# BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

## COMMENTS AND RECOMMENDATIONS OF THE MINNESOTA OFFICE OF ENERGY SECURITY ENERGY FACILITY PERMITTING STAFF

DOCKET NO. E002/GS-08-690

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Meeting Date: September 25, 2008…….……Agenda Item #

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Company: Xcel Energy

Docket No. PUC Docket Number: E002/GS-08-690
In the Matter of a petition for an Advisory Task Force concerning the application for a LEPGP Site Permit for the Prairie Island Nuclear Generating Plant (PINGP) Extended Power Uprate (EPU) Project.

Issue(s): Should the Commission authorize the Office of Energy Security (OES) to form an Advisory Task Force (ATF)? If authorized, what charge should the Commission give the ATF?

DOC Staff: William Cole Storm….…….651-296-9535

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**Relevant Documents (**in Commission Packet).

1. Xcel Energy's LEPGP Site Permit Application, Dated August 1, 2008.
2. PUC Order for 08-509 and 08-510, Application Acceptance, Dated July 22, 2008.
3. PUC Order for 08-509 and 08-510, Notice & Order for Hearing, Dated July 22, 2008.
4. OES Comments and Recommendations on Application Acceptance, Dated August 6, 2008.
5. PUC Order for 08-690, Application Acceptance, Dated August 15, 2008.

The enclosed materials are work papers of the Department of Commerce, Office of Energy Security Energy (OES), Facility Permitting Staff. They are intended for use by the Public Utilities Commission and are based on information already in the record unless otherwise noted.

This document can be made available in alternative formats; i.e. large print or audio tape by calling (651) 201-2202 (Voice) or 1-800-627-3529 (TTY relay service).

## Documents Attached.

1. Anderson and Howe request for an ATF, Dated September 11, 2008.
2. OES Draft Scoping Document, Dated August 25, 2008.

(Note: Relevant documents and additional information can be found on eDockets (E002/GS-08-690) or the PUC Facilities Permitting website http://energyfacilities.puc.state.mn.us/)

## Statement of the Issue

Should the Commission authorize the Office of Energy Security (OES) to form an Advisory Task Force (ATF)? If authorized, what charge should the Commission give the ATF?

## Introduction and Background

On August 1, 2008, Xcel Energy submitted a large electric power generating plant (LEPGP) Site Permit application to the Minnesota Public Utilities Commission (Commission) for the proposed Prairie Island Nuclear Generating Plant (PINGP) Extended Power Uprate (EPU) project.

The proposed EPU of 164 MWe consists of an 82 MWe net capacity uprate at Unit 1 and an 82 MWe net uprate at Unit 2. Xcel Energy proposes to complete the uprate on Unit 1 during the 2012 refueling outage and on Unit 2 during the 2015 refueling outage.

The OES Energy Facility Permitting (EFP) staff submitted its Comments and Recommendations to the Commission on August 6, 2008. Staff recommended 1) that the Commission accept the application as complete, 2) authorize the OES EFP to name a public advisor, and 3) determine that an advisory task force is not necessary.

On August 14, 2008, the Commission considered the completeness of the Site Permit Application at its regularly scheduled meeting. The Commission Order, dated August 15, 2008, adopted the recommendations of the OES, except as modified regarding the advisory task force. In regards to the advisory task force, the Commission decided to take no action at that time.

The OES EFP staff held a Public Information and Environmental Review Scoping Meeting on September 10, 2008. The purpose of the meeting was to inform the public of the project, the regulatory process, and to solicit input from the public as to the scope of the environmental review document. The comment period for the scoping process closes on October 7, 2008.

Thirty-eight persons signed the attendance sheet at the public meeting, with 10 of those persons pre-registering to speak; another five or so persons raised their hands to speak after the pre-registered speakers had their turn. The major area of concern voiced was the health and safety of the people living in close proximity to the PINGP and the associated ISFSI. Other issues included the environmental impacts from appropriating additional water from the Mississippi River, increased temperatures of the discharge water to the river and potential security of the ISFSI.

***Request for an Advisory Task Force***

On September 11, 2008, the Commission received two requests for the establishment of an Advisory Task Force. The first request was from Mr. Sigurd Anderson representing the Communities United for Responsible Energy (CURE) and the second request was from a Mr. John Howe (See Attached).

Both requests state that an ATF is warranted based on the significant potential human and environmental impact resulting from the Xcel Energy proposal and both ask for additional time beyond that specified in statute and rule for the ATF to complete its task.

Mr. Anderson asks that the charge of the ATF include an evaluation of alternative sizes and types of facilities (and timing of said facility) that may satisfy Xcel Energy's stated purpose of fulfilling a base-load energy need. Additionally, Mr. Anderson also would like the ATF to consider alternative sites for these base-load facilities.

Mr. Howe suggests that the OES examine sources other than the proposed PINGP EPU for Xcel Energy to meet its base-load needs and that alternative sites, other than the PINGP ISFSI, be evaluated for the storage of the additional dry casks. Additionally, Mr. Howe requested that impacts of additional water appropriations and increased thermal discharge to the river be evaluated fully.

***Regulatory Provisions for a ATF***

The statutes and rules governing the review of Xcel Energy's Application for a Site Permit for the PINGP EPU Project (PUC Docket E002/GS-08-690) contain provisions for the establishment of an Advisory Task Force; these provisions can be found in Minn. Stat. 216E.08 and Minn. Rule 7849.5270, respectively.

The statutes and rules pertaining to environmental review for Xcel Energy's Applications for Certificates of Need (Docket E002/CN-08-509 and Docket E002/CN-08-510) do not contain provisions for the establishment of an advisory task force.

However, in the event that the DOC Commissioner combines the environmental review procedures for a certificate of need (i.e., environmental report requirements) with those for the LEPGP Site Permit (i.e., environmental impact statement requirements), the procedures of Minn. Rule 7849.5010 to 7849.6500 must be followed (Minn. Rule 7849.7100, subpart 3).

For dockets undergoing review in accordance with the Power Plant Siting Act (Minn.Rule 7849.5270 and Minn. Stat. 216E.08, subdivision 1), the Commission has the authority to appoint a citizen advisory task force, determine its charge and size, and appoint its members. If the commission decides not to appoint a citizen advisory task force and a person would like such a task force appointed, the person may request that the commission create a citizen advisory task force and appoint its members. Upon receipt of such a request, the commission shall place the matter on its agenda.

The ATF may be comprised of as many persons as may be designated by the Commission, but shall include at least one representative from each of the following: Regional development commissions, counties and municipal corporations and one town board member from each county in which a site is proposed to be located.

The Commission must specify in writing the charge to the ATF upon appointment. The charge shall include the identification of additional sites or particular impacts to be evaluated in the environmental impact statement.

The ATF expires upon completion of its charge, release of the Scoping Decision, or a date specified by the Commission, whichever occurs first. This termination language was added to Minn. Stat. 216E.08 during the 2001 legislative session (Chapter 212, article 7, section 18, 19).

## OES EFP Staff Analysis and Comments

As discussed in the OES EFP staff's previous Comments and Recommendations considering the completeness of Xcel Energy's Application for a Site Permit for the PINGP EPU project, OES EFP staff considered four project characteristics - size, complexity, known or anticipated controversy and sensitive resources - when making its recommendation that an ATF was not warranted in this docket.

Three of these characteristics, the size, complexity and potential impacts to sensitive resources, have not changed since staff's original assessment.

OES EFP staff acknowledges that since the formal process has begun (i.e., public notice and the initial public meeting), some members of the public have voiced concern in regards to both the proposed extended power uprate and Xcel Energy's request for additional dry cask storage. It should also be noted that opposition has been raised concerning Xcel Energy's application before the NRC for re-licensing of PINGP and continued operation of the ISFSI.

However, many of the issues raised both in the requests for an ATF and during the public meeting and comment period, are outside the scope of the OES EFP environmental review for these dockets.

Discussions of the details within the two requests for an ATF are presented below:

a. In his request Mr. Anderson suggests that the ATF should evaluate alternative size, type and locations for base load facilities to meet Xcel Energy's stated need.

   Alternatives to the proposed PINGP EPU proposal will be evaluated in the Extended Power Uprate section of the EIS as laid out in OES EFP staff's Draft Scoping Document (See attached) and as required by rule (Minn. Rule 7849.7060, subpart 1).

   Additionally, the public has been invited, and has until October 7, 2008, to submit comments on the scope of the EIS, which includes alternatives to be considered.

   However, the potential locations for siting of the various alternative types of generation to be evaluated are outside the scope of the environmental report requirements (Minn. Rule 7849.7060). The requirements for the content of the environmental report do not envision the evaluation of locations for the alternatives to the proposed action, but rather require "a general description of the alternatives to the proposed project." Nor has the OES EFP staff ever incorporated such detail in any of the environmental reports it's authored.

b. Mr. Anderson also requests that the ATF termination date be extended through the close of the public comment period for the draft EIS.

   The ATF expires upon completion of its charge, designation by the DOC of alternative sites, or the specific date identified by the Commission in the charge, whichever occurs first. This statute (Minn. Stat. 216E.08, as amended in 2001 prohibits the ATF from extending beyond the release of the Scoping Decision.

c. In his request for the establishment of an ATF, Mr. Howe asks that alternatives to the PINGP EPU project be evaluated, and that this evaluation include alternative sites for the storage of the additional dry casks. Additionally, Mr. Howe requests that the anticipated date for the release of the Scoping Decision be extended to allow more time for the ATF to consider these matters.

   The issues of alternative base-load facilities are discussed above under item a). The matter of the termination date for an ATF is discussed above in item b).

   The procedures pertaining to environmental review for Xcel Energy's Application for a Certificate of Need for Additional Dry Cask Storage at the PINGP ISFSI (Docket E002/CN-08-509) can be found in Minn. Stat. 116C.83, subdivision 6, Minn. Stat. 116D and Minn. Rule Chapter 4410.

   The Commission's authority is "limited to the storage of spent nuclear fuel generated by a Minnesota nuclear generation facility and stored on the site of that facility (Minnesota Statue 116C.83, subdivision 4, item b). However, as laid out in OES EFP staff's Draft Scoping Document (See attached) an analysis of alternatives to the ISFSI will be included in the EIS. These alternatives include – reprocessing of spent fuel,

existing off-site storage facilities, the implications of Yucca Mountain, increase pool storage, and alternative dry cask system technologies.

d. Mr. Howe also mentions two areas of potential environmental impact that should be addressed by the ATF, 1) the additional water appropriation and 2) the increase in discharge water temperature.

Mr. Howe's concern for impacts to water resources has been noted; the assessment of these impacts are contained within the OES EFP staff's draft environmental scoping document (See attached) and will be carried forward in staff's Scoping Decision recommendation for consideration by the DOC commissioner.

After reviewing the two requests for the establishment of an ATF and listening to comments received during the initial public meeting, OES EFP staff concludes that an advisory task force is not warranted in this case.

If the Commission were to determine, through the certificate of need process, that an alternative generation type would be more appropriate in fulfilling Xcel Energy's stated need for the additional 164 MW of base-load power, the siting of that alternative would be evaluated in a separate filing. The issue of siting for an alternative base-load facility lies outside of the scope of the environmental report requirements (Minn. Rule 7849.7060) and is therefore outside the charge of an ATF.

