

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

FOR THE MINNESOTA PUBLIC UTILITIES COMMISSION  
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IN THE MATTER OF THE APPLICATION OF  
NORTHERN STATES POWER COMPANY,  
MINNESOTA D/B/A XCEL ENERGY FOR A  
CERTIFICATE OF NEED FOR ADDITIONAL DRY CASK  
STORAGE AT THE PRAIRIE ISLAND NUCLEAR  
GENERATING PLANT INDEPENDENT SPENT FUEL  
STORAGE INSTALLATION

MPUC Docket No. E002/CN-24-68  
OAH Docket No. 25-2500-39971

**DIRECT TESTIMONY OF ARI ZWICK**

**ON BEHALF OF**

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

**FEBRUARY 10, 2025**

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**I. INTRODUCTION**

**Q. Would you state your name, occupation and business address?**

A. My name is Ari Zwick. I am employed as a Public Utilities Rates Analyst by the Minnesota Commerce Department, Division of Energy Resources (Department). My business address is 85 7th Place East, Suite 280, St. Paul, Minnesota 55101-2198.

**Q. What is your educational and professional background?**

A. I received a Master of Science degree in Human-Environment Systems from the Swiss Federal Institute of Technology Zürich (ETH Zürich) in 2012 and Bachelor of Science degree in Earth and Environmental Science from the University of Illinois at Chicago in 2009. I began working at the Department in January of 2024. Prior to my current position, I served for five years as an Energy Sustainability Analyst and a Grant Writer for the Forest County Potawatomi Community, which is a federally-recognized Indian tribe.

**Q. What is your experience on regulatory matters?**

A. I have served as the lead analyst, or provided a significant contribution, in the following Dockets before the Minnesota Public Utilities Commission (Commission):

- Docket No. E999/CI-23-151 – Carbon Free Standard (CFS) Implementation
- Docket No. E999/CI-24-316 – Nobles County Substation Curtailment
- Docket No. E015/M-23-258 – Minnesota Power (MP) Integrated Distribution Plan (IDP)
- Docket No. E017/M-23-380 – Ottertail Power Company (OTP) IDP

- Docket No. E017/M-23-420 – Dakota Electric Association (DEA) IDP
- Docket No. G008/M-23-215 – CenterPoint Energy (CPE) Natural Gas Innovation Act (NGIA)
- Docket No. G022/M-24-236 – Greater Minnesota Gas (GMG) Renewable Natural Gas (RNG) Interconnection Tariff

## **II. PURPOSE AND SCOPE**

### **Q. What are your responsibilities in this proceeding?**

A. I am submitting testimony on behalf of the Department in relation to Xcel's proposed Certificate of Need (CN) for expansion of the Independent Spent Fuel Storage Installation (ISFSI, facility, or proposed facility) at its Prairie Island Nuclear Generation Plant (Prairie Island or PINGP). My testimony covers the following matters relevant in a CN proceeding:

- Minn. Stat. § 216B.243 subd. 3 (10), which concerns Xcel's compliance with applicable provisions of Minn. Stat. § 216B.1691, which include Minnesota's Carbon-Free Standard (CFS), Renewable Energy Standard (RES),<sup>1</sup> the Solar Energy Standard (SES), and the Distributed Solar Energy Standard (DSES);
- Minn. Stat. § 216B.243 subd. 3 (10), which concerns Xcel's compliance with Minn. Stat. § 216B.2425 subd. 7, which identifies future transmission projects required to comply with the CFS, RES, SES, and DSES standards; and

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<sup>1</sup> Statutorily defined as the Eligible Energy Technology Standard (EETS), as modified by H.F. 7 (2023).

- 1 • Minn. R. 7855.0120 subp. C(1), which concerns the relationship of the proposed  
2 facility, or a suitable modification thereof, to overall state energy needs.  
3

4 **Q. How is your testimony organized?**

5 A. My testimony addresses Northern States Power d/b/a Xcel Energy's (Xcel, or the  
6 Company) proposed project (Project) in two parts. The first part addresses the impact of  
7 the Project on the ability of the Company to meet its renewable energy compliance  
8 requirements. The second part addresses the impact of the Project on the ability of the  
9 State to meet its overall energy needs.  
10

11 **III. MINNESOTA'S CARBON-FREE STANDARD (CFS), RENEWABLE ENERGY STANDARD**  
12 **(RES), SOLAR ENERGY STANDARD (SES), AND DISTRIBUTED SOLAR ENERGY STANDARD**  
13 **(DSES)**

14 A. *STATUTORY AND RULE REQUIREMENTS*

15 **Q. How do Minnesota's CFS, RES, SES, and DSES relate to this proceeding?**

16 A. A CN applicant must demonstrate compliance with Minnesota's CFS,<sup>2</sup> RES,<sup>3</sup> SES,<sup>4</sup> and  
17 DSES,<sup>5</sup> as required by Minn. Stat. § 216B.243, subd. 3(10).

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<sup>2</sup> Minn. Stat. § 216B.1691 subd. 2g.

<sup>3</sup> Minn. Stat. § 216B.1691 subd. 2a.

<sup>4</sup> Minn. Stat. § 216B.1691 subd. 2f.

<sup>5</sup> Minn. Stat. § 216B.1691 subd. 2h.

