.<sup>14</sup> However, based on the limited information Xcel did provide, my  
19 understanding is that Xcel’s AAA outage cost reporting consists of modeling the

---

<sup>11</sup> *Id.*; Xcel’s AAA typically covers a July to June period. Because of the catastrophic, long-term nature of the Sherco 3 outage, it covered 3 different AAA periods. In the referenced comments, Xcel reported on the costs for the entire Outage Period.

<sup>12</sup> *Id.* at 17

<sup>13</sup> *Id.* at 17.

<sup>14</sup> The Department issued several information requests to determine the difference. Xcel’s responses, however, did not provided a sufficient level of detail to fully justify the discrepancy. Xcel stated generally that “the Company’s calculation of replacement power costs used in the litigation included more detailed inputs and pricing assumptions than those used to estimate the monthly outage reports in AAA.” See Ex. DOC-\_\_\_, MJK-D-4 (King Direct) (Xcel Narrative response to DOC IR S33); see also Ex. DOC-\_\_\_, MJK-D-5 (King Direct) (Xcel Response to DOC IR S34) (referring to response to DOC IR S33); Ex. DOC-\_\_\_, MJK-D-6 (King Direct) (Xcel Response to DOC IR S35) (referring to response to DOC IR S33).



1 dispatch, revenue, and variable costs of a plant on outage in isolation versus the actual  
2 MISO market prices that manifested during the outage. This appears to be a more  
3 limited and simplified approach than Xcel's approach in the GE Litigation.

4

5 **Q. What amount do you recommend for the energy replacement costs associated with**  
6 **the Sherco 3 outage?**

7 A. At this juncture, I am unable to make a recommendation between the AAA reporting  
8 and GE Litigation amounts.

9

10 **Q. Why are you unable to make a recommendation between the AAA reporting and GE**  
11 **Litigation amounts?**

12 A. In principle, the amount at issue should, as closely as possible, match the incremental  
13 amount customers were charged in the FCA due to the Sherco 3 outage. Although I  
14 understand that the GE Litigation amount was the result of an extensive modeling effort  
15 made by Xcel focused on quantifying the financial impacts of the Sherco 3 outage, Xcel's  
16 AAA outage cost reporting is also a means of quantifying those impacts. Whereas Xcel  
17 provided extensive data and explanation of its GE Litigation modeling, Xcel provided  
18 very little information related to its AAA outage cost reporting figure and did not explain  
19 why the two methods resulted in amounts that vary as significantly as they do.

20

1 **Q. How would additional information related to Xcel’s AAA outage cost modeling allow**  
2 **you to recommend an amount?**

3 A. Additional information related to Xcel’s AAA outage cost modeling would allow me to  
4 understand and assess whether that amount or the GE Litigation amount is a more  
5 accurate representation of the incremental amount Xcel’s customers were charged in  
6 the FCA due to the Sherco 3 outage. The amount from the modeling effort which  
7 produced the more accurate representation of the amount charged to customers as a  
8 result of the outage should be utilized.

9

10 **B. Minnesota Jurisdictional Allocation and Interest**

11 **Q. Once the amount of energy replacement costs is determined, are there further steps**  
12 **to determine the impact to Xcel’s customers?**

13 A. Yes. The appropriate Minnesota jurisdictional allocator must be determined and applied  
14 to the amount of energy replacement costs, and the appropriate amount of interest  
15 must be determined.

16

17 **Q. Why is a Minnesota jurisdictional allocator necessary?**

18 A. Because Xcel serves customers within Minnesota and also in other jurisdictions, it is  
19 necessary to apportion the amount of energy replacement costs that are applicable to  
20 Minnesota customers. This is accomplished with a jurisdictional allocator that is based  
21 on the portion of Xcel sales in Minnesota over all Xcel sales during the Outage Period.

1 **Q. How do you calculate interest?**

2 A. Because the energy replacement costs were incurred and paid by customers during the  
3 Outage Period over 10 years ago, interest must be considered to represent the costs in  
4 terms of dollars that are relevant today. I calculate interest based on the monthly totals  
5 of energy replacement costs as allocated to the Minnesota jurisdiction as they were  
6 incurred and paid by customers during the Outage Period. Based on those monthly  
7 amounts, interest is calculated through January 1, 2025 based on the historical Prime  
8 rate.<sup>15</sup> The Prime rate may change before the evidentiary record is closed in this  
9 proceeding, and therefore I will provide an update with the most recent data in rebuttal  
10 testimony. I understand this calculation method to be consistent with the process  
11 adopted by the Commission in a recent contested case related to energy replacement  
12 costs for Minnesota Power.<sup>16</sup>

13

14 **Q. Please summarize your results.**

15 A. A summary of the monthly and total results of my recommended energy replacement  
16 costs, allocation to the Minnesota jurisdiction, and calculation of interest is included in  
17 Schedule 7. I have separately calculated the energy replacement cost, including interest,  
18 based on Xcel's outage cost as reported in its AAA and in the GE Litigation.

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<sup>15</sup> Available at: <https://fred.stlouisfed.org/series/PRIME>

<sup>16</sup> *In re the Review of the July 2018–December 2019 Annual Automatic Adjustment Reports*, MPUC Docket No. E999/AA-20-171, FINDINGS OF FACT, CONCLUSIONS OF LAW, AND RECOMMENDATION ¶ 160 (Aug. 11, 2021) (eDocket No. [20218-177011-01](#)) *adopted with limited corrections and clarifications in* ORDER ADOPTING ADMINISTRATIVE LAW JUDGE REPORT AS MODIFIED AND REQUIRING REFUND (Feb. 25, 2022) (eDocket No. [20222-183172-01](#)).