The Commission does not have authority to grant a certificate of need to site an ISFSI off-site of a Minnesota nuclear generating facility (Minn. Stat. 116C.83, subdivision 4, item b). Therefore, the evaluation of an off-site nuclear storage facility within Minnesota would be outside the scope of environmental review and is therefore outside the charge of an ATF.

Additionally, Minn. Stat. 216B.243, Subdivision 3b, prohibits the issuing of a CON for the construction of a new nuclear-powered electric generating plant, thus eliminating the primary charge of an ATF, that of identifying alternative sites for the proposed action to be evaluated in the environmental review.

OES EFP staff, as always, is willing to meet groups or interested persons for discussions on those issues appropriate to the scoping of the environmental document. The public comment period for the scoping of the environmental document is open until October 7, 2008.

There will be additional opportunities for members of the public to participate in the process and voice their concerns. Once the draft EIS is released, OES EFP staff will hold public meetings in the Red Wing area to solicit comments on the DEIS.

Following the DEIS comment period, a public hearing will be held in the Red Wing area, allowing members of the public to ask questions of Xcel Energy and its representatives and enter testimony into the record. The public hearing would be the appropriate forum for a discussion of those issues outside the scope of the environmental review.

## Commission Decision Options

### Advisory Task Force

1. Authorize OES EFP staff to establish an advisory task force, and develop a proposed structure and charge for the task force.
2. Take no action on an advisory task force at this time.
3. Determine that an advisory task force is not necessary.
4. Make another decision deemed more appropriate.

### *EFP Staff Recommendation*

Staff recommends Option 3.

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John Howe gives notice that there is citizen interest in the establishment of a Task Force for the purpose of scoping the EIS and siting alternatives. I submit the following comments in support of the creation of a task force. I would request to be included as a member of the task force.

First, I would like to address the reasons given by the OES for not recommending the creation of a Task Force.

**Lack of Public Feedback -** I keep in tune with my community, I read the daily newspaper, listen to the radio, and watch the news. The first time I was made aware of the Certificate of Need Application and Site Permit Application was a "Notice of Public Information Meeting," printed in the August 14, 2008 edition of the St. Paul Pioneer Press on Page 4A. The notice stated that the meeting was to be held on Sept. 10, 2008. How would anyone in the community be aware of this application until such time as a public notice was given? The meeting had significant turn out with many citizens giving the OES feedback.

**Lack of alternative sites -** While it is true that there is a moratorium on building new nuclear facilities, this in itself does not release the OES of examining other sources for the expansion of the baseload. Including, but not limited to, examining alternates sites for the storage of additional dry casks regardless of whether Prairie Island Nuclear Generating Plant is selected as the choice for the baseload expansion.

**Lack of Time -** The commission should not make a decision whether or not a Task Force should be created based on the time constraints given to the OES. Certainly given a significant project with tremendous potential of impact to environmental and human concerns a 60 day lengthening of the time line would be in order.

Secondly, there are many potential adverse environmental concerns that should be examined more closely. Here are just two:

**Additional Water Draw Down -** While the proposed increase may be within the current permit, there may be times in the summer where Excel may need to exceed this amount.

**Increase in Discharge Water Temperature -** A four degree increase in discharge water temperature may be within the current permit, however it is noteworthy to point out the significant impact this has down stream. Last winter, was the first time (as noted by other comments at the informational hearing) local residents had witnessed Lake Pepin have open water to Lake City.

Very Truly Yours,

John Howe
PO Box 172
Red Wing, MN 55066
651-278-4693

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Dr. Burl Haar – Executive Secretary
Minnesota Public Utilities Commission
121 7th Place E., Suite 350
Saint Paul, MN 55101-2147

In re: Docket E-002/GS-08-690 8-11-08
Citizen petition for establishment of a Task Force:

Dear Dr. Haar,
Please find our petition for the establishment of a Task Force for the purpose of scoping the EIS and siting alternatives. CURE proposes the following points in support of the creation of a task force. We submit the following points to inform OES, of our interest in a task force.

**Whereas,** the purpose of the uprate is to expand base load capacity at PI, other sites and other alternatives to expansion of base load capacity should be included in the EIS analysis. This would mean that a siting advisory task force could be involved in alternative size, type, timing, and locations for base load capacity. This is presumably the reason that statute requires that plant expansion beyond a certain capacity, requires a siting certificate.

**Whereas**, the lack of anticipated controversy and public silence cited in OES comments as a reason to not appoint a task force, is based upon an assumption from lack of response, rather than a positive determination informed by actual public engagement; and

**Whereas,** there are issues associated with uprates, which have been identified by OES in their comments and by the Prairie Island Community; and

**Whereas,** there are few public interest (NGO) resources, and no funding to assist affected and interested persons in addressing their interests and concerns; and

**Whereas,** there are communities located in close proximity to the PI facility that have a long history of active interest in matters pertaining to the Prairie Island Plant;

The opportunity for a site advisory task force is of the utmost importance to afford affected and interested parties the opportunity to inform, develop and address their concerns.

Our petition further requests that the task force be asked to consider both scope and siting matters, and sunset no earlier than the finish of the DEIS comment and reply period, and be extended – as statute permits – through the period relative to the charge given.

Respectfully yours,

Sigurd W. Anderson for
Communities United for Responsible Energy
CURE – P.O. Box 30 Frontenac, MN
651-345-4515

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# DRAFT SCOPING DOCUMENT

# PRAIRIE ISLAND NUCLEAR GENERATING PLANT

# EXTENDED POWER UPRATE
# AND
# ADDITIONAL DRY CASK STORAGE
# PROJECTS

**PUC Docket Number: E002/CN-08-509 (Certificate of Need Extended Power Uprate)**
**PUC Docket Number: E002/CN-08-510 (Certificate of Need Additional Dry Cask Storage)**
**PUC Docket Number: E002/GS-08-690 (Site Permit Extended Power Uprate)**

## Prepared by the Staff of the


## STATE OF MINNESOTA
## Minnesota Department of Commerce

85 7th Place East
Suite 500
St. Paul, MN 55101


**August 25, 2008**

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## 1.0 INTRODUCTION

This scoping document is intended to advise the public of the scoping process and the process for the preparation of the Environmental Review document. The scoping decision will identify for the public the issues and alternatives that the Commissioner of the Department of Commerce (Department) has determined are appropriate for inclusion in the environmental review document. The scoping decision will also identify certain issues that will not be included in the environmental review document.

Xcel Energy filed an application for a Certificate of Need (CON) with the Public Utilities Commission (Commission) for the proposed Prairie Island Nuclear Generating Plant (PINGP) Extended Power Uprate (EPU) Project on May 16, 2008, in accordance with Minnesota Rules Chapter 7829 and 7849. On July 15, 2008, the Commission accepted the application as complete (July 22, 2008 Order).

Along with its May 16, 2008, filing, Xcel Energy also filed a CON for additional dry cask storage at the existing Independent Spent Fuel Storage Installation (ISFSI) at the PINGP. This filing was pursuant to Minn. Stat. 116C.83, Minn. Stat. 216B.243, and Minn. Rule 7855. On July 15, 2008, the Commission accepted the application as complete (July 22, 2008 Order).

On August 1, 2008, Xcel Energy submitted a large electric power generating plant (LEPGP) Site Permit application to the Commission for the proposed EPU project. On August 14, 2008, the Commission accepted the application as complete (August 18, 2008 Order).

## 2.0 PROJECT DESCRIPTION

The PINGP utilizes a pressurized-water reactor (PWR). In a pressurized-water reactor, a nuclear reaction in the reactor core generates heat, which heats water in the primary loop. This heat is transferred to the secondary loop in the steam generators, and the steam produced inside the steam generators is directed to turbine generators to produce electrical power. The exhaust steam is cooled by a tertiary loop in a condenser and returned to the steam generators to be boiled again. The water in all three loops is force-circulated by electrically powered pumps. Emergency cooling water is supplied by other pumps, which can be powered by onsite diesel generators.

The PINGP consists of two 575 MWe gross (550 MWe net), two-loop, pressurized-water nuclear reactors. The reactors are referred to as Unit 1 and Unit 2. The 560-acre plant site and the associated transmission and other facilities are in Red Wing, Minnesota, on the western bank of the Mississippi River in Goodhue County. The site is approximately 30 miles southeast of St. Paul (See Figure).

Unit 1 began commercial operation in December 1973, and Unit 2 began operations in December 1974. The initial NRC license for each unit was for a period of 40 years. The initial license will expire in 2013 and 2014 for Unit 1 and Unit 2, respectively. Xcel Energy submitted an application to the NRC for an additional 20-year license extension for both units on April 15, 2008.

The proposed EPU of 164 MWe consists of an 82 MWe net capacity uprate at Unit 1 and an 82 MWe net uprate at Unit 2. Xcel Energy proposes to complete the uprate on Unit 1 during the 2012 refueling outage and on Unit 2 during the 2015 refueling outage.

Power uprates in a pressurized water reactor (PWR) do not require significant modifications to the reactor, nuclear steam supply system, or emergency core cooling systems. The 164 MWe total capacity uprate at the PINGP would be achieved by:

1. Increasing the heat produced in the reactor and steam produced in the steam generators and;
2. Improving the balance-of-plant equipment that converts the steam into electricity.

Higher steam flow from the reactors is obtained by operating the reactors at a higher thermal power level. Increasing the thermal output of the reactors would require more uranium in the reactor core to maintain the same fuel cycle length (e.g. 18 to 20 months). This would be accomplished by using a fuel assembly that has slightly larger diameter fuel pellets. These larger fuel rods would also have more surface area for heat transfer offsetting some of the higher operating temperatures. To transfer the additional heat energy out of the fuel, the fuel assemblies themselves would operate at slightly higher temperatures. The NRC must approve the new fuel design prior to its use in the PINGP.

In addition to the increased heat output, the EPU would require steam turbine replacements and a variety of other balance-of-plant improvements to take advantage of the increased steam production.

The major modifications that would be completed during the two outages are:

- Upgrade high-pressure turbines;
- Replace or rewind main generators;
- Replace generator step-up transformers;
- Replace moisture separator reheaters; and
- Upgrade isophase bus duct cooling.

Although few modifications are required for the reactor and its support systems, the reactor and support systems have been reanalyzed by Xcel Energy to demonstrate that their functions are unaffected by operation at power uprate conditions, with adequate margin remaining.

## 3.0 REGULATORY REQUIREMENTS

**Determination of Need, Extended Power Uprate**

The EPU project requires a Certificate of Need (CON) from the Commission. The docket number for the certificate of need is E002/CN-08-509.

The Department of Commerce Office of Energy Security Energy Facility Permitting (EFP) staff prepares an Environmental Report (ER) on proposed large electric power generating plants that come before the PUC for a determination of need (Minn. Rules 7849.7100); the proposed Extended Uprate falls within this definition. The ER must

contain information on the human and environmental impacts of the proposed project associated with the size, type, and timing of the project, system configurations, and voltage. The environmental report must also contain information on alternatives to the proposed project and address mitigating measures for anticipated adverse impacts.

Minnesota Rule 7849.7100, Subpart 2, provides that in the event an applicant for a certificate of need for a LEPGP applies to the Commission for a site permit prior to the time the EFP completes the environmental report, the Department may elect to prepare an environmental impact statement (EIS) in lieu of the required environmental report. If the documents are combined, the Department includes in the EIS the analysis of alternatives required by part 7849.7060, but is not required to prepare an environmental report under part 7849.7030.