1     **Q.   What does Minn. Stat. § 216B.243, subd. 3 (10) require?**

2     A.   Minn. Stat. § 216B.243, subd. 3 (10) requires applicants in a certificate of need  
3         proceeding to demonstrate:

4             [W]hether the applicant or applicants are in compliance with  
5             applicable provisions of sections 216B.1691 and 216B.2425,  
6             subdivision 7, and have filed or will file by a date certain an  
7             application for certificate of need under this section or for  
8             certification as a priority electric transmission project under section  
9             216B.2425 for any transmission facilities or upgrades identified  
10            under section 216B.2425, subdivision 7[.]

12    **Q.   What does Minn. Stat. § 216B.2425, subd. 7 require?**

13    A.   Minn. Stat. § 216B.2425, subd. 7 requires that most high-voltage transmission line  
14         owners or operators submit a biennial transmission report, which includes:

15             **Transmission needed to support renewable resources.** (a) Each  
16             entity subject to this section shall determine necessary  
17             transmission upgrades to support development of renewable  
18             energy resources required to meet objectives under section  
19             216B.1691 and shall include those upgrades in its report under  
20             subdivision 2.

22    **Q.   What do Minn. Stat. § 216B.1691 and Minn. Stat. § 216B.2425, subd. 7 address?**

23         Broadly speaking, Minn. Stat. § 216B.1691 addresses Minnesota's CFS, RES, SES, and  
24         DSES and Minn. Stat. § 216B.2425, subd. 7 addresses any transmission upgrades  
25         necessary to meet these standards.

27    B.    *CARBON-FREE STANDARD*

28    **Q.   What does Minnesota's Carbon-Free Standard require of Xcel?**

29    A.    Minn. Stat. § 216B.1691 subd. 2g, states:

**Carbon-free standard.** In addition to the requirements under subdivisions 2a and 2f, each electric utility must generate or procure sufficient electricity generated from a carbon-free energy technology to provide the electric utility's retail customers in Minnesota, or the retail customers of a distribution utility to which the electric utility provides wholesale electric service, so that the electric utility generates or procures an amount of electricity from carbon-free energy technologies that is equivalent to at least the following standard percentages of the electric utility's total retail electric sales to retail customers in Minnesota by the end of the year indicated:

- (1) 2030 80 percent for public utilities; 60 percent for other electric utilities
- (2) 2035 90 percent for all electric utilities
- (3) 2040 100 percent for all electric utilities.

**Q. Is nuclear power Carbon-Free?**

A. Minn. Stat. § 216B.1691 subd. 1b defines Carbon-Free as “a technology that generates electricity without emitting carbon dioxide.” Per the statutory definition, nuclear power is carbon-free and may be counted towards the CFS requirement.

**Q. How does Docket No. E-999/CI-23-151 impact the measurement and verification of CFS compliance?**

A. Docket No. E-999/CI-23-151, “In the Matter of Investigation into Implementing Changes to the Renewable Energy Standard and the Newly Created Carbon Free Standard under Minn. Stat. § 216B.1691,” is an ongoing docket, which, among many objectives, will determine how CFS compliance is measured. Per the Commission’s November 7, 2024 Order, the final standards for compliance will be decided by December 31, 2025 in the

1 newly created Docket No. E-999/CI-24-352.<sup>6</sup> The docket will mainly develop standards  
2 for measuring partial compliance including carbon capture and storage (CCS), biomass,  
3 waste, hydrogen, energy storage, and net market purchases. The new docket, however,  
4 does not affect how wind, solar, hydropower, and nuclear power are quantified. Each of  
5 these resources qualify for full CFS compliance.<sup>7</sup>

6 While the Commission has not yet issued guidance on how all CFS compliance  
7 will be measured and verified, the majority of resources to be discussed will qualify for  
8 full CFS compliance, and therefore I can estimate future CFS compliance.

9  
10 **Q. Is Xcel in compliance with the CFS?**

11 A. The CFS only contains standards for future years and does not contain standards for past  
12 years. Therefore, Xcel currently has no CFS compliance requirement. The first year Xcel  
13 must demonstrate compliance with the CFS is for the year 2030. However, extending  
14 the life of Prairie Island past the current retirement dates in 2033 and 2034 would help  
15 Xcel comply with the CFS at that time.

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<sup>6</sup> *In the Matter of an Investigation into Implementing Changes to the Renewable Energy Standard and the Newly Created Carbon-Free Standard under Minn. Stat. § 216B.1691 and In the Matter of a Commission Investigation into a Fuel Life-Cycle Analysis Framework for Utility Compliance with Minnesota's Carbon-Free Standard*, MPUC Dockets Nos. E-999/CI-23-151 and E-999/CI-24-352, ORDER INITIATING NEW DOCKET AND CLARIFYING "ENVIRONMENTAL JUSTICE AREA," at Order Point 1 (Nov. 7, 2024) (eDocket No. [202411-211701-01](#)).

<sup>7</sup> The Commission's orders in Docket No. E-999/CI-23-151 do not directly state that these resources qualify for CFS compliance, with the exception of hydropower, but these resources are also not being debated for CFS eligibility in Docket No. E-999/CI-24-352. See *In the Matter of a Commission Investigation into a Fuel Life-Cycle Analysis Framework for Utility Compliance with Minnesota's Carbon-Free Standard*, MPUC Docket No. E-999/CI-24-352, Minnesota Public Utilities Commission, Notice of Comment Period (Jan. 22, 2024) (eDockets No. [20251-214218-01](#)).



