# APPENDIX A

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# STATE OF MINNESOTA

# OFFICE OF ENERGY SECURITY

**In the Matter of Xcel Energy's Application for a Certificate of Need and Application for a LEPGP Site Permit for the proposed EPU & ISFSI Expansion projects at the Prairie Island Nuclear Generating Plant.**

**ENVIRONMENTAL IMPACT STATMENT SCOPING DECISION**
**PUC Docket No. E002/CN-08-510**
**PUC Docket No. E002/GS-08-690**
**PUC Docket No. E002/CN-08-509**

The above-entitled matter came before the Director of the Office of Energy Security (OES) for a decision on the scope of the Environmental Impact Statement (EIS) to be prepared on the proposed Extended Power Uprate and ISFSI Expansion Projects at the Prairie Island Nuclear Generating Plant.

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.

On August 15, 2008, the Commission released an Order accepting the Site Permit Application as complete.

The proposed EPU project is also required to obtain a Certificate of Need (CON) from the Commission pursuant to sections 216C.05 to 216C.30. Xcel Energy filed an application for a CON with the Commission for the project on May 16, 2008, in accordance with Minnesota Rules Chapter 7829 and 7849.

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. The PINGP currently has State authorization for enough dry casks (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 need to be added to the existing ISFSI.

On July 15, 2008, the Commission accepted the two CON applications as complete (July 22, 2008 order). The docket numbers for the certificate of need for the Extended Uprate and the Additional Dry Cask Storage are E002/CN-08-509 and E002/CN-08-510, respectively.

Having reviewed the comments submitted and consulted with EFP staff, I hereby make the following Scoping Order.

## I. SUMMARY

The EIS will address the environmental impacts of the proposed expansion of the existing ISFSI and continued operation of the PINGP until 2034, including the incremental impacts associated with the 164

MW increase in output due to the proposed EPU.

Federal regulations preempt state authority over radiological health and safety; however, the EIS will address radiological safety issues to help inform the public, help compare generation alternatives, and potentially inform the regulatory process. The EIS will review and summarize existing information in this area but will not include detailed new analysis.

The EIS will assess the potential impacts of temporary, long-term on-site storage (up to 200 years and 98 dry casks) of the additional spent fuel generated at the PINGP during the re-licensing period.

The EIS will assess potential groundwater, surface water and floodplain impacts.

The EIS will include an evaluation of alternatives to meet the stated need for the 164 MW of base-load power that comprises the proposed EPU and an evaluation of generation alternatives to the continued operation of the PINGP until 2034.

For most topics, such as the project description and general environmental impacts, there is a large amount of existing information in the Site Permit Application, the CON Applications, supplemental materials, and other sources. In addition, the NRC will be completing a detailed supplemental EIS as part of its license renewal decision. Therefore, most relevant technical and environmental issues—other than an analysis of generation alternatives—are either (1) addressed in detail in the Site Permit and CON Applications, (2) preempted by federal regulations, (3) subject to detailed review in the federal EIS, or (4) a combination of the above. The EIS will verify, summarize, supplement and incorporate by reference this body of existing information as outlined in the Scoping EAW and OES Treatment of Scoping Comments Worksheets.

## II. MATTERS TO BE ADDRESSED IN THE EIS

The EIS on the PINGP EPU and ISFSI Expansion projects will address the following matters:

**CHAPTER 1 EXTENDED POWER UPRATE**

1.0 INTRODUCTION
- 1.1 Project Description
  - 1.1.1 Description of Power Generating Equipment and Processes
  - 1.1.2 Air Emission Control Equipment
  - 1.1.3 Water Use
  - 1.1.4 Wastewater
  - 1.1.5 Solid and Hazardous Waste Generation
    - Excavated materials disposal
  - 1.1.6 Fuel Supply
    - Mining, processing, transportation
  - 1.1.7 Electrical Interconnection
  - 1.1.8 Operation & Maintenance
    - Equipment Inspections/Replacement
    - Water Treatment Chemicals