Minnesota Statutes 216B.243, Subd. 4, require a public hearing be held for the CON to obtain public comments on the necessity of the project. This subdivision provides that unless the commission determines that a joint hearing on siting and need under this subdivision and section 216E.03, subdivision 6, is not feasible or more efficient, or otherwise not in the public interest, a joint hearing under those subdivisions shall be held.

**Site Permit, Extended Power Uprate**

The proposed EPU of the electrical generating capacity of the PINGP by 164 MW electric falls within the definition of a Large Electric Power Generating Plant (LEPGP) in the Power Plant Siting Act and, thus, requires a Site Permit from the Commission prior to construction.

LEPGP Site Permit Applications under the full review process must provide specific information about the proposed project, applicant, an alternative site, environmental impacts, and mitigation measures (Minnesota Rule 7849.5220).

The EFP staff prepares a document called an Environmental Impact Statement (EIS). An EIS is a written document that describes the human and environmental impacts of a proposed large electric power generating plant (and selected alternative sites) and methods to mitigate such impacts. The public has the opportunity to comment on the scope of the EIS and the draft EIS through public comment periods and at information meetings.

As mentioned previously, the Department may elect to combine the ER required under the CON process with the EIS, in an effort to gain efficiencies and minimize redundancies.

Upon completion of the draft EIS, a public hearing must be held pursuant to Minnesota Statute 216E.03, subd. 6 and Minnesota Rule 7849.5330. All hearings for designating a site shall be conducted by an administrative law judge from the Office of Administrative Hearings pursuant to the contested case procedures of Minnesota Statutes and Minnesota Rules Chapter 1405. Members of the public have an opportunity to speak at the hearings, present evidence, ask questions, and submit comments.

The review process begins with the determination by the Commission that the application is complete. The Commission has one year to reach a decision under the Fulle Process from the time the application is accepted. The commission must issue a certificate of need prior to issuing a site permit.

**Determination of Need, Additional Dry Cask Storage**
The PINGP currently has State authorization for enough dry casks (e.g., 29) to store the spent fuel generated until the end of the current operating licenses in 2013 and 2014; there are currently 24 dry casks at the PINGP ISFSI. In order for the reactors to continue operation through a license renewal period to 2033 and 2034, up to an additional 35 dry casks would be needed to be added to the existing ISFSI.

Authorization of any additional dry cask storage or expansion or establishment of an independent spent-fuel storage facility at a nuclear generation facility in Minnesota is subject to approval of a certificate of need by the Commission pursuant to Minn. Stat. 216B.243. In any proceeding under this subdivision, the commission may make a decision that could result in a shutdown of a nuclear generating facility.

An environmental impact statement (EIS) is required for the construction and operation of a new or expanded independent spent-fuel storage installation (Minn. Stat. 116C.83). The Department of Commerce is the responsible governmental unit for the environmental impact statement. Prior to finding the statement adequate, the commissioner must find that the applicant has demonstrated that the facility is designed to provide a reasonable expectation that the operation of the facility will not result in groundwater contamination in excess of the standards established in section 116C.76, subdivision 1, clauses (1) to (3).

**Coordinated Processes**
The three dockets relative to PINGP each requires an environmental review document.

| Item | Docket No. | Review Document |
|---|---|---|
| CON for the EPU | E002/CN-08-509 | Environmental Report |
| LEPGP Site Permit for the EPU | E002/GS-08-690 | Environmental Impact Statement |
| CON for Additional Dry Casks | E002/CN-08-510 | Environmental Impact Statement |

The ER requirement of the EPU CON process and the EIS requirement of the LEPGP Siting process will be combined into a single environmental review document pursuant to Minn. Rule 7849.7100.

In additionally, the Department in consultation with Commission staff has determined that further process efficiencies can be achieved by incorporating the EIS requirements for the Additional Dry Cask Storage CON process with the environmental review requirements for the EPU CON and Site Permit.

Thus, the EFP will prepare one document to fulfill:

- The Uprate CON and site permit environmental review requirements of 7849.7030 and 7849.5300, respectively, combined pursuant to 7849.7100.

- The Independent Spent Fuel Storage Installation EIS required pursuant to 116C.83, developed in accordance with 116D and Chapter 4410.

The EFP will hold a single Public Informational/Scoping meeting and develop one scoping document for all three projects.

The single EIS will contain different sections for each project. Each section will be found adequate by its respective reviewing body (7849 EIS is found adequate by the Commission; the 4410 EIS is found adequate by the DOC Commissioner).

Copies of the CON applications and the Site Permit Application can be viewed on the EFP website:

http://energyfacilities.puc.state.mn.us/Docket.html?Id=19602

## 4.0 ENVIRONMENTAL REVIEW DOCUMENT

As discussed in Section 3.0 the Department will be combining its environmental review responsibilities under the Certificate of Need processes with those under the siting process. The result will be a single environmental review document, an Environmental Impact Statement.

***Certificate of Need, EPU Project***
The environmental review document under the certificate of need procedures for the EPU project must include the following:

A. A general description of the proposed project and associated facilities;
B. A general description of the alternatives to the proposed project; these shall include:
    - The no-build alternative,
    - Demand side management;
    - Purchased power;
    - Facilities of a different size or using a different energy source;
    - Upgrading of existing facilities;
    - Transmission rather than generation; and
    - Use of renewable energy sources.
C. An analysis of the human and environmental impacts of a project of the type proposed and of the alternatives identified;
D. Analysis of the potential impacts that are project specific;
E. An analysis of mitigative measures that could reasonably be implemented to eliminate or minimize any adverse impacts identified for the proposed project and each alternative;
F. An analysis of the feasibility and availability of each alternative considered; and
G. A list of permits required for the project.

***Certificate of Need, Additional Dry Cask Storage***
General guidance for EIS content relative to the additional dry cask storage CON process is given in Minn. Rule 4410.2300 and includes the following:

A. Cover sheet containing information on the Responsible Governmental Unit (RGU) and the proposer and an abstract of the EIS;
B. A summary describing the major findings, areas of controversy and alternatives;
C. Table of contents;
D. List of preparers;
E. A description of the project including purpose, size, scope, environmental setting and phases of development;
F. A list of all anticipated governmental approvals and permits;
G. A discussion of alternatives;
H. A discussion of impacts, including environmental, economic and sociological;
I. A discussion of mitigative measures that could reasonably eliminate or minimize any adverse impacts.

***Site Permit***
The environmental review document under the siting and routing permit procedures must include the following:

A. A general description of the proposed project;
B. A list of any alternative sites that are addressed;
C. A discussion of the potential impacts of the proposed project and each alternative site on the human and natural environment;
D. A discussion of mitigative measures that could reasonably be implemented to eliminate or minize any adverse impacts identified for the proposed project and each alternative;
E. An analysis of the feasibility of each alternative site considered;
F. A list of permits required for the project; and
G. A discussion of other matters identified in the scoping process.

## 5.0 EIS SCOPING PROCESS

The purpose of the scoping process is to provide information to the public about the proposed project, to answer questions, and to allow the public an opportunity to suggest alternatives and impacts that should be considered during preparation of the environmental review document.

The public information/scoping meeting will be held beginning at 7 p.m. at the following location:

**Wednesday, September 10, 2008 – 7:00 p.m.**
***Red Wing Public Library***
***Foot Room***
**225 East Avenue**

**Red Wing, MN 55066**
**http://redwing.lib.mn.us/**

Please submit written comments on the content of the application or on the scope of the environmental document to Bill Storm at Department of Commerce, 85 7th Place East, Suite 500, St. Paul, MN 55101-2198, no later than close of business on Tuesday, October 7, 2008.

A scoping decision will be made by the Commissioner of the Department. That decision will be made shortly after the close of the comment period. Persons who want to be advised of the Commissioner's scoping decision can register their names with the Department at the public meeting, on the EFP website or contact Bill Storm at (651) 296-9535. The final scoping decision will also be posted on the EFP website.

## 6.0 DRAFT SCOPE FOR COMPLETION OF EIS

The following is a draft outline of the EIS scope and contains those areas to be addressed within the environmental review document.

COVER SHEET
- Responsible Governmental Unit, Abstract, Preparers

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The above guide is not intended to serve as a "Table of Contents" for the EIS document, and as such, the organization (i.e., structure of the document) of the information and the data may not be similar to that appearing in the EIS. Material may be incorporated by reference between the two chapters or from external sources to reduce the bulk of the document.

## MATTERS NOT WITHIN THE SCOPE OF THE EIS

The following issues will not be addressed in the Environmental Impact Statement.

**Prairie Island Plant Radiation and Safety.** The EIS will summarize the environmental impacts of continued operation of the PINGP, but will not include a detailed study of these issues because the NRC will complete a detailed evaluation of environmental impacts, and mitigation options, of continued plant operations during its license renewal review. See Minn. Rule 4410.1700, subp. 6. Likewise, the EIS will summarize but not evaluate potential mitigation methods regarding radiation and safety issues of continued operation of the plant because the NRC has sole regulatory jurisdiction over those issues.

**Storage Technology, Accidents, Terrorism.** The EIS will summarize but not evaluate options for dry cask storage because the NRC has sole jurisdiction over whether and how spent fuel is stored on site at nuclear power plants, including ISFSI design and safety from threats such as accident and terrorism. Likewise, the EIS will not evaluate life-cycle safety of the ISFSI, ISFSI management, or the adequacy of security at the generating plant or the proposed ISFSI.

**Nuclear Fuel Cycle.** The EIS will not address the impacts of the nuclear fuel cycle because that issue will be addressed in the federal generic and supplemental EIS to be completed during the federal re-licensing review.

**Off-Site Alternatives.** The EIS will not evaluate ISFSI sites outside the PINGP boundaries because the NRC has jurisdiction over whether such a site can be considered.

**Economic Feasibility of Alternatives**. The analysis of the economic feasibility will cover the same alternatives for which environmental impacts are evaluated, but will incorporate by reference the analysis of the Department of Commerce in the CON proceeding.

**Transportation of Spent Fuel from PINGP**. While certain matters regarding Yucca Mountain will be described in the EIS, the EIS will not include a discussion of any issues related to the transportation of spent nuclear fuel from Minnesota to Yucca Mountain.

**Nuclear Regulatory Commission Standards**. While the EIS will reference certain standards and rules promulgated by the NRC, the EIS will not address the adequacy of any federal standards that are applicable to the ISFSI or the generating plant. Nor will the EIS evaluate potential mitigation measures to reduce radiation exposure, accident risks or security requirements.

## 7.0 SCHEDULE FOR COMPLETION OF Draft EIS

The draft Environmental Impact Statement will be completed by March 31, 2009.

Upon completion of the draft EIS, the EFP staff will notify those persons who have asked to be notified of the completion. In addition, the EFP will publish notice of the availability of the draft EIS in the EQB Monitor (the bi-weekly newsletter of the agency). The draft EIS will be made available for review and will be posted on the EFP webpage.

Following the release of the draft EIS, the EFP will hold a public meeting in the vicinity of the project site to provide an opportunity for the public to ask questions and to comment on the draft EIS. The public will also have a period of time (at least 10 days) after the meeting to submit written comments for consideration in the final EIS.

Comments on the draft EIS, along with the final EIS, shall become part of the record in the proceeding.