1 Xcel's 2024 Integrated Resource Plan (IRP)<sup>8</sup> is still under consideration by the  
2 Commission, however its Preferred Plan demonstrates CFS compliance at levels of  
3 96.5% in 2030, 96.4% in 2035, and 99.5% in 2040, with a 0.5 percent shortfall 2040.<sup>9</sup>  
4 After the Company filed its initial IRP Petition, the Company entered into a Settlement  
5 Agreement with the Department and a broad range of stakeholder groups to propose an  
6 alternative Five-Year Action Plan.<sup>10</sup> The new plan demonstrates CFS compliance at levels  
7 of 98.5% in 2030, 101.7% in 2035, and 105.2% in 2040.<sup>11</sup>

8 While there is still uncertainty about the measurement of CFS compliance to be  
9 decided in E-999/CI-23-151 and Docket No. E-999/CI-24-352, the majority of existing  
10 assets and planned resource additions in Xcel's Preferred Plan and the Settlement  
11 Agreement do not contain significant resources under dispute.<sup>12,13,14</sup> Should either of  
12 these plans be approved by the Commission, the Company will likely be able to  
13 demonstrate CFS compliance until at least 2040.

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<sup>8</sup> *In the Matter of Xcel Energy's 2024-2040 Integrated Resource Plan*, MPUC Docket No. E002/RP-24-67, Northern States Power Company, D/B/A Xcel Energy, Integrated Resource Plan (Feb. 1, 2024) (Xcel 2024 IRP) (eDockets No. [20242-203027-01](#)).

<sup>9</sup> *In the Matter of Xcel Energy's 2024-2040 Integrated Resource Plan*, MPUC Docket No. E002/RP-24-67, Minnesota Department of Commerce, Comments at 86 (Aug. 9, 2024) (Department Comments on Xcel 2024 IRP) (eDockets No. [20248-209394-02](#)).

<sup>10</sup> *In the Matter of Xcel Energy's 2024-2040 Integrated Resource Plan and In the Matter of Xcel Energy's Competitive Resource Acquisition Process For up to 800 Megawatts of Firm Dispatchable Generation*, MPUC Docket Nos. E002/RP-24-67 and E002/CN-23-212, Northern States Power Company, D/B/A Xcel Energy, Settlement Agreement Comments (Oct. 25, 2024) (Settlement Agreement) (eDockets No. [202410-211354-03](#)).

<sup>11</sup> Settlement Agreement at 4.

<sup>12</sup> Some resources in Xcel's IRP may be counted as non-compliant or partially compliant. However, the contribution of these resources to total energy needs is small. Xcel's 2030 Preferred Plan proposes 245 GWh of biomass, 5 GWh of waste-to-energy, and 602 GWh of storage, which equates to 2.4% of Xcel's 35,725 GWh of expected retail sales per the Department's methodology. See Department Comments on Xcel 2024 IRP at 86.

<sup>13</sup> The Settlement Agreement contains a Five-Year Action Plan to procure 3,430 MW of wind, 550 MW of solar, 1,256 MW of storage, and 1,152 MW of firm dispatchable natural gas. Settlement Agreement at 8 and 20-21.

<sup>14</sup> While large storage additions are planned, storage is not a primary generation source, and may be counted as retail electric sales for CFS compliance, depending on the Commission's decision in Docket No. E-999/CI-24-352.

1 C. *RENEWABLE ENERGY STANDARD*

2 Q. **What does Minnesota's RES currently require of Xcel?**

3 A. The Eligible Energy Technology Standard (EETS) is commonly referred to as the RES.

4 Minn. Stat. § 216B.1691 subd. 2a, states:

5 **Eligible energy technology standard.** Each electric utility shall  
6 generate or procure sufficient electricity generated by an eligible  
7 energy technology to provide its retail customers in Minnesota, or  
8 the retail customers of a distribution utility to which the electric  
9 utility provides wholesale electric service, so that the electric utility  
10 generates or procures an amount of electricity from an eligible  
11 energy technology that is equivalent to at least the following  
12 standard percentages of the electric utility's total retail electric  
13 sales to retail customers in Minnesota by the end of the year  
14 indicated:

- 15 (1) 2012 12 percent  
16 (2) 2016 17 percent  
17 (3) 2020 20 percent  
18 (4) 2025 25 percent  
19 (5) 2035 55 percent.  
20

21 Minn. Stat. § 216B.1691 subd. 1c defines an "eligible energy technology" as follows:

22 Unless otherwise specified in law, "eligible energy technology"  
23 means an energy technology that generates electricity from the  
24 following renewable energy sources:

- 25 (1) solar;  
26 (2) wind;  
27 (3) hydroelectric with a capacity of: (i) less than 100  
28 megawatts; or (ii) 100 megawatts or more, provided that  
29 the facility is in operation as of February 8, 2023;  
30 (4) hydrogen generated from the resources listed in this  
31 paragraph; or  
32 (5) biomass, which includes, without limitation, landfill gas;  
33 an anaerobic digester system; the predominantly organic  
34 components of wastewater effluent, sludge, or related by-  
35 products from publicly owned treatment works, but not  
36 including incineration of wastewater sludge to produce  
37 electricity; and, except as provided in subdivision 1a, an  
38 energy recovery facility used to capture the heat value of