1 **Q. What is the result based on Xcel's AAA reported outage cost?**

2 A. The total energy replacement cost as allocated to Minnesota including interest based on  
3 Xcel's AAA reported outage cost is \$71,548,388 which includes \$41,327,637 in energy  
4 replacement cost and \$30,220,751 of interest.

5

6 **Q. What is the result based on Xcel's GE Litigation loss of use?**

7 A. The total energy replacement cost as allocated to Minnesota including interest based on  
8 Xcel's GE Litigation is \$58,203,629 which includes \$33,681,734 in energy replacement  
9 cost and \$24,521,895 of interest.

10

11

#### IV. REFUND MECHANISM

12 **Q. Should energy replacement costs associated with the Sherco 3 outage be returned to**  
13 **ratepayers?**

14 A. Yes. Based on the findings of Mr. Polich as discussed in his direct testimony that Xcel's  
15 actions related to the Sherco 3 outage were not reasonable and prudent, my  
16 understanding is that Xcel's customers should not have incurred the outage-related  
17 energy replacement costs. Any amounts of Minnesota Jurisdictional energy replacement  
18 costs, plus interest, that Xcel has not already returned should therefore be returned to  
19 Xcel's Minnesota customers.

20

1 **Q. Are there any other considerations that should be accounted for in determining a**  
2 **refund?**

3 A. Yes. Xcel returned a negotiated settlement with GE of [NOT PUBLIC DATA BEGINS  
4 [NOT PUBLIC DATA ENDS]  
5 which was refunded to electric ratepayers in the February 2019 FCA (GE Settlement).<sup>17</sup>  
6 My understanding of the GE Settlement is that it is a [NOT PUBLIC DATA BEGINS

7 [NOT PUBLIC DATA ENDS]  
8 [NOT PUBLIC DATA ENDS]

9  
10 **Q. How did Xcel categorize its damages in the GE Litigation?**

11 A. In the GE Litigation, Xcel categorized \$45,382,406 (24.4% of its total damages) as loss of  
12 use and \$142,260,860 (76.5% of its total damages) as property loss.<sup>18</sup>  
13

14 **Q. Have you reduced the amount of refundable energy replacement costs for the GE**  
15 **Settlement amount?**

16 A. Not at this time. To my knowledge Xcel has not provided information related to what  
17 amount of the GE Settlement should serve as an offset to energy replacement costs.<sup>19</sup>  
18 Because the GE Settlement was a [NOT PUBLIC DATA BEGINS [NOT PUBLIC DATA ENDS]

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<sup>17</sup> Docket No. E002/GR-12-961 et al, Compliance Filing – Sherco Unit 3 at 7 (Aug. 24, 2020) (eDocket No. [20208-166139-12](#) – PUBLIC; 20208-166139-05 – TRADE SECRET).

<sup>18</sup> Ex. DOC-\_\_\_, MJK-D-3 at 28, Table 2 (King Direct) (Metcalf Report). Note that there is an additional ‘Other’ category in the amount of negative \$1,696,218.

<sup>19</sup> Ex. DOC-\_\_\_, MJK-D-8 (King Direct) (Xcel Response to DOC IR S42).

1 [REDACTED]

2 [REDACTED]

3 [REDACTED] NOT PUBLIC DATA ENDS]

4 regardless of the FCA rate mechanism utilized to flow the GE Settlement amount to  
5 customers. My understanding is that Xcel offset the majority but not all of its repair  
6 costs with insurance reimbursements. The repair costs in excess of insurance  
7 reimbursements were recovered from customers in a prior Xcel rate case.<sup>20</sup>

8

9 **Q. How should energy replacement costs be refunded to customers?**

10 A. Sherco 3 outage energy replacement costs should be refunded to customers as a part of  
11 Xcel’s 2024 FCA true-up filing, using actual customer class sales for 2024.

12

13 **Q. Why is refunding through the FCA true-up reasonable?**

14 A. Providing a refund through the FCA true-up would return the overcharge to customers  
15 through the same rate mechanism it was originally collected. Although customers  
16 energy use varies over time, the 2024 period usage could serve as a reasonable proxy  
17 for the historical customer class usage during the Outage Period.

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<sup>20</sup> Docket No. E002/GR-12-961 et al, Minnesota Department of Commerce Comments at 6 (Jan. 15, 2021) (eDocket No. [20211-169851-08](#)).

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**V. CONCLUSION**

**Q. Please summarize your conclusions and recommendations regarding energy replacement costs for the Sherco 3 outage.**

A. Based on my review and analysis, I conclude that the energy replacement costs associated with the Sherco 3 outage should be quantified as the loss of use amount from either Xcel’s AAA reporting or the GE Litigation, whichever is a more accurate representation of the incremental costs recovered from customers in the FCA as a result of the outage. Based on that amount, I recommend that any amount of Minnesota jurisdictional energy replacement costs, plus interest, still outstanding, should be refunded to Xcel’s customers through its 2024 FCA true-up filing.

**Q. Does this complete your direct testimony?**

A. Yes