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# ENVIRONMENTAL ASSESSMENT WORKSHEET

**Note to preparers: This form is available at www.mnplan.state.mn.us. *EAW Guidelines* will be available in Spring 1999 at the web site.** The Environmental Assessment Worksheet provides information about a project that may have the potential for significant environmental effects. The EAW is prepared by the Responsible Governmental Unit or its agents to determine whether an Environmental Impact Statement should be prepared. The project proposer must supply any reasonably accessible data for — but should not complete — the final worksheet. If a complete answer does not fit in the space allotted, attach additional sheets as necessary. The complete question as well as the answer must be included if the EAW is prepared electronically.

**Note to reviewers:** Comments must be submitted to the RGU during the 30-day comment period following notice of the EAW in the *EQB Monitor*. Comments should address the accuracy and completeness of information, potential impacts that warrant further investigation and the need for an EIS.

1. **Project title: Prairie Island Dry Cask Storage Expansion ("ISFSI") and Extended Power Uprate ("power uprate")**

2. **Proposer:** Xcel Energy
   Contact: Brian R. Zelenak
   Title: Manager, Regulatory Admin
   Address: 414 Nicollet Mall, 7th Fl
   City, St, Zip: Minneapolis, MN 55401
   Phone: (612) 330-5641
   Fax: (612) 330-7601
   E-mail: brian.r.zelenak@xcelenergy.com

3. **RGU:** MN Dept. of Commerce
   Contact: William C. Storm
   Title: State Planning Director
   Address: 85 7th Place E, Suite 500
   City, St, Zip: St. Paul, MN 55101
   Phone: (651) 296-9535
   Fax: (651) 297-7891 (Attn: Bill Storm)
   E-mail: bill.storm@state.mn.us

4. **Reason for EAW preparation** (check one)
   ☑ EIS scoping  Mandatory EAW  Citizen petition  RGU discretion
   Proposer volunteered

   **If EAW or EIS is mandatory give EQB rule category subpart number and subpart name.**

   Xcel Energy proposes to increase the number of spent nuclear-fuel storage casks authorized at the Prairie Island Nuclear Generating Plant by 35 casks to support an additional 20 years of operation. Xcel Energy also proposes to increase the plant's generation capacity ("power uprate") by 164-megawatts. The projects require three separate approvals from the Minnesota Public Utilities Commission: (1) a Certificate of Need ("CON") for the additional dry casks, (2) a CON for the 164-MW power uprate, and (3) a site permit for the power uprate.

   The Department of Commerce, Office of Energy Security ("OES") is responsible for

preparing an environmental impact statement (EIS) for the dry cask storage expansion pursuant to Minn. Stat. § 116C.83, subd. 6(b). The OES must also prepare an environmental report for the power uprate CON (Minn. R. 7849.7090) and an EIS for the site permit (Minn. Stat. § 216E.03, subd. 5). The OES has elected to consolidate all three environmental review processes into one EIS.

**5. Project location** County: Goodhue City/Township: Red Wing
Section: 4 & 5 Township: 113N Range: 15W

**Attach each of the following to the EAW:**

- County map showing the general location of the project; (See Attachment A)
- U.S. Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries (photocopy acceptable); (See Attachment B)
- Site plan showing all significant project and natural features. (See Attachment C)

## 6. Description

**a. Provide a project summary of 50 words or less to be published in the *EQB Monitor*.**

Xcel Energy proposes to expand the spent-fuel dry cask storage facility at the Prairie Island Nuclear Generating Plant site by 35 casks so it can operate another 20 years beyond its current licenses (until 2034). Xcel Energy also proposes to increase Prairie Island's generating capacity by 164 MW (82 MW at each unit) by implementing a "power uprate" if the additional casks are authorized.

**b. Give a complete description of the proposed project and related new construction. Attach additional sheets as necessary. Emphasize construction, operation methods and features that will cause physical manipulation of the environment or will produce wastes. Include modifications to existing equipment or industrial processes and significant demolition, removal or remodeling of existing structures. Indicate the timing and duration of construction activities.**

In April 2008, Xcel Energy applied to the NRC for a 20-year license extension at the Prairie Island Nuclear Generating Plant. Granting of the request will extend the operating license for Prairie Island's two units from 2013 and 2014 currently to 2033 and 2034, respectively. In order to operate an additional 20 years, Xcel Energy will need to add up to 35 additional dry cask storage casks to the existing Independent Spent Fuel Storage Installation (ISFSI). Two additional concrete storage pads, 18'x216'x3', must be added to the existing ISFSI by approximately 2022 to accommodate the additional casks. The existing ISFSI footprint will not change. Construction of the new concrete pads would take place in approximately 2020. The two new concrete pads will be located immediately south of the existing pads as depicted in Figure 1 (new pads shaded).

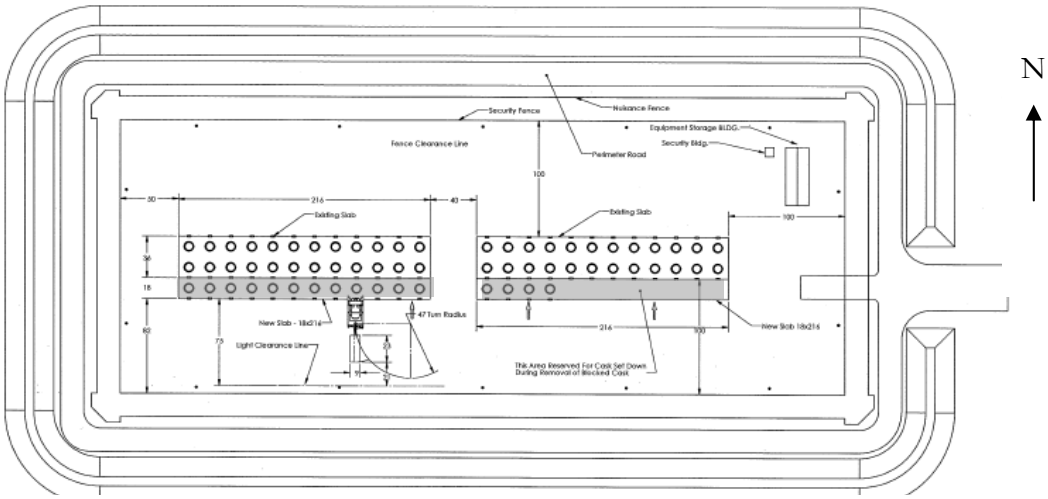



Figure 1

The power uprate will add 82 MW of capacity at each unit by utilizing slightly larger diameter fuel rods to produce more steam, which will be converted to additional energy through a number of balance-of-plant changes. Construction for the power uprate will mainly consist of changes to existing equipment that will take place within existing buildings during the 2012 and 2015 refueling outages.

**Plant Operation and Fuel Cycle**

Prairie Island currently uses nuclear fuel in two two-loop pressurized water reactors to produce on average a nominal value of 550 megawatts (net) of electrical power in each unit. The reactor core of each unit is comprised of 121 fuel assemblies. A fuel assembly consists of 179 fuel rods spaced in a 14x14 square array secured by means of stainless steel upper and lower tie plates. Control rod guide tubes occupy sixteen locations of the array and an instrument tube occupies one location. Each fuel assembly is 7.76 by 7.76 inches wide and 161.3 inches long. Each fuel rod within the assembly consists of high-density ceramic uranium dioxide fuel pellets, each about the size of a thimble, stacked in a tube made of a special alloy of steel called Zircaloy. The air in the filled tube is evacuated, helium (an inert gas) is backfilled, and welding Zircaloy plugs in each end seals the fuel rod.

Approximately every 18 to 20 months, a unit is shut down to refuel the reactor. During each refueling operation, a little more than a third of the fuel assemblies (typically 48), in the reactor are replaced with new ones. These spent nuclear fuel assemblies are then removed from the reactor and stored in the spent fuel pool. Spent fuel assemblies are placed in the pool for between approximately 10 to 12 plus years to cool before they are placed in casks for dry storage.

**Additional Dry Cask Storage Capacity**

Xcel Energy is currently authorized to store enough spent nuclear fuel at the Prairie

Island ISFSI to allow the plant to operate to the end of the current operating license in 2014 (estimated at 29 casks). In support of its April 2008 License Amendment Request to the NRC asking to renew the plant's operating licenses to 2033 and 2034, Xcel Energy is seeking approval from the Minnesota Public Utilities Commission to temporarily store up to an additional 35 dry casks at the existing ISFSI.

The existing ISFSI consists of an approximately 5.5 acre fenced, lighted area located inside the Prairie Island control area (See Attachment C). Two additional concrete pads will need to be installed within the ISFSI to accommodate the additional dry storage casks. Each of the two additional pads consists of an 18-foot wide by 216-foot long and 3-foot deep section of concrete (about 7800 square-feet total).

**Extended Power Uprate**

Xcel Energy also proposes to increase the generating capacity of each unit by 82 MW through a process the NRC calls an "Extended Power Uprate" ("power uprate" for simplicity). Power uprates with a greater than 7 percent increase are referred to as extended power uprates. The NRC has approved extended power uprates for five pressurized-water reactors. Of those five, the Ginna Nuclear Power Plant located in upstate New York is most similar to Prairie Island. The power uprate on Unit 1 would be completed during the 2012 refueling outage and on Unit 2 during the 2015 refueling outage.

Power uprates in pressurized water reactors do not normally require significant modifications to the reactor, nuclear steam supply system, or emergency core cooling systems. Instead, the increase capacity is achieved by increasing the heat produced in the reactor, which creates more steam for the steam generators, and by improving the balance-of-plant equipment that converts the steam into electricity.

The thermal output levels at each of the two units will be increased from the current NRC-licensed 1650 MWt to 1805 MWt by loading more uranium into the reactor at the beginning of each fuel cycle. In order to keep the fuel cycle at between 18 and 20 months, this will be accomplished by using a fuel assembly that has slightly larger diameter fuel pellets. These larger fuel rods will have more surface area for heat transfer. To transfer the additional heat energy out of the fuel, the fuel assemblies themselves will operate at slightly higher temperatures. The number of fuel assemblies replace at each refueling will not change. Therefore, the power uprate will not result in any increase in the number of spent fuel casks needed at Prairie Island.

**Balance-of-Plant Improvements**

In addition to the increased heat output, the power uprate will require steam turbine replacements and a variety of other balance-of-plant improvements. The major balance of plant modifications to be completed during the two outages are:

A. Upgrade high-pressure turbines,

B. Replace/rewind main generator,

C. Replace generator step-up transformers,

D. Replace moisture separator reheaters, and

E. Upgrade isophase bus duct cooling.

Although few modifications are required for the reactor and its support systems, the reactor and support systems have been reanalyzed to demonstrate that their functions are unaffected by operation at power uprate conditions with an adequate safety margin remaining. Xcel Energy plans to file an Amended Operating License with the NRC for the power uprate in 2010.

**Proposed Treatment of Topic in EIS:**

The IES will verify, summarize, and review the project description but will not will repeat the information in the CON and site permit applications. No additional analysis is planned for the EIS regarding the description of the general project location, the description of spent fuel quantities or characteristics, or the description of the proposed dry cask storage system and operation.

**c. Explain the project purpose; if the project will be carried out by a governmental unit, explain the need for the project and identify its beneficiaries.**

The project is a private project. The additional dry cask storage is necessary to continue to operate the Prairie Island Nuclear Generating plant for an additional 20 years. Xcel Energy's CON applications contain detailed analyses of the need, purpose, and alternatives considered for both the additional dry-cask storage and the 164-MW power uprate.
http://energyfacilities.puc.state.mn.us/Docket.html?Id=19602

**Proposed Treatment of Topic in EIS:**

The expansion of dry cask storage (ISFSI expansion) is necessary if the Prairie Island plant is to operate past 2014. Impacts of continued plant operations and alternatives to continued operations will be evaluated in the EIS.