1 mixed municipal solid waste or refuse-derived fuel from  
2 mixed municipal solid waste as a primary fuel.  
3

4 **Q. How is compliance with the RES measured and verified?**

5 A. Compliance is confirmed through a utility's retirement of renewable energy credits  
6 (RECs). RECs are unique credits associated with every 1 megawatt hour (MWh) of energy  
7 generated from an eligible technology. Utilities can either generate RECs, purchase RECs  
8 from other entities, or transfer their own eligible RECs from a non-Minnesota  
9 jurisdiction. When a utility needs to demonstrate compliance with the RES, it retires the  
10 required number of RECs. Each REC may only be retired once. While utilities can "bank"  
11 RECs for future years, the Commission specified the shelf life of RECs to be four years.<sup>15</sup>  
12 The number of RECs needed to be retired for compliance is calculated as a percentage  
13 of a utility's Minnesota retail sales in a given year, less any ineligible sales. RECs  
14 associated with green pricing programs may not count towards RES compliance.<sup>16</sup> The  
15 issuance, tracking, retirement, and management of RECs for each utility in Minnesota is  
16 administered by the Midwest Renewable Energy Tracking Services (M-RETS).

17 In the past, the Commission has stated that to be in compliance with the statute,  
18 utilities must acquire the specified percentage of renewables by the specified dates and  
19 maintain those percentages during the years leading up to the next mandated

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<sup>15</sup> *In the Matter of a Commission Investigation into a Multi-State Tracking and Trading System for Renewable Energy Credits and In the Matter of Detailing Criteria and Standards for Measuring an Electric Utility's Good Faith Efforts in Meeting the Renewable Energy Objectives Under Minn. Stat. §216B.1691*, MPUC Docket Nos. E-999/CI-04-1616 and E999/CI-03-869, Minnesota Public Utilities Commission, ORDER ESTABLISHING INITIAL PROTOCOLS FOR TRADING RENEWABLE CREDITS (Dec. 18, 2007) (eDockets No. [4872138](#)).

<sup>16</sup> *In the Matter of Detailing Criteria and Standards for Measuring an Electric Utility's Good Faith Efforts in Meeting the Renewable Energy Objectives Under Minn. Stat. §216B.169*, MPUC Docket No. E999/CI-03-869, Minnesota Public Utilities Commission, ORDER AFTER RECONSIDERATION (Aug. 13, 2004) (eDockets No. [1880493](#)).

percentage increase. In other words, once set, each percentage remains in effect for all subsequent years, until the next mandated percentage goes into effect.<sup>17</sup>

**Q. Is Xcel in compliance with the RES?**

A. On August 6, 2024, the Department recommended that the Commission find Xcel is in compliance with the RES for reporting year 2023.<sup>18</sup> Xcel further demonstrates RES compliance through 2040 in its 2024 IRP Petition.<sup>19</sup> While the Company does not demonstrate RES compliance in the Settlement Agreement, the renewable capacity additions are the same or higher compared to the 2024 IRP Preferred Plan.<sup>20</sup> Therefore, I have no concerns about Xcel's ability to meet its RES compliance requirements.

**D. SOLAR ENERGY STANDARD**

**Q. What does Minnesota's SES require of Xcel?**

A. Minn. Stat. § 216B.1691 subd. 2f, states:

**Solar energy standard.**

(a) In addition to the requirements of subdivisions 2a and 2g, each public utility shall generate or procure sufficient electricity generated by solar energy to serve its retail electricity customers in Minnesota so that by the end of 2020, at least 1.5 percent of the utility's total retail electric sales to retail customers in Minnesota is generated by solar energy.

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<sup>17</sup> *In the Matter of Detailing Criteria and Standards for Measuring an Electric Utility's Good Faith Efforts in Meeting the Renewable Energy Objectives Under Minn. Stat. §216B.1691*, MPUC Docket No. E999/CI-03-869, Minnesota Public Utilities Commission, ORDER CLARIFYING CRITERIA AND STANDARDS FOR DETERMINING COMPLIANCE UNDER MINN. STAT. §216B.1691 (Mar. 19, 2010) (eDockets No. [20103-48177-01](#)).

<sup>18</sup> *In the Matter of Commission Consideration and Determination of Compliance with Minnesota's Renewable Energy Objectives for Year 2023*, MPUC Docket No. E999/PR-24-12, Minnesota Department of Commerce, Comments (Aug. 6, 2024) (eDockets No. [20248-209283-01](#) at 3).

<sup>19</sup> See Figure N-1. Xcel 2024 IRP Appendix N at 4.

<sup>20</sup> Settlement Agreement at 8.

(b) For a public utility with more than 200,000 retail electric customers, at least ten percent of the 1.5 percent goal must be met by solar energy generated by or procured from solar photovoltaic devices with a nameplate capacity of 40 kilowatts or less.

