COMMERCE DEPARTMENT

May 27, 2021

Will Seuffert
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, MN 55101-2147

RE: EERA Comments and Recommendations
Xcel Energy Request for a Change in Spent Fuel Storage Technology
Prairie Island Independent Spent Fuel Storage Installation
Docket No. E002/CN-08-510

Dear Mr. Seuffert,

Attached are comments and recommendations of Department of Commerce, Energy Environmental Review and Analysis (EERA) staff in the following matter:

> In the Matter of the Petition of Northern States Power Company D/B/A Xcel Energy for a Certificate of Need for Additional Dry Cask Storage at Prairie Island Nuclear Generating Plant

Xcel Energy's request for a change in spent fuel storage technology was filed on April 30, 2021, by:

> Bria Shea
> Xcel Energy
> 414 Nicollet, 401 – 7th Floor
> Minneapolis, MN 55401

EERA staff is available to answer any questions the Commission may have.

Sincerely,

Ray Kirsch
Environmental Review Manager

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COMMERCE DEPARTMENT

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

ENERGY ENVIRONMENTAL REVIEW AND ANALYSIS
COMMENTS AND RECOMMENDATIONS

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
DOCKET NO. E002/CN-08-510

Date: May 27, 2021

EERA Staff: Ray Kirsch | 651-539-1841 | raymond.kirsch@state.mn.us

In the Matter of the Petition of Northern States Power Company D/B/A Xcel Energy for a Certificate of Need for Additional Dry Cask Storage at Prairie Island Nuclear Generating Plant

Issues Addressed: These comments and recommendations address Xcel Energy's request to change the type of spent fuel storage casks used at its Prairie Island Nuclear Generating Plant.

Additional documents and information can be found on eDockets: https://www.edockets.state.mn.us/EFiling/search.jsp (08-510).

This document can be made available in alternative formats (i.e., large print or audio) by calling 651-296-0391 (voice).

Introduction and Background

The Prairie Island nuclear generating plant (PINGP) is a 1,100 megawatt (MW), two-unit, electric generating plant in Red Wing, Minn. Unit 1 has been in operation since 1973; Unit 2 since 1974. Spent nuclear fuel from the plant is stored on-site in an independent spent fuel storage installation (ISFSI).

On May 16, 2008, Xcel Energy applied to the Commission for a certificate of need to expand the Prairie Island ISFSI, by 35 casks, to accommodate a total of 64 spent fuel storage casks. Department of Commerce, Energy Environmental Review and Analysis (EERA) staff prepared an environmental impact statement (EIS) that analyzed the proposed ISFSI expansion.[1] On December 18, 2009, the Commission issued a certificate of need authorizing Xcel Energy to expand the Prairie Island ISFSI by

[1] Final Environmental Impact Statement, Xcel Energy Prairie Island Nuclear Generating Plant, July 31, 2009, eDockets Numbers 20097-40233-02, 20097-40233-05, 20097-40233-08, 20097-40233-11, 20097-40233-14, 20097-40233-17, 20097-40234-02, 20097-40234-05, 20097-40234-08, 20097-40235-02 [hereinafter Prairie Island EIS].

35 casks.[2] At that time, and as part of their certificate of need application, Xcel Energy proposed that these casks be Transnuclear TN-40HT bolted casks.

On April 30, 2021, Xcel Energy requested that the Commission authorize a change in the spent fuel storage technology at Prairie Island.[3] Xcel Energy requested that it be authorized to use any spent fuel storage technology (cask) that has been approved by the Nuclear Regulatory Commission (NRC), rather than being limited solely to the TN-40HT cask.[4] On May 14, 2021, the Commission issued a notice soliciting comments on Xcel Energy's proposed change in fuel storage technology and on the appropriate processes for considering Xcel Energy's request.[5]

Project Purpose

Xcel Energy indicates that its proposed change in spent fuel storage technology would likely result in lower customer costs.[6] Further, Xcel Energy indicates that a change in technology could potentially facilitate relatively earlier shipments of spent nuclear fuel from Prairie Island to offsite storage facilities.[7]

Project Description

Xcel Energy proposes to use a new spent fuel storage technology in the Prairie Island ISFSI. Xcel Energy proposes to use an NRC-approved fuel storage cask for the ISFSI, rather than being limited to the TN-40HT casks approved by the Commission in 2009.[8] Xcel Energy indicates that they would select from NRC-approved cask designs based on considerations including price and compatibility with future offsite storage facilities.[9] Xcel Energy envisions that the cask designs would be similar to the welded, canister design approved by the Commission for use at the Monticello Nuclear Generating Plant ISFSI.[10]

Xcel Energy indicates that it is not seeking to store more spent fuel that was approved by the Commission in 2009. Xcel Energy indicates that it still seeks to store only the 2,560 spent-fuel assemblies anticipated by the Commission's 2009 certificate of need.[11] Xcel Energy's request is that it not be limited to storing these assemblies in 64 TN-40HT casks, but rather storing them in any NRC-approved spent fuel storage casks.