**d. Are future stages of this development including development on any outlots planned or likely to happen? __Yes ☑ No**

Although continued operation of the Prairie Island Nuclear Generating Plant after 2034 is technically feasible, Xcel Energy currently has no plans to extend operations beyond that year.

**If yes, briefly describe future stages, relationship to present project, timeline and plans for environmental review.**

**e. Is this project a subsequent stage of an earlier project? ☑Yes __No**
**If yes, briefly describe the past development, timeline and any past environmental review.**

The existing ISFSI started operating in 1994. The site is approximately 5.5 acres and includes a storage yard with 2 concrete storage pads measuring 216 ft long by 36 ft wide and 3 ft deep, security fencing and intrusion detection, an equipment storage building, an alarm monitoring building, a security building, and earthen berms surrounding the facility. The EIS and hearing record for the original Certificate of Need for the ISFSI is available under Docket No. E-002/CN-91-19.

Unit 1 of the Prairie Island nuclear generating plant began operation in 1973 and Unit 2 in 1974. They operated under an initial 40-year license agreement. An Environmental Report was prepared and submitted to the U.S. Atomic Energy commission who prepared the Final Environmental Statement ("FES") for the initial NRC licensing. An updated environmental report was also prepared as part of the plant's relicensing application (NRC Docket Nos. 50-282 and 50-306) and is contained as Appendix J to MPUC Docket No. E002/CN-08-509.

## 7. Project Magnitude Data

Total project acreage:

The additional 35 dry storage casks will be placed on 2 additional concrete storage pads covering 7,776 sq ft. (3' x 216' x 18') or approximately 0.2 acres.

Indicate areas of specific uses (in square feet):

| | | | |
|---|---|---|---|
| Office | 0 | Manufacturing | 0 |
| Retail | 0 | Access Roads | 0 |
| Warehouse | 0 | Institutional | 0 |
| Facility developed area | (See below) | Agricultural | 0 |
| Other commercial (specify) | 0 | | |
| Building height (storage units) | 20 ft. | If over 2 stories, compare to heights of nearby buildings | |

The power uprate is not expected to change the existing footprint of the plant.

## 8. Permits and approvals required.

**List all known local, state and federal permits, approvals and financial assistance for the project. Include modifications of any existing permits, governmental review of plans and all direct and indirect forms of public financial assistance including bond guarantees, Tax Increment Financing and infrastructure.**

Xcel Energy does not expect to need to amend any of its current operating permits at Prairie Island due to the proposed dry cask storage expansion or the proposed power uprate. The anticipated state and federal approvals for the two projects are listed below. Detailed descriptions of the federal license requirements are provided in Chapter 2 of the May 16, 2008, CON filing.

### A. Additional Dry Cask Storage

**Certificate of Need.** A Certificate of Need authorizing the storage facility and additional casks must be obtained from the Minnesota Public Utilities Commission (MPUC) (Minn. Stat. § 116C.83 and § 216B.243, Minn. R. 7855). Xcel Energy submitted the CON application to the MPUC on May 16, 2008.

**Federal Licenses.** Ultimately, three NRC licenses or license amendments will be required to support the additional casks: (1) approval of the enhanced TN-40HT cask; (2) renewal of the current ISFSI license that is set to expire in 2013; and (3) an amendment to the current ISFSI license to increase the number of casks beyond the 48 currently authorized by the NRC. All NRC filings are subject to the requirements established by the NRC for the design, construction, and operation of an ISFSI and the use of storage containers must be complied with (Title 10, Code of Federal Regulations, Part 72). The approval for the enhanced TN-40HT cask was filed in March 2008; the license renewal for the ISFSI will be filed in 2011; and the license for more than 48 casks will be filed in 2018.

### B. Extended Power Uprate

**Certificate of Need**. A Certificate of Need authorizing the power uprate must be obtained from the Minnesota Public Utilities Commission (Minn. Stat. § 216B.243, Minn. R. Part 7849). Xcel Energy applied to the MPUC for the CON for the power uprate in the same filing as the expanded dry cask storage filing, on May 16, 2008.

**Site Permit**. A Site Permit authorizing the power uprate must be obtained from the Minnesota Public Utilities Commission (Minn. Stat. § 216E.03). Xcel Energy submitted a site permit application to the MPUC on August 1, 2008.

**Federal Licenses.** An operating license amendment from the NRC must be obtained authorizing Prairie Island to operate at the increased thermal power level and generating capacity (10 CFR 50).

## 9. Land Use.

**Describe current and recent past land use and development on the site and on adjacent lands. Discuss project compatibility with adjacent and nearby land uses. Indicate whether any potential conflicts involve environmental matters. Identify any potential environmental hazards due to past site uses, such as soil contamination or abandoned storage tanks, or proximity to nearby hazardous liquid or gas pipelines.**

The expanded dry cask storage will require less than 0.2 acres for the additional concrete pads to be added within the existing ISFSI enclosure, which is already covered by gravel. The ISFSI site has been cleared of vegetation for the earlier construction. The power uprate project will not expand the existing footprint of the Prairie Island plant.

**Proposed Treatment of Topic in EIS:**

The EIS will verify, summarize, and review the existing and proposed land use for the project area, but will not repeat information in the CON and site permit applications. No additional analysis is planned for the EIS regarding the description of land use in the project area.

## 10. Cover Types.

**Estimate the acreage of the site with each of the following cover types before and after development:**

| Before | After | Before | After |
|---|---|---|---|
| Types 1-8 wetlands<br>0 acres | 0 acres | Lawn/landscaping<br>0 acres | 0 acres |
| Wooded/forest<br>0 acre | 0 acres | Impervious surfaces<br>10 acres | 10 acres |
| Brush/Grassland<br>0 acres | 0 acres | Other (describe) frost-free gravel<br>0 acres | 0 acres |
| Cropland<br>0 acres | 0 acres | | |
| **TOTAL** | | 10 acres | 10 acres |

If **Before** and **After** totals are not equal, explain why:

## 11. Fish, wildlife and ecologically sensitive resources

**a. Identify fish and wildlife resources and habitats on or near the site and describe how they would be affected by the project. Describe any measures to be taken to minimize or avoid impacts.**

The major nearby fish and wildlife resources are shown in Attachment C. The additional runoff due to the two concrete pads in the ISFSI is not significant and will not require a storm water discharge permit amendment. The power uprate will slightly increase the thermal discharge from the plant into the Mississippi River (less than 3 degrees F) primarily in fall and winter when "once-through" cooling is used more often, and the cooling towers are used less. This slight increase is not expected to affect downstream fish or wildlife. The power uprate also will not affect current restrictions in the NPDES permit that protect aquatic resources from impingement and entrainment impacts due to the water intake. See also the responses to 9 and 11b.

**b. Are any state-listed (endangered, threatened or special concern) species, rare plant communities or other sensitive ecological resources such as native prairie habitat, colonial waterbird nesting colonies or regionally rare plant communities on or near the site? ☑Yes __No**

Xcel Energy contacted the Minnesota DNR to obtain records from the Natural Heritage Information System (NHIS) database of known locations of sensitive species. The NHIS database includes known locations of endangered, threatened and special concern species, as well as occurrences of unique or uncommon plant communities and habitat types.

The species indicated in the October 2007 DNR response include birds, fish, mollusks, plants, and amphibians. All six species that are state-listed as endangered are mollusks; each of these species has been observed in the Mississippi River within one mile downstream of the plant. The Higgins' eye pearly-mussel (*Lampsilis higginsii*) is also listed as endangered at the federal level and the sheepnose (*Plethobasus cyphyus*) is a federal candidate species. The Higgins' eye pearly-mussel has been observed both upstream (~0.3 miles) and downstream of the Prairie Island plant (just under one mile). The sheepnose has been documented approximately one mile downstream of the plant.

Of the remaining species, there are three state-listed threatened species – the paddlefish (*Polyodon spathula*), Blanding's turtle (*Emydoidea blandingii*) and the peregrine falcon (*Falco peregrinus*). The remaining species on the NHIS records for the area are special concern species.

**If yes, describe the resource and how it would be affected by the project. Indicate if a site survey of the resources has been conducted and describe the results. If the DNR Natural Heritage and Nongame Research program has been contacted give the correspondence reference number. Describe measures to minimize or avoid adverse impacts.**

The additional casks will be placed on two new concrete pads added to the existing ISFSI. The ISFSI perimeter and existing footprint will not be expanded or affected. The power uprate will also be limited to the existing plant footprint – primarily within the existing buildings. Therefore, few impacts to native plant communities or terrestrial organisms, including birds, are anticipated.

The only off-site impact will be a slight increase in the temperature of the cooling water discharged due to the power uprate. The cooling water discharge to the Mississippi River will increase slightly (up to 3° F) primarily during the fall and winter, when "once through" cooling is used more often.

Impacts to mollusks and other aquatic organisms would be related to changes in water quality, such as increases in thermal discharge from the plant into the Mississippi River. The potential for these power uprate impacts is only relevant downstream of the Prairie Island plant. Water temperature can influence the timing of certain aspects of the mollusk life cycle, including the timing and length of release of the immature form of mollusks to attach to host fish species. The slight increase in the temperature of cooling water discharge due to the power uprate should not affect mollusk species or other aquatic organisms.

Prairie Island is located in the Mississippi flyway, a major route for migratory bird species. A variety of birds follow this route when migrating to and from their breeding or wintering grounds. State-listed peregrine falcons (*Falco peregrinus*) have been observed nesting within the site since 1997. A nesting box was mounted to a ledge on the containment dome of the power plant in 1994. Bald eagles *(Haliaeetus leucocephalus)*, a state-listed species of special concern and previously listed as threatened at the federal level, have been observed in the vicinity of the Prairie Island plant.

The original Prairie Island FES (AEC 1973) stated that trumpeter swans (*Cygnus buccinator*), which are state-listed as threatened, might migrate through the plant area. The MN DNR database shows this species in Dakota County and records maintained by the Minnesota Ornithologists' Union indicate that trumpeter swans are occasionally observed in Goodhue County (MOU 2006). The slight increase in discharge temperature to the Mississippi River in the area will likely not affect these bird species.

**Proposed Treatment of Topic in EIS:**

The EIS will review and confirm the information provided in the CON and site permit applications. However, no new analysis is planned for the EIS regarding fish, wildlife, and ecologically sensitive resources.