The statute additionally excludes sales to certain industrial customers<sup>21</sup> and states that the statutory requirements are additional to the requirement for the RES.<sup>22</sup>

**Q. How is compliance with the SES measured and verified?**

A. SES compliance is measured and verified using the same process as the RES. However, RECs arising from solar generation are referred to as “SRECs.” SRECs have the same restrictions as RECs. Further, SRECs used to meet the SES cannot also be used to meet the RES; likewise, SRECs used to meet the RES cannot be used to meet the SES.

**Q. Is Xcel in compliance with the SES?**

A. On August 20, 2024, the Department recommended the Commission find that Xcel is in compliance with the SES for reporting year 2023.<sup>23</sup> The Department determined that solar will compose 10.3% of total Xcel generation in 2030, 10.5% in 2035, and 9.8% in 2040 based on the Company’s 2024 IRP Petition.<sup>24</sup> With a 1.5% of Xcel-Minnesota load requirement and the Xcel total generation numbers around 10%, I do not have any

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<sup>21</sup> Minn. Stat. § 216B.1691 subd. 2f(f).

<sup>22</sup> Minn. Stat. § 216B.1691 subd. 2f(g).

<sup>23</sup> *In the Matter of Commission Consideration and Determination of Compliance with Minnesota’s Renewable Energy Objectives for Year 2023*, MPUC Docket No. E999/PR-24-12, Minnesota Department of Commerce, Letter (Aug. 20, 2024) (eDockets No. [20248-209652-02](#)).

<sup>24</sup> Department Comments on Xcel 2024 IRP at 86.

1 concerns about the Company's ability to meet the 1.5% SES compliance requirement in  
2 the future.

3 The Company does not appear to address the 10% small-scale solar compliance  
4 requirement in its 2024 IRP Petition, however the Company provides a forecast that  
5 anticipates "Customer Sited DG Solar" to grow from 192 MW<sub>ac</sub> in 2024, to 422 MW<sub>ac</sub> in  
6 2030, 683 MW<sub>ac</sub> in 2035 and 947 MW<sub>ac</sub> in 2040.<sup>25</sup> While not all customer sited  
7 distributed solar can be expected to be sized at 40 kW<sub>ac</sub> or smaller, the growth forecast  
8 is considerably higher than the Company's retail sales growth forecast, and the  
9 Company is currently in compliance with its existing generation. Therefore, I do not have  
10 any concerns about the Company's ability to meet the 10% small-scale SES compliance  
11 requirement in the future.

12  
13 *E. DISTRIBUTED SOLAR ENERGY STANDARD*

14 **Q. What does Minnesota's DSES require of Xcel?**

15 **A.** Minn. Stat. § 216B.1691 subd. 2h, states:

16 **Distributed solar energy standard.**

17 (b) In addition to the other requirements of this section, by the end  
18 of 2030, the following proportions of a public utility's total retail  
19 electric sales in Minnesota must be generated from solar energy  
20 generating systems:

21 (1) for a public utility with at least 200,000 retail electric  
22 customers in Minnesota, at least three percent;

23 (c) To be counted toward a public utility's standard established in  
24 paragraph (a), a solar energy generating system must:

25 (1) have a capacity of ten megawatts or less;

26 (2) be connected to the public utility's distribution system;

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<sup>25</sup> Xcel 2024 IRP Appendix F, Table F-20 at 28.

(3) be located in the Minnesota service territory of the public utility; and  
(4) be constructed or procured after August 1, 2023.

**Q. How is compliance with the DSES measured and verified?**

A. DSES compliance is measured and verified using the same process as the SES.<sup>26</sup> While SRECs must be additional to RECs used to quantify RES compliance, there is no restriction that SRECs generated from the DSES be additional to the SES.<sup>27</sup>

**Q. Is Xcel in compliance with the DSES?**

A. There is no compliance requirement until 2030. Xcel's current 2024 IRP forecast for distributed solar includes a full deployment of 497 MW<sub>ac</sub> by 2030 in order to reach DSES compliance.<sup>28</sup>

F. SUMMARY OF CFS, RES, SES, AND DSES COMPLIANCE

**Q. Please summarize your analysis of Xcel's compliance with Minnesota's CFS, RES, SES, and DSES.**

A. Xcel is currently in compliance with the RES and SES. Compliance requirements for the CFS and DSES do not begin until 2030. Xcel's 2024 IRP Preferred Plan and the Settlement

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<sup>26</sup> See *In the Matter of the Implementation of the New Distributed Solar Energy Standard Pursuant to 2023 Amendments to Minnesota Statutes, Section 216B.1691*, MPUC Docket No. E-002,E-015,E-017/CI-23-403, Minnesota Public Utilities Commission, ORDER CLARIFYING IMPLEMENTATION OF DISTRIBUTED SOLAR ENERGY STANDARD at Order Point 8 (June 26, 2024) (eDockets No. [20246-207978-01](#)).

<sup>27</sup> See *id.* at Order Point 11. Although the SRECs can count towards both the SES and DSES standards, this must be done at the same time to comply with the restriction that the SREC can only be retired one time.

<sup>28</sup> Department Comments on Xcel 2024 IRP at 83.