[2] Order Accepting Environmental Impact Statement, and Granting Certificates of Need and Site Permit with Conditions, December 18, 2009, eDockets Number 200912-45206-02.
[3] Request for Change in Spent-Fuel Storage Technology, Prairie Island Fuel Storage, April 30, 2021, eDockets Number 20214-173680-01 [hereinafter Xcel Energy Request].
[4] *Id*.
[5] Notice of Comment Period, May 14, 2021, eDockets Number 20215-174178-01.
[6] Xcel Energy Request.
[7] *Id*.
[8] *Id*.
[9] *Id.*
[10] *Id.*
[11] *Id.*

Regulatory Process and Procedures

In Minnesota, the construction or expansion of an ISFSI requires a certificate of need (CN) from the Commission.[12] An EIS must be prepared by the Department of Commerce (Department), as the responsible governmental unit (RGU), prior to the Commission's decision on a CN.[13]

An EIS for a project must be supplemented if the RGU determines that any of the following situations exist:

A. Whenever after a final EIS has been determined adequate, but before the project becomes exempt under part 4410.4600, subpart 2, item B or D, the RGU determines that either:

   (1) substantial changes have been made in the proposed project that affect the potential significant adverse environmental effects of the project; or

   (2) there is substantial new information or new circumstances that significantly affect the potential environmental effects from the proposed project that have not been considered in the final EIS or that significantly affect the availability of prudent and feasible alternatives with lesser environmental effects;

B. Whenever an EIS has been prepared for an ongoing governmental action and the RGU determines that the conditions of item A, subitem (1) or (2), are met with respect to the action; or

C. Whenever an EIS has been prepared for one or more phases of a phased action or one or more components of a connected action and a later phase or another component is proposed for approval or implementation that was not evaluated in the initial EIS.[14]

EERA Staff Analysis and Comments

The Department's 2009 Prairie Island EIS analyzed the potential human and environmental impacts of an expansion of the Prairie Island ISFSI.[15] This analysis was based on the presumed use of TN-40HT casks.

The EIS also considered spent fuel storage alternatives, including the use of other spent fuel storage casks; however, the EIS did not evaluate potential on-the-ground impacts of these alternatives in detail.[16] The EIS noted:

> The NRC approves spent fuel dry storage systems by evaluating each design for resistance to accident conditions such as floods, earthquakes, tornado missiles, and temperature extremes, and authorizes a nuclear power plant licensee to store spent

[12] Minnesota Statutes section 116C.83, subd. 2.
[13] *Id.*, subd. 6(b).
[14] Minnesota Rule 4410.3000, subp. 3.
[15] Prairie Island EIS, Chapter 2, Sections 4 and 5.
[16] Prairie Island EIS, Chapter 2, Section 6.

> fuel in NRC-approved systems at a site that is licensed to operate a power reactor. All spent fuel storage systems must meet NRC licensing requirements established in 10 CFR 72. As a result, all alternative storage technologies provide the same level of safety and resistance to accident conditions.[17]

Given the analysis in the Department's 2009 EIS, EERA staff has considered whether Xcel Energy's request represents a substantial change to the project, or substantial new information, that affects the potential environmental effects at the Prairie Island ISFSI such that the 2009 Prairie Island final EIS must be supplemented. EERA staff concludes that it does.

First, though the 2009 EIS noted that non-radiological impacts of the Prairie Island ISFSI expansion were not anticipated to be significant, that conclusion was based on an ISFSI expansion for TN-40HT casks.[18] The extent of such impacts for a different spent fuel cask technology is uncertain.

Second, though the Nuclear Regulatory Commission (NRC) has exclusive authority for approving spent fuel cask technology, the use of that technology, in a specific environment, results in potential radiological impacts that are site specific.[19] Though it would not be possible to develop site-specific dose rates based on Xcel Energy's request, EERA staff believes that radiological information regarding other spent fuel storage technologies, particularly welded casks, could be discussed in an EIS supplement.

Third, the 2009 EIS notes that the Prairie Island Indian Community, because of its proximity to the Prairie Island ISFSI, is differentially impacted by the ISFSI and is a community for which there are environmental justice concerns.[20] These concerns suggest close examination of any proposed changes to spent fuel storage technology at the ISFSI.

On whole, EERA staff finds that Xcel Energy's request represents a substantial change to the Prairie Island ISFSI that could affect the potential environmental effects at the ISFSI. Accordingly, EERA staff believes that the 2009 Prairie Island final EIS must be supplemented.

EERA Staff Recommendation

EERA staff recommends that the Commission take no action on Xcel Energy's request until EERA staff can supplement the 2009 Prairie Island final EIS in accordance with Minnesota Statutes section 116D.04 and Minnesota Rule 4410.3000.[21]

[17] *Id.*
[18] Prairie Island EIS, Section 4.
[19] Prairie Island EIS, Section 5.
[20] *Id.*
[21] *In re N. Dakota Pipeline Co. LLC*, 869 N.W.2d 693, 699 (Minn. Ct. App. 2015) ("MEPA requires that an EIS must be completed before a final decision.").