## 12. Physical Impacts on Water Resources.

**Will the project involve the physical or hydrologic alteration — dredging, filling, stream diversion, outfall structure, diking, and impoundment — of any surface waters such as a lake, pond, wetland, stream or drainage ditch? __Yes ☑No**

**If yes, identify water resource affected and give the DNR Protected Waters Inventory number(s) if the water resources affected are on the PWI. Describe alternatives considered and proposed mitigation measures to minimize impacts.**

## 13. Water Use.

**Will the project involve installation or abandonment of any water wells, connection to or changes in any public water supply or appropriation of any ground or surface water (including dewatering)? ☑Yes No**

**If yes, as applicable, give location and purpose of any new wells; public supply affected, changes to be made, and water quantities to be used; the source, duration, quantity and purpose of any appropriations; and unique well numbers and DNR appropriation permit numbers, if known. Identify any existing and new wells on the site map. If there are no wells known on site, explain methodology used to determine.**

The proposed power uprate may increase the consumption of cooling water from the Mississippi River by up to 10 percent compared to the existing operation. Prairie Island uses surface water from the Mississippi River to cool and condense the steam leaving the turbine. The heat from the steam is transferred to circulating water flowing through the condenser tubes. Based on seasonal limitations, this heat is

transferred to the environment either by the use of the cooling towers, discharge back to the river, or a combination of both. The cooling towers are used primarily in the summer in order to reduce the temperature of the water discharge to the Mississippi River and meet other operating restrictions in the NPDES permit. Increased use of the cooling towers due to the power uprate will result in, at most, an additional 10 percent increase in water consumption at the plant.

Surface water use at Prairie Island is limited by Minnesota DNR water appropriation limits as well as operating restrictions in the MPCA National Pollutant Discharge Elimination System (NPDES) permit (MPCA 2006b). Under the DNR surface water appropriation permit (69-0172, amended in June 1995) the facility may withdraw up to 215,000 million gallons of water per year from the Mississippi river. In a five year period, 2001 through 2005, a maximum of 207,650 million gallons of water was withdrawn in one year, which occurred in 2001. The proposed power uprate will not require any changes to the DNR water appropriation requirements under the current permit.

The NPDES permit operating restrictions vary depending on a range of temperature and flow conditions. Assuming that all the additional heat generated by the power uprate is dissipated in the cooling towers, and the water evaporative rate is proportional to the proposed 10 percent thermal power increase, the power uprate would increase the evaporation rate from approximately 39 cubic feet per second (cfs) to 43 cfs. This increased total water use after the power uprate represents about 0.23 percent of the 18,380 cfs average Mississippi River flow and approximately 1 percent of the lowest annual mean of 4,367 cfs. Thus, no changes to the current NPDES permit will be required due to the power uprate.

The detailed current operational restrictions on the plant in the existing water appropriation and NPDES discharge permit are described in Xcel Energy's CON and site permit application.

**Proposed Treatment of Topic in EIS:**

The EIS will review and confirm the information provided in the CON and site permit applications. In accordance with Minn. Stat. § 116C.83, subd. 5 and 6(b), the EIS will address whether the proposed project is designed to provide a reasonable expectation that operation of the Prairie Island plant and ISFSI will not result in groundwater contamination in excess of the standards established in section 116C.76, subd. 1. However, the EIS will not evaluate potential safety or mitigation measures to ensure this result because the Nuclear Regulatory Commission (NRC) has jurisdiction over spent fuel storage design, operation, and related radiological health and safety issues.

## 14. Water-related Land Use Management District.

**Does any part of the project involve a shoreland zoning district, a delineated 100-year flood plain, or a state or federally designated wild or scenic river land use district?**
**__Yes ☑ No**
**If yes, identify the district and discuss project compatibility with district land use restrictions.**

The plant site, which contains both the ISFSI and existing generation facilities where the additional casks and the power uprate modifications will take place, is not located in the flood plain. The portion of the Mississippi River that passes by Prairie Island is not federally designated as wild or scenic. However, the Federal Department of Transportation, Federal Highway Administration has designated the Mississippi River Corridor throughout the State of Minnesota as a scenic byway known as the "Great River Road." In the vicinity of Prairie Island, the Great River Road is comprised of U.S. 61 in Hastings south to LaCrescent on the Minnesota side of the Mississippi River, and Wisconsin Route 35 on the Wisconsin side of the river. The Mississippi National River and Recreation Area, a unit of the National Park Service, extends southward to the border of Dakota and Goodhue Counties, but is approximately 5.5 miles away from the plant at its closest point.

**Proposed Treatment of Topic in EIS:**

The EIS will review and confirm the information provided in the CON and site permit applications. No new analysis is planned for the EIS regarding water-related land use management districts.

## 15. Water Surface Use.

**Will the project change the number or type of watercraft on any water body? ___Yes ☑No**
**If yes, indicate the current and projected watercraft usage and discuss any potential overcrowding or conflicts with other uses.**

**Proposed Treatment of Topic in EIS:**

The EIS will not include a discussion of water surface use.

## 16. Erosion and Sedimentation.

**Give the acreage to be graded or excavated and the cubic yards of soil to be moved:**

Approximately 864 cubic yards of structural fill gravel will be excavated and replaced with reinforced concrete pads. The proposed site is relatively level. The power uprate construction will not involve a change in the plant's footprint.

**Describe any steep slopes or highly erodible soils and identify them on the site map. Describe any erosion and sedimentation control measures to be used during and after project construction.**

Neither the additional casks on the ISFSI nor the power uprate proposal affect any steep slopes or highly erodible soils. All power uprate construction will take place in existing facilities and the additional concrete pads will be added to the flat gravel surface of the existing ISFSI. Hay bails, silt fencing or other erosion controls will be located around the site as necessary to mitigate erosion potential excavation and pouring of the pads.

**Proposed Treatment of Topic in EIS:**

The EIS will review and confirm the information provided in the CON and site permit applications. The EIS will describe possible measures to minimize erosion during project construction.

## 17. Water quality: Surface Water Runoff.

**Compare the quantity and quality of site runoff before and after the project. Describe permanent controls to manage or treat runoff. Describe any stormwater pollution prevention plans.**

The additional casks on the two new concrete pads at the ISFSI are not expected to disturb any additional undisturbed land area; therefore no additional storm water permitting is expected at this time. Likewise, Xcel Energy does not expect the power uprate construction or operation to require any change in storm water discharge, dredging frequencies or land treatment.

**b. Identify routes and receiving water bodies for runoff from the site; include major downstream water bodies as well as the immediate receiving waters. Estimate impact runoff on the quality of receiving waters.**

During construction it is anticipated that most storm water will drain into the existing structural fill yard area and drainage ditches. Construction measures will ensure that there are no point discharges from the site into any drainage ditches that could pass sediment runoff into natural flow routes that discharge into the Mississippi River. Sediment controls such as geo-textiles will be used to minimize soil sediment runoff into the drainage ditches. The implementation of the concrete pads and the power uprate will have minimal effect on water runoff.

**Proposed Treatment of Topic in EIS:**

The EIS will review and confirm the information provided in the CON and site permit applications. The EIS will describe possible measures to minimize surface water runoff and impacts on receiving waters.

## 18. Water Quality: Wastewaters.

**Describe sources, composition and quantities of all sanitary, municipal and industrial wastewater produced or treated at the site.**

There will be no change to wastewater discharge due to the additional dry cask storage project. However, the temperature of cooling water discharge to the Mississippi River will increase slightly due to the power uprate, (less than 3 °F, depending on season) but will remain within existing thermal discharge limits established in the MPCA NPDES permit. The temperature of the cooling water discharge will be maintained through increased use of cooling towers and adjustment of plant output.

**b. Describe waste treatment methods or pollution prevention efforts and give estimates**

**of composition after treatment. Identify receiving waters, including major downstream water bodies, and estimate the discharge impact on the quality of receiving waters. If the project involves on-site sewage systems, discuss the suitability of site conditions for such systems.**

Neither the power uprate nor the additional dry cask storage at the ISFSI will impact sewage waste treatment.

The power uprate will increase the temperature of cooling water discharged back to the Mississippi River primarily in the fall and winter, as described above. Following the power uprate, the cooling water discharge temperatures will be maintained within current NPDES limits by increasing the use of cooling towers, which can operate in various modes or, if necessary, by de-rating the plant to meet permit requirements for water appropriations and thermal discharge. No physical modifications or operational changes are required for these systems to implement the power uprate.

**c. If wastes will be discharged into a publicly owned treatment facility, identify the facility, describe any pretreatment provisions and discuss the facility's ability to handle the volume and composition of wastes, identifying any improvements necessary.**

Not applicable.

**d. If the project requires disposal of liquid animal manure, describe disposal technique and location and discuss capacity to handle the volume and composition of manure. Identify any improvements necessary. Describe any required setbacks for land disposal systems.**

Not applicable.

**Proposed Treatment of Topic in EIS:**

The EIS will review and confirm the information provided in the CON and site permit applications.

## 19. Geologic Hazards and Soil Conditions.

**a. Approximate depth (in feet):**

| | | | |
|---|---|---|---|
| to ground water: | maximum 38.8 ft | minimum 29.6 ft | average 35 ft |
| to bedrock: | maximum 116 ft | minimum 97 ft | average 105 ft |

**Describe any of the following geologic site hazards to ground water and also identify them on the site map: sinkholes, shallow limestone formations or karst conditions. Describe measures to avoid or minimize environmental problems due to any of these hazards.**

No sinkholes, shallow limestone formations or karst will be disturbed for the additional dry cask storage or the power uprate projects. The excavated ISFSI area will only affect structural fill gravel that was placed during original ISFSI construction. The geology and groundwater at the existing site is described in detail in Xcel Energy's May 16, 2008

CON application (See also, Appendix J of the CON Application).

**b. Describe the soils on the site, giving NRCS (SCS) classifications, if known. Discuss soil granularity and potential for groundwater contamination from wastes or chemicals spread or spilled onto the soils. Discuss any mitigation measures to prevent such contamination.**

The existing soil at the ISFSI is structural gravel. The existing and proposed spent nuclear fuel "dry cask" storage system is sealed and does not release any contaminates to the surface or groundwater. There will be a minor amount of additional rainwater runoff from the concrete pads. The power uprate does not affect the potential for groundwater contamination at Prairie Island.

**Proposed Treatment of Topic in EIS:**

The EIS will review and confirm the information provided in the CON and site permit applications. The EIS will address soil conditions in relation to compliance with water quality standards described in item 13.

## 20. Solid wastes, hazardous wastes, storage tanks

**a. Describe types, amounts and compositions of solid or hazardous wastes, including solid animal manure, sludge and ash, produced during construction and operation. Identify method and location of disposal. For projects generating municipal solid waste, indicate if there is a source separation plan; describe how the project will be modified for recycling. If hazardous waste is generated, indicate if there is a hazardous waste minimization plan and routine hazardous waste reduction assessments.**

The Prairie Island plant produces spent nuclear fuel as a waste product. The plant will produce, if operated through 2034, approximately 3900 spent fuel assemblies. These assemblies are stored on-site on an interim basis in dry cask storage (ISFSI). Xcel Energy projects that the earliest the Department of Energy will begin to accept spent nuclear fuel from any facility for the Yucca Mountain depository is 2020.

The power uprate will not result in any change in the quantity or rate at which spent nuclear fuel is produced at the Prairie Island, but it will result in fuel assemblies with slightly more radioactivity rates and temperature.

Regarding other radioactive materials at Prairie Island, the power uprate will result in some additional solid radioactive waste. The Prairie Island solid radioactive waste system collects, processes, packages, and temporarily stores radioactive dry and wet solid wastes before they are shipped off-site for permanent disposal. Prairie Island produces dry active waste (paper, plastic, wood, rubber, glass, floor sweepings, cloth, and metal), sludge, oily waste, bead resin and filters. Minimal additional solid waste will be generated due to the power uprate; however, the radioactivity of the solid waste could increase by up to 10 percent. The associated level of radioactivity will remain below the value established in the Final Environmental Statement (FES) for the Prairie Island plant issued by the U.S. Atomic Energy Commission (predecessor agency to the NRC) in May, 1973.