1 Agreement both appear to address CFS, RES, SES, and DSES compliance from now  
2 through 2040.

3  
4 *G. TRANSMISSION NEEDED TO MEET THE CFS, RES, SES, AND DSES*

5 **Q. Has the Commission found Xcel in compliance with Minn. Stat. § 216B.2425, subd. 2?**

6 A. Yes. On November 1, 2023, the Minnesota Transmission Owners (MTO), which includes  
7 Xcel, submitted its 2023 Biennial Transmission Report to the Commission. The 2023  
8 Biennial Transmission Report included a section demonstrating compliance with Minn.  
9 Stat. § 216B.2425, subd. 7. On June 7, 2024, the Commission accepted the 2023 Biennial  
10 Transmission Report.<sup>29</sup> MTO will not need to file another Transmission Projects report  
11 until November of this year. Therefore, I recommend that the Commission conclude  
12 that Xcel is in compliance with Minn. Stat. § 216B.2425, subd. 2.

13  
14 **Q. Has the Commission found Xcel in compliance with Minn. Stat. § 216B.2425, subd. 7?**

15 A. In its comments on the 2023 Transmission Projects Report, the Department concluded  
16 that utilities subject to the Minnesota RES have sufficient capacity acquired to meet the  
17 Minnesota RES needs through 2035.<sup>30</sup> However, the 2023 Transmission Report identifies  
18 a capacity shortfall of 108.5 MW in 2035 for Xcel,<sup>31</sup> despite sufficient transmission

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<sup>29</sup> *In the Matter of the 2023 Minnesota Biennial Transmission Projects Report*, MPUC Docket No. E999/M-23-91, Minnesota Public Utilities Commission, ORDER ACCEPTING REPORT (June 7, 2023) (eDockets No. [20246-207503-01](#)).

<sup>30</sup> *In the Matter of the 2023 Minnesota Biennial Transmission Projects Report*, MPUC Docket No. E999/M-23-91, Minnesota Department of Commerce, Comments at 5-6 (Jan. 16, 2024) (eDockets No. [20241-202220-01](#)).

<sup>31</sup> 2023 Biennial Transmission Report at 186.



1 capacity acquisition for the state overall. In addition, Xcel's 2024 IRP shows a significant  
2 increase in load growth compared to previous planning assumptions:

3 [A]fter adjusting for weather, electric energy requirements  
4 of our system increased at an average of only 0.2 percent from  
5 2019 to 2022.

6 ...

7 [O]ur base case forecasts now anticipate average annual  
8 growth rates of 1.8 percent in our peak demand, and 2 percent  
9 for our energy forecast over the 2024-2040 planning period. This  
10 is a marked divergence from what we have anticipated in the  
11 past.<sup>32</sup>  
12

13 It is not clear to me whether the 2023 Transmission Report fully accounts for  
14 Xcel's new load growth and, given that Xcel already stated a transmission capacity  
15 deficit to meet its anticipated RES obligation in the 2023 Transmission Report, I cannot  
16 conclude at this time that Xcel is in compliance with Minn. Stat. § 216B.2425, subd. 7.

17 I recommend that Xcel explain how it complies with Minn. Stat. § 216B.2425,  
18 subd. 7 in rebuttal testimony.  
19

20 **Q. What do you conclude about Minn. Stat. § 216B.243, subd. 3(10) and Xcel's**  
21 **requirements in this proceeding as a certificate of need applicant?**

22 A. I recommend that the Commission conclude that Xcel, as the certificate of need  
23 applicant in question, has sufficiently demonstrated that the Company is in compliance  
24 with Minn. Stat. § 216B.1691.

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<sup>32</sup> 2024 IRP Chapter 1 at 6-7.

1 I withhold my final recommendation on the Company's compliance with Minn.  
2 Stat. § 216B.243, subd. 3(10) until after I review the Company's rebuttal testimony.

3  
4 **IV. THE PROPOSED PROJECT'S IMPACT ON STATE ENERGY NEEDS**

5 **Q. Please provide your general assessment of Minnesota's energy and capacity needs.**

6 A. The Department recently reviewed the IRPs from three investor-owned utilities  
7 operating in the State: Xcel,<sup>33</sup> Minnesota Power (MP),<sup>34</sup> and Otter Tail Power Company  
8 (OTP).<sup>35</sup> During those reviews, the Department concluded that all the utilities showed  
9 the likelihood of increased capacity and energy needs during the 2025 – 2030  
10 timeframe. The Department also reviewed Great River Energy's most recent IRP, which  
11 was filed in 2023.<sup>36</sup> Since the above four utilities serve the majority of energy needs in  
12 the State and all of them are likely to need capacity and energy during the 2025 – 2030  
13 timeframe, I conclude that the State needs more capacity and energy during the 2025 –  
14 2030 timeframe. I further reviewed the four utilities' *Minnesota Electric Utility Annual*  
15 *Report* (Reports) filed in June, July, and August 2024, to confirm this conclusion with the  
16 most up-to-date information.<sup>37</sup> The Reports support my conclusion on the general  
17 assessment of the State's energy needs during the 2025 – 2030 timeframe.

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<sup>33</sup> Xcel 2024 IRP.

<sup>34</sup> *In the Matter of Minnesota Power's Application for Approval of its 2021-2035 Integrated Resource Plan*, MPUC Docket No. E015/RP-21-3321-33, Minnesota Power, Integrated Resource Plan (Feb. 1, 2021) (MP 2021 IRP), (eDockets No. [20212-170583-01](#)).