Incident reporting
1.2 Purpose
1.3 Sources of Information
1991 EIS
2.0 REGULATORY FRAMEWORK
2.1 Certificate of Need
2.2 Site Permit Requirement
3.2.1 Environmental Review
3.2.2 Public Hearing
2.3 NRC
2.4 Other Permits
Coordination between agencies
2.5 Issues Outside DOC OES EFP Authority
3.0 ALTERNATIVE TO THE EPU
3.1 No-build Alternative
3.2 Demand Side Management
Combined w/ other alternatives
3.3 Purchase Power
3.3.1 Long term Purchase Power
3.3.2 Short term Purchase Power
3.4 Alternative Fuels
3.4.1 Fossil Fuel Technologies
3.4.2 Renewable Resource Technologies
Biomass
3.5 Up-grading Existing Facilities
Blackdog
3.6 New Transmission
3.7 PINGP Waste Heat
4.0 ENVIRONMENTAL SETTING
Topography, geology, hydrology, flood plain, meteorological, flora/fauna
5.0 HUMAN AND ENVIRONMENTAL IMPACTS
5.1 Air Quality
5.2 Biological Resources
Flora
Fauna
Rare and Unique Natural Resources
5.3 Culture, Archeological and Historic Resources
5.4 Geology and Soils
5.5 Health and Safety
Consumables (plants, animals)
EMF
Psychology
Plant & community emergency planning/preparedness
5.6 Land Use
Zoning

Displacement
Recreational Areas
5.7 Noise
5.8 Socioeconomics
5.9 Transportation
5.10 Visual Impacts and Aesthetics
5.11 Water Resources
Surface Water
Lake Pepin ice cover, TMDL
Potential effect of "steam flow reversal"
Sediment distribution
Thermal discharge effects on dissolved $O_2$, pathogens, synergies w/ other wastes
Higgins Eye Pearly Mussel
Potential flooding
Groundwater
Wetlands
5.12 Waste Management and Disposal
Wastewater
Solid Waste
Hazardous Waste
5.13 Radiological
Monitoring plant operations
Review generic health studies
Plant waste, handling disposal
6.0 SUMMARY OF MITIGATIVE MEASURES and UNAVOIDABLE IMPACTS

**CHAPTER 2 ADDITIONAL DRY CASK STORAGE EXPANSION**
1.0 INTRODUCTION
2.0 REGULATORY FRAMEWORK
2.1 Federal Regulatory Processes (NRC)
2.2 Minnesota Regulatory Processes
2.3 Permits and Approvals
3.0 PROJECT DESCRIPTION
3.1 Project Setting
3.2 Independent Spent Fuel Storage Installation (ISFSI)
Operation & Maintenance
Monitoring & Inspection
Cask specifications
Security procedures
3.3 Spent Fuel Inventory
3.4 Plant Closure and Decommissioning
Funding
4.0 HUMAN AND ENVIRONMENTAL IMPACTS (NON-RADIOLOGICAL)
4.1 Geology and Soils

- 4.2 Biological and Ecologically Sensitive Resources
- 4.3 Water Resources
- 4.4 Cultural and Historical Resources
- 4.5 Traffic
- 4.6 Noise
- 4.7 Socioeconomics
- 4.8 Visual Impacts and Aesthetics
- 4.9 Health and Safety
- 4.10 Cumulative Impacts
  - 4.10.1 ISFSI Operations
  - 4.10.2 PINGP Operations

5.0 RADIOLOGICAL IMPACTS
- 5.1 Natural Background Radiation near the Prairie Island Plant
- 5.2 Radiological Monitoring and Radiation Associated with the Independent Spent Fuel Storage Installation
- 5.3 Analysis of Potential Impacts of Storage Installation Incidents
- 5.4 Cumulative Impacts
  - 5.4.1 ISFSI Operations
  - 5.4.2 PINGP Operations

6.0 INDEPENDENT SPENT FUEL STORAGE INSTALLATION ALTERNATIVES
- 6.1 Reprocessing Spent Nuclear Fuel
- 6.2 Private and Off-Site Fuel Storage
- 6.3 Federal Geologic Depositories, Yucca Mountain
- 6.4 Alternatives to Increase Storage Pool Capacity
- 6.5 Alternative Dry Cask System Technologies
- 6.6 The "No Action" Alternative

7.0 PRAIRIE ISLAND NUCLEAR GENERATING PLANT ALTERNATIVES
- 7.1 PINGP Generation and Role in Minnesota Energy Supply
- 7.2 Alternatives to Continued Operation of the PINGP
- 7.3 Comparison of the Environmental Impacts of Alternatives

The above outline 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.

## III. 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. 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. Additionally, 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).

**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.

## IV SCHEDULE

The OES staff intends to complete the draft EIS by March 17, 2008.

Signed this 14th day of November, 2008

STATE OF MINNESOTA
OFFICE OF ENERGY SECURITY

William L. Glahn

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