**b. Identify any toxic or hazardous materials to be used or present at the site and identify measures to be used to prevent them from contaminating groundwater. If the use of toxic or hazardous materials will lead to a regulated waste, discharge or emission, discuss any alternatives considered to minimize or eliminate the waste, discharge or emission.**

As described above in the project description (item 6), the proposed project will increase the number of spent nuclear fuel storage casks allowed at the Prairie Island site—from 29 casks to 64 casks—an increase of 35 casks. These additional 35 casks will require two additional concrete pads within the existing ISFSI.

Spent nuclear fuel continues to emit radiation after it is removed from the reactor. The NRC has established standards limiting the exposure to radiation to employees and the public. The storage system proposed limits exposure to radiation to levels below federal limits and several orders of magnitude below background radiation levels experienced by the general public. The storage units proposed at the ISFSI are designed to shield employees and the public from harmful levels of radiation and have been licensed by the NRC. The storage units are completely sealed and will not discharge any contaminates that could affect the groundwater or the environment.

Radioactive fuel assemblies will be sealed in a cask via a double metallic seal bolted lid. The casks are designed and tested to meet the criteria of ANSI N14.5 with leakage rates not exceeding 1 E-5 standard cubic centimeters per second (scc/sec). The casks are designed to maintain confinement integrity during normal conditions of storage, and off-normal and postulated accident conditions, including earthquake, tornado, tornado missile, and drop of the storage cask. An analysis of the need for and potential impacts from the proposed dry cask storage expansion is provided in Xcel Energy's May 16, 2008, CON filing.

**c. Indicate the number, location, size and use of any above or below ground tanks to store petroleum products or other materials, except water. Describe any emergency response containment plans.**

There are no above or below ground storage tanks associated with the proposed power uprate. The proposed dry cask storage expansion anticipates up to an additional 35 above ground dry storage casks to store nuclear spent fuel at the ISFSI.

An emergency plan is required for the Prairie Island ISFSI in accordance with 10 CFR 72.32(c). The 10 CFR 50.47 emergency plan already in effect for the nuclear power plant is applied to the ISFSI and was modified to address potential accidents associated with the ISFSI. The Prairie Island emergency plan describes the organization, assessment actions, activation of the emergency organization, notification procedures, emergency facilities, training, provisions for maintaining emergency preparedness, and recovery criteria for off-normal and accident conditions.

**Proposed Treatment of Topic in EIS:**

The EIS will review and verify the dose, exposure, and risk analysis in the CON and site permit applications, and compare the amount of radiation expected to be emitted from

the proposed project with applicable federal standards. The EIS will describe the measures implemented to reduce the amount of radiation emitted. However, federal NRC regulations preempt state jurisdiction with respect to radiological health and safety. Thus, additional mitigation to lower radiation exposure levels will not be evaluated in the EIS.

## 21. Traffic.

**Parking spaces added 0. Existing spaces (if project involves expansion). 0 Estimated total average daily traffic generated 0.**

Construction of the ISFSI will include excavation of structural fill, pouring the concrete pads, and replacement of some structural fill around the pads. The vehicles employed include: bull dozers, scrapers, front end loaders, graders, dump trucks, cement trucks, delivery trucks, and various small support vehicles. During the 4-week construction period, a total of 13 construction workers are estimated as a peak, with an average of 8 workers. Additional traffic will be generated from truck deliveries and commuting workers. It is estimated that construction activities and deliveries will add an average of 24 trips maximum (only during concrete placement) each day and commuting will add up to 6 trips each day. No full time staff is required at the ISFSI during operation beyond existing plant personnel.

Power uprate construction will be completed during planned refueling outages in 2012 and 2015 for Unit 1 and Unit 2 respectively. There are approximately 500 additional workers on-site during a typical refueling outage. It is estimated the power uprate construction will increase that by a few dozen more. Since the power uprate project will only minimally increase the number of workers at Prairie Island during the outages, the additional traffic generated is negligible. Power uprate equipment deliveries will involve similar types of equipment deliveries as have been made for past refueling outages. After the project has been implemented, the on-going operation of the plant will not require additional employees and traffic will not differ from current levels.

**Estimated maximum peak hour traffic generated (if known) and time of occurrence. Provide an estimate of the impact on traffic congestion on affected roads and describe any traffic improvements necessary. If the project is within the Twin Cities metropolitan area, discuss its impact on the regional transportation system.**

The construction of the concrete pads in the ISFSI for the additional casks will not occur until approximately 2020. The power uprate construction will occur in 2012 and 2015, so the two construction periods will not overlap. The peak impact would be due to power uprate construction. With the average construction force of a few dozen additional workers, the average peak hour traffic generated during the morning and evening commuting hours would be 36 vehicles. The addition of 36 vehicles on local roadways during peak construction activities will not create any traffic impacts. No traffic improvements are necessary.

**Proposed Treatment of Topic in EIS:**

The EIS will review and confirm the information provided in the CON and site permit applications.

## 22. Vehicle-related Air Emissions.

**Estimate the effect of the project's traffic generation on air quality, including carbon monoxide levels. Discuss the effect of traffic improvements or other mitigation measures on air quality impacts. Note: If the project involves 500 or more parking spaces, consult *EAW Guidelines* about whether a detailed air quality analysis is needed.**

The small number of additional vehicles on local roadways (about 36) during construction activities for such a short duration will add a negligible amount of air emissions to the environment. No traffic improvements or mitigation measures are warranted.

**Proposed Treatment of Topic in EIS:**

The EIS will not include a discussion of vehicle-related emissions.

## 23. Stationary Source Air Emissions.

**Describe the type, sources, quantities and compositions of any emissions from stationary sources of air emissions such as boilers, exhaust stacks or fugitive dust sources. Include any hazardous air pollutants (consult *EAW Guidelines* for a listing) and any greenhouse gases (such as carbon dioxide, methane, nitrous oxide) and ozone-depleting chemicals (chloro-fluorocarbons, hydrofluorocarbons, perfluorocarbons or sulfur hexafluoride). Also describe any proposed pollution prevention techniques and proposed air pollution control devices. Describe the impacts on air quality.**

The dry cask storage expansion (ISFSI expansion) will not generate any criteria pollutants, greenhouse gas, or ozone-depleting gases. The power uprate will not generate any criteria pollutants, greenhouse gas, or ozone-depleting gases. However, it will generate hazardous air pollutants in the form of radionuclides. The Prairie Island Nuclear Generating Plant emits small amounts of radionuclides during normal operation; the spent-fuel assemblies stored in dry-casks at the ISFSI emit radioactivity but do not emit radionuclides.

**Expected Radiation from Power Uprate**

Because of the effluent-treatment systems at the Prairie Island plant, there are almost no releases of radioactive gaseous effluent from the plant to the air during normal operation. However, during refueling and maintenance operations, when the primary system is open to the building atmosphere, small quantities of noble gases, halogens, tritium, and particulate material are removed by the ventilation systems.

The gaseous-waste-management systems include the off-gas system and various building ventilation systems. This air is monitored for radioactivity before it is

released. Whenever radioactivity is present, the ventilation air is passed through absolute filters to remove particulate material.

The power uprate does not create any new or different sources of offsite radiation dose from Prairie Island operation. Xcel Energy projects that annual gaseous-radioactive-effluent releases at Prairie Island would, at most, linearly increase with power as a result of the proposed power uprate, or by approximately 10 percent. These release rates are below applicable federal regulation limits.

**Proposed Treatment of Topic in EIS:**

The EIS will review and confirm the information provided in the CON and site permit applications. The EIS will review and verify the dose, exposure, and risk analysis in the CON and site permit applications relating to hazardous air pollutants (radionuclides), and compare the amount of radiation expected to be emitted from the proposed project with applicable federal standards.

The EIS will develop and analyze reasonable alternatives to the ISFSI expansion and power uprate. These alternatives may emit criteria pollutants, hazardous air pollutants, greenhouse gases, and ozone-depleting gases. The EIS will compare the expected emissions of the proposed project with those of the reasonable alternatives.

## 24. Odors, Noise and Dust.

**Will the project generate odors, noise or dust during construction or during operation?**
**☑Yes __No**
**If yes, describe sources, characteristics, duration, quantities or intensity and any proposed measures to mitigate adverse impacts. Also identify locations of nearby sensitive receptors and estimate impacts on them. Discuss potential impacts on human health or quality of life. (Note: fugitive dust generated by operations may be discussed at item 23 instead of here.)**

Construction of the project will generate some small amounts of noise and dust. Earth moving equipment, such as bull dozers, scrapers, and graders will clear and level the area. Concrete trucks will deliver concrete to the site and pumping trucks will place it. Sound levels will not increase beyond those routinely experienced during scheduled refuelings due to the power uprate.

The predicted sound levels from the facility site during power uprate and ISFSI construction are expected to be slightly higher than the ambient. However, all the construction sound levels will be well below the Minnesota regulatory limits

**Proposed Treatment of Topic in EIS:**

The EIS will not include a discussion of dust-related impacts after construction. The EIS will review and confirm information in the CON and site permit applications regarding expected noise levels during construction.

## 25. Nearby resources.

**Are any of the following resources on or in proximity to the site?**
**Archaeological, historical or architectural resources? __Yes ☑No**

The Plant is located adjacent to the Prairie Island Indian Community Reservation. In 1936, the federal government officially recognized Prairie Island Indian Community as a reservation for the Mdewakanton, awarding them 534 acres. In addition, there are six National Register historic sites located within five miles of the Plant. Five of the historical sites are in Goodhue County and one is in Pierce County Wisconsin.

There are also seven known archaeological sites within the site boundary. The proposed power uprate will be limited to the existing plant footprint. Therefore, no incremental impacts to archaeological artifacts are anticipated.

**Prime or unique farmlands or land within an agricultural preserve? __Yes ☑No**

The facility site is not located on designated prime or unique farmland.

**Designated parks, recreation areas or trails? __Yes ☑No**

The closest park/recreation area to the project is the Anderson County Park located approximately 4.5 mile to the south. The proposed project will not impact this area. Goodhue and Pierce Counties maintain numerous boat launches and hiking, biking and snowmobiling trails within 5 miles of the site. The proposed projects will not impact these areas.

**Scenic views and vistas? __Yes ☑No**

The ISFSI will not affect aesthetics in the vicinity. The ISFSI is not seen from the Mississippi River since it is located several feet higher on the west bank of the river and is surrounded by a 17 ft high earthen berm. The power uprate will take place within existing buildings and will not affect aesthetics.

**Other unique resources? __Yes ☑No**

**If yes, describe the resource and identify any project-related impacts on the resource. Describe any measures to minimize or avoid adverse impacts.**

**Proposed Treatment of Topic in EIS:**

The EIS will review and confirm information in the CON and site permit applications regarding nearby resources. The EIS will describe possible measures to avoid and minimize impacts to nearby resources.

## 26. Visual Impacts.

**Will the project create adverse visual impacts during construction or operation? Such as glare from intense lights, lights visible in wilderness areas and large visible plumes from cooling towers or exhaust stacks? __Yes ☑No**
**If yes, explain.**

The facility site is obscured by wooded areas within the plant property and a 17 foot high earthen berm and therefore is not be visible during construction or operation. During operation facility lighting illuminates the facility site for security reasons. However, the light fixtures are only 40 foot high, which is less than many of the trees surrounding the site. Neither proposed project would affect the views of the surrounding communities.