<sup>35</sup> *In the Matter of Otter Tail Power's 2023–2037 Integrated Resource Plan*, MPUC Docket No. E-017/RP-21-339, Otter Tail Power Company, Integrated Resource Plan Supplement (Mar. 31, 2023) (OTP 2023 IRP) (eDockets No. [20233-194373-03](#)).

<sup>36</sup> *In the Matter of Great River Energy's 2022-2036 Integrated Resource Plan*, MPUC Docket No. ET-2/RP-22-75, Great River Energy, Integrated Resource Plan (Mar. 31, 2023) (eDockets No. [20233-194396-01](#)).

<sup>37</sup> See Docket No. E999/M-24-11.

1 **Q. Please summarize observations from the utilities' IRPs relating to energy and capacity**  
2 **needs.**

3 A. The Department recently reviewed the most recently filed IRPs that indicates that  
4 Minnesotans are expected to have slight changes in their electricity requirements as  
5 follows:

- 6 • Xcel's IRP includes a 2.0 percent annual average energy growth rate for 2024 to  
7 2040;<sup>38</sup>
- 8 • MP's IRP includes a -0.4 percent annual average energy decline for 2019 to  
9 2034;<sup>39</sup> and
- 10 • OTP's IRP includes a 1.1 percent annual average energy growth rate from 2023-  
11 2037.<sup>40</sup>

12  
13 However, all three utilities are proposing retirements of large baseload coal units:

- 14 • Xcel is required to cease coal operations the Sherburne County Generating  
15 Station unit 1 in 2026,<sup>41</sup> unit 3 in 2030,<sup>42</sup> and the Allen S. King Generating Station  
16 in 2028;<sup>43</sup>
- 17 • MP is required to cease coal operations Boswell Energy Center Unit 3 in 2029  
18 and Unit 4 in 2035;<sup>44</sup> and
- 19 • OTP is required to withdraw its 35 percent ownership interest in Coyote Station  
20 by 2031.<sup>45</sup>

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<sup>38</sup> Xcel 2024 IRP Chapter 1 at 7.

<sup>39</sup> MP 2021 IRP at 21.

<sup>40</sup> OTP states "[T]he impact of new customers on the sales forecast is a 16 percent to 18 percent increase in energy requirements over the planning period." Over 15 years, the average annual growth rate is 1.1%, however the load addition is primary in 2023. OTP 2023 IRP at 30.

<sup>41</sup> *In the Matter of Xcel Energy's 2016–2030 Integrated Resource Plan*, MPUC Docket No. E-002/RP-15-21, Minnesota Public Utilities Commission, ORDER APPROVING PLAN WITH MODIFICATIONS AND ESTABLISHING REQUIREMENTS FOR FUTURE RESOURCE PLAN FILINGS at Order Point 7 (Jan. 11, 2017) (eDockets No. [20171-128000-01](#)).

<sup>42</sup> *In the Matter of the 2020–2034 Upper Midwest Integrated Resource Plan of Northern States Power Company d/b/a Xcel Energy*, MPUC Docket No. E-002/RP-19-368, Minnesota Public Utilities Commission, ORDER APPROVING PLAN WITH MODIFICATIONS AND ESTABLISHING REQUIREMENTS FOR FUTURE FILINGS at Order Point 2.A.4 (Apr. 15, 2022) (eDockets No. [20224-184828-01](#)).

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

<sup>44</sup> *In the Matter of Minnesota Power's 2021- 2035 Integrated Resource Plan*, MPUC Docket No. E-015/RP-21-33, Minnesota Public Utilities Commission, ORDER APPROVING PLAN AND SETTING ADDITIONAL REQUIREMENTS at Order Point 2. (Jan. 9, 2023) (MP 2021 IRP Order) (eDockets No. [20231-191970-01](#)).

<sup>45</sup> *In the Matter of Otter Tail Power's 2023–2037 Integrated Resource Plan*, MPUC Docket No. E-017/RP-21-339, Minnesota Public Utilities Commission, ORDER MODIFYING OTTER TAIL POWER'S 2023–2037 INTEGRATED RESOURCE PLAN at Order Point 4 (July 22, 2024) (eDockets No. [20247-208805-01](#)).

1           Additionally, the Commission’s September 23, 2021 Order, in part stated that:

2                   Furthermore, utilities plan to retire coal-based generating units  
3                   across the region in the coming years, and renewable energy  
4                   sources are expected to fill some of the resulting capacity needs.  
5                   These established goals and plans are strong evidence of a utility’s  
6                   intention for future energy development and can be used to  
7                   demonstrate demand, especially when consistent with stated  
8                   public policy goals.<sup>46</sup>  
9

10       **Q.    Has the Commission decided Xcel’s IRP in Docket 24-67?**

11       A.    No, however both Xcel’s Preferred Plan and the Settlement Agreement share similar  
12            recommendations for increased capacity. Common capacity additions recommended in  
13            the Five-Year Action Plan between both plans include:

- 14            •   3,200 MW of wind
- 15            •   400 MW of solar
- 16            •   600 MW of storage
- 17            •   1,152 MW of firm dispatchable<sup>47</sup>
- 18

19           In addition, Xcel indicated in its June 30, 2020 Supplement in Docket 19-368<sup>48</sup> that its  
20           share of Sherco Unit 3 capacity is approximately 517 MW, and Allen S King’s capacity is  
21           511 MW. In addition, Sherco Unit 1, with a capacity of 680 MW, is required to be retired  
22           in 2026. Sherco Unit 2, with a capacity of 682 MW, retired in 2023. Xcel also has an

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<sup>46</sup> *In the Matter of Applications of Plum Creek Wind Farm, LLC for a Certificate of Need, Site Permit, and Route Permit for an up to 414 MW Large Wind Energy Conversion System and 345 kV Transmission Line in Cottonwood, Murray, and Redwood Counties*, MPUC Docket Nos. IP6697/CN-18-699, IP6697/WS-18-700, and IP6697/TL-18-701, Minnesota Public Utilities Commission, ORDER GRANTING CERTIFICATE OF NEED AND ISSUING SITE PERMIT AND ROUTE PERMIT at 11 (Sept. 23, 2021) (eDockets No. [20219-178198-02](#)).

<sup>47</sup> The Preferred Plan proposes 2,244 MW and the Settlement Agreement proposes a combined total of 1,152 MW from the Cannon Falls, Mankato Energy Center I, and new Lyon County generating stations. This number excludes additional 4-hour battery storage projects. Settlement Agreement at 8 and 20.

<sup>48</sup> *In the Matter of the 2020–2034 Upper Midwest Integrated Resource Plan of Northern States Power Company d/b/a Xcel Energy, Northern States Power Company d/b/a Xcel Energy*, MPUC Docket No. E-002/RP-19-368, Supplemental Filing, Appendix A at 78 (June 30, 2020) (eDockets No. [20206-164371-01](#)).

1 approximately 835 MW Power Purchase Agreement (PPA) with Manitoba Hydro with a  
2 current contract expiration date of 2025.<sup>49</sup> In addition, three natural gas PPAs have  
3 expiration dates in the near future:

- 4 • Cottage Grove: 226 MW in 2027
- 5 • Mankato Energy Center: 314 MW in 2028
- 6 • Cannon Falls: 317 MW in 2028<sup>50</sup>

7  
8 **Q. Has the Commission decided MP's IRP in Docket 21-33?**

9 A. Yes. In its 2023 MP IRP Order, the Commission in Ordering paragraph 2 in part, stated  
10 the following:

11 2. Minnesota Power must cease coal operations at Boswell Unit 3  
12 at the latest by December 31, 2029, and Boswell Unit 4 by 2035.  
13 Capacity and energy replacement options including transmission  
14 solutions for both units will be evaluated during the next resource  
15 plan.<sup>51</sup>  
16

17 **Q. How does this information concerning the utilities' IRPs relate to the Commission's**  
18 **consideration of this case?**

19 A. As mentioned above, there are not only large baseload coal units that are slated for  
20 retirement but there are other potential PPA retirements, among others, in Xcel's IRP as  
21 indicated above. As a result, this information indicates that the proposed project will  
22 have a positive impact in meeting the State's energy needs.

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<sup>49</sup> Xcel proposes to extend its PPA until 2030. Settlement Agreement at 35.

<sup>50</sup> Xcel 2024 IRP Chapter 5 at 3.

<sup>51</sup> MP 2021 IRP Order at 13-14.

1     **Q.   Why don't you provide specific numbers instead of a general assessment of the State**  
2     **of Minnesota's energy need?**

3     A.   The type of energy needed (baseload, intermediate, peaking) for each utility cannot be  
4     identified by simply checking the total energy need. Obtaining such specific numbers  
5     requires more complicated processes (involving, for example, cost minimizing capacity  
6     expansion modeling) to evaluate the type of energy needed. Also, the evaluation of  
7     energy need is a utility-specific process since the analysis depends on a utility's existing  
8     generation fleet, purchased power contracts, fuel acquisition processes and  
9     procurement policies and processes to satisfy future needs. For utilities subject to the  
10    Commission's jurisdiction, this specific analysis occurs in integrated resource plans. My  
11    testimony references a number of relevant resource plan dockets above in which  
12    intensive analysis has been performed to test the utilities' statements regarding load  
13    and supply capacity. As such, I do not provide that analysis here. Therefore, I confine my  
14    discussion in this testimony to the State's overall energy need in generic terms instead  
15    of identifying specific types of energy needed.

16  
17    **Q.   What is your conclusion regarding the impact of the Project on the general assessment**  
18    **of the State of Minnesota's energy need?**

19    A.   Based on my general assessment of the State's energy need and all the discussion  
20    above, I conclude that the proposed Project will have a positive impact in meeting the  
21    State's energy need by providing additional energy and capacity to meet the State's  
22    energy need.

1     **V.   CONCLUSION**

2     **Q.   Please provide your conclusions.**

3     A.   I conclude that Xcel has demonstrated its compliance with Company with Minn. Stat.  
4           § 216B.1691, however I cannot conclude at this time that Xcel is fully in compliance with  
5           Minn. Stat. § 216B.243, subd. 3(10). I also conclude that the proposed project will likely  
6           have a positive impact on statewide energy needs.

7

8     **Q.   Have you completed your Direct Testimony?**

9     A.   Yes.