**Proposed Treatment of Topic in EIS:**

The EIS will not include a discussion of visual impacts.

## 27. Compatibility with Plans and Land Use Regulations.

**Is the project subject to an adopted local comprehensive plan, land use plan or regulation, or other applicable land use, water, or resource management plan of a local, regional, state or federal agency?**

**__Yes ☑No. If yes, describe the plan, discuss its compatibility with the project and explain how any conflicts will be resolved. If no, explain.**

This project is located entirely within the property boundary of the existing Prairie Island site. Therefore, no impacts or changes to land use will occur other than the yard areas currently within the ISFSI boundaries.

**Proposed Treatment of Topic in EIS:**

The EIS will not include a discussion of compatibility with local land use plans.

## 28. Impact on Infrastructure and Public Services.

**Will new or expanded utilities, roads, other infrastructure or public services be required to serve the project? __Yes ☑No. If yes, describe the new or additional infrastructure or services needed. (Note: any infrastructure that is a connected action with respect to the project must be assessed in the EAW; see *EAW Guidelines* for details.)**

The ISFSI and plant already obtain electrical power from nearby electrical service lines serving other plant facilities.

**Proposed Treatment of Topic in EIS:**

The EIS will not include a discussion of impacts on infrastructure and public services.

## 29. Cumulative Impacts.

**Minnesota Rule part 4410.1700, subpart 7, item B requires that the RGU consider the "cumulative potential effects of related or anticipated future projects" when determining the need for an environmental impact statement. Identify any past, present or reasonably foreseeable future projects that may interact with the project described in this EAW in such a way as to cause cumulative impacts. Describe the nature of the cumulative impacts and summarize any other available information relevant to determining whether there is potential for significant environmental effects due to**

**cumulative impacts** ***(or discuss each cumulative impact under appropriate item(s) elsewhere on this form).***

The dry cask storage expansion (ISFSI expansion) is required for the Prairie Island plant to operate until 2034. Thus, the continued operation of the plant is a "related project" with respect to the ISFSI expansion.

**Proposed Treatment of Topic in EIS:**

The EIS will evaluate potential impacts from the continued operation of the Prairie Island plant to the extent necessary to compare its continued operation to reasonable potential alternatives. However, impacts and mitigations regarding radiological emissions, safety, security, or related issues will not be evaluated or studied in detail. The EIS will evaluate the feasibility and potential impacts of reasonable alternatives to continued operation of the plant.

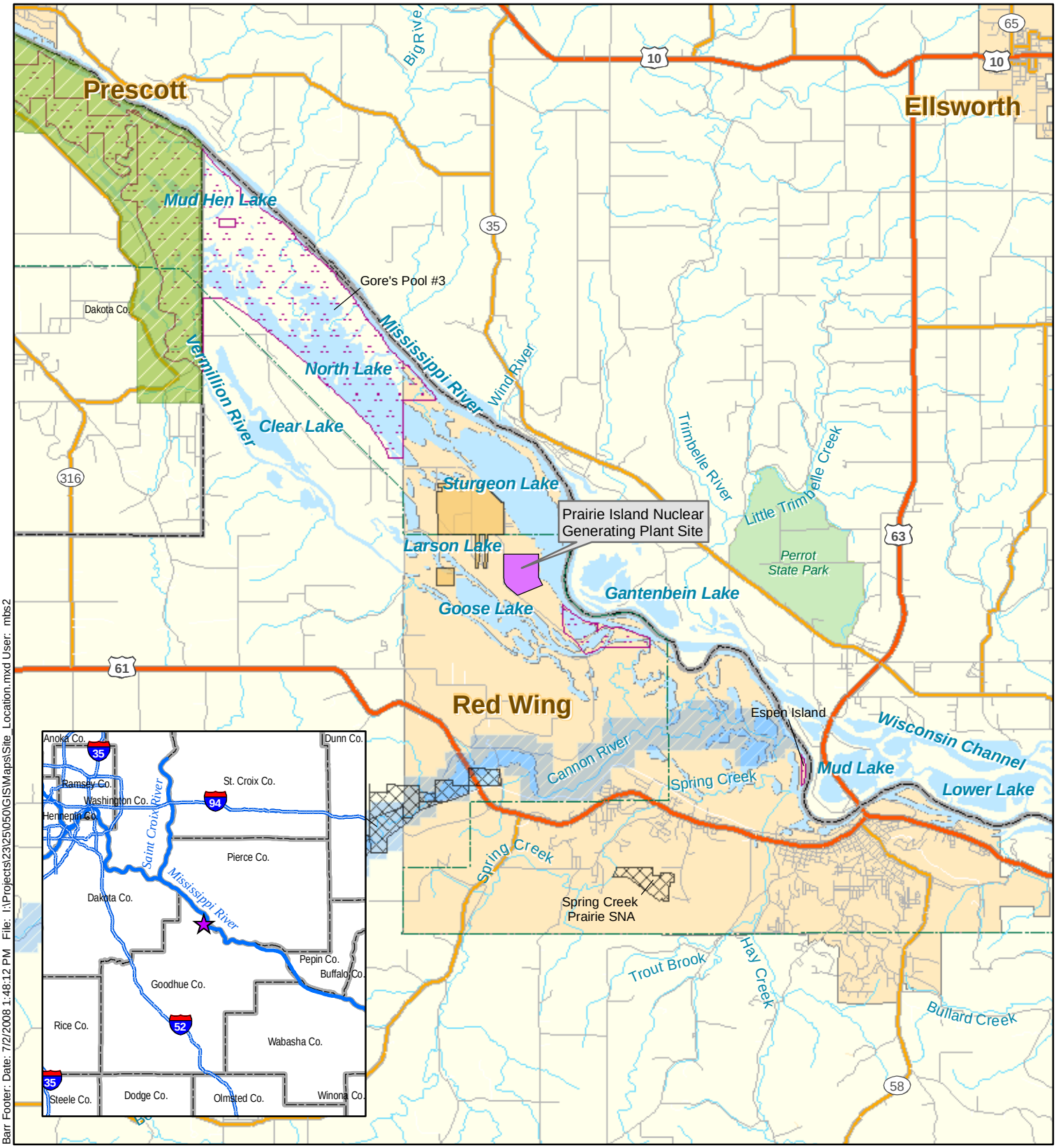
## 30. Other Potential Environmental Impacts.

**If the project may cause any adverse environmental impacts not addressed by items 1 to 28, identify and discuss them here, along with any proposed mitigation.**

No other environmental impacts not addressed in items 1 through 29 are anticipated.

## 31. Summary of Issues.

**Do not complete this section if the EAW is being done for EIS scoping; instead, address relevant issues in the draft Scoping Decision document, which must accompany the EAW.**

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Project Boundary
Prairie Island Indian Community
MN State Forest Boundary
Scientific and Natural Area
Mississippi River National River & Recreation Area
Wild and Scenic River Designation
Wildlife Management Area
Stream/River
Larger Water Body/River
Park Land
Urban Area
County Boundary

N

Miles
2 0 2

Kilometers
2 0 2 4

Attachment A

SITE LOCATION MAP
Prairie Island
Red Wing, MN

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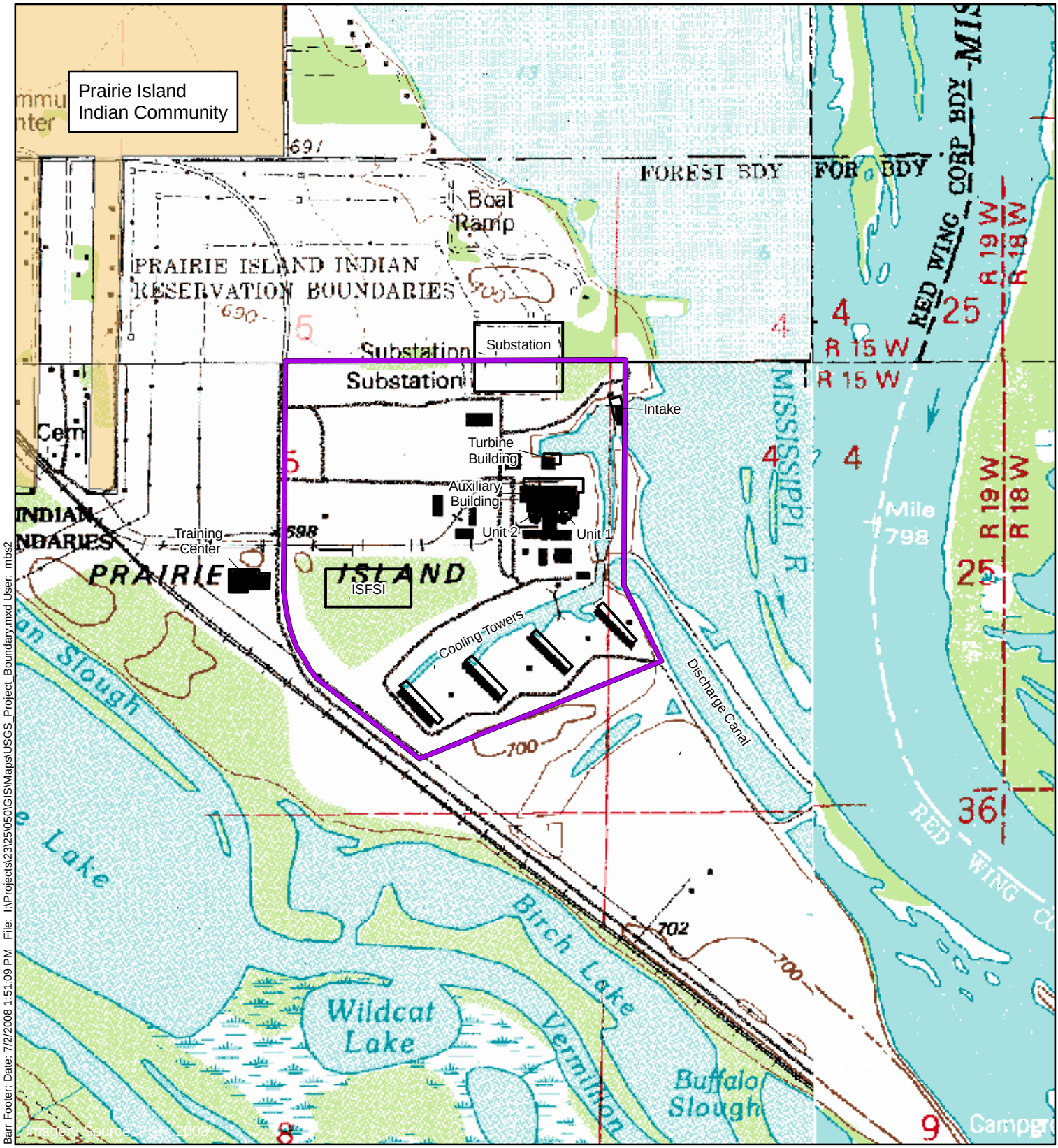


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Project Boundary

Site Features

Prairie Island Indian Community

Feet

1,000 0 1,000

Meters

250 0 250

Attachment B

USGS PROJECT BOUNDARY
Prairie Island
Red Wing, MN

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Exclusion Area Boundary

Project Boundary

Site Features

Prairie Island Indian Community

N

Feet

1,000 0 1,000

Meters

250 0 250

Attachment C

SITE PLAN AND NATURAL FEATURES
Prairie Island
Red Wing, MN