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April 30, 2008

Burl W. Haar
Executive Secretary
Minnesota Public Utilities Commission
127 7th Place East, Suite 350
St. Paul, MN 55101-2147

RE: Comments and Recommendations of the Minnesota Department of Commerce
Monticello Nuclear Generating Plant (MNGP) Extended Power Uprate Project
Docket No. E002/GS-07-1567

Dear Dr. Haar:

Attached are the comments and recommendations of the Minnesota Department of Commerce (DOC) Energy Facility Permitting (EFP) Staff in the above stated matter.

Xcel Energy proposes to uprate the electrical generating capacity of MNGP from 585 megawatts electric to 655 megawatts electric (MWe). The 71 MWe uprate will be achieved by increasing the steam output of the nuclear reactor and capturing this additional output with improved electrical generation equipment and systems. Steam output will be increased through an increase in the number of new fuel assemblies replaced in the reactor core at each refueling. Equipment and systems modifications include:

- Replacement of the high pressure turbine
- Replacement of the low pressure turbine
- Replacement of condensate pumps, motors, and demineralizers
- Upgrades of electrical power supplies and power cooling systems

All modifications, except for limited power supply upgrades, will occur within the current physical footprint of MNGP.

The Department is providing you with:

A. Comments and Recommendations;
B. General route location map.

The Department EFP staff recommends acceptance of the LEPGP Site permit application with the understanding that any additional information necessary for processing the application will be provided promptly. Staff is available to answer any questions the Commission may have.

Sincerely,

William Cole Storm, DOC EFP Staff

Enclosures

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BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

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

DOCKET NO. E002/GS-07-1567

Meeting Date: May 8, 2008…….……Agenda Item #

Company: Xcel Energy

Docket No. PUC Docket Number: E002/GS-07-1567
In the Matter of the Application for a LEPGP Site Permit for the Monticello Nuclear Generating Plant (MNGP) Extended Power Uprate Project.

Issue(s): Should the Commission accept or reject the application as substantially complete? If accepted, should the Commission authorize the Department to appoint a public advisor and an advisory task force? Should the Commission coordinate the public hearing for this docket with the pubic hearing required for docket E002/CN-08-185?

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

Relevant Documents (in Commission Packet).

1. Xcel Energy's LEPGP Site Permit Application, Dated May 1, 2008.
2. PUC order for 08-185, Dated April 18, 2008

The enclosed materials are work papers of the Department of Commerce Office of Energy Security Energy 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. General route location map.

(Note: Relevant documents and additional information can be found on eDockets (ET2/GS-07-715) or the PUC Facilities Permitting website http://energyfacilities.puc.state.mn.us/)

Statement of the Issue

Should the Commission accept or reject the application as substantially complete under the Alternative Review Process of the Power Plant Siting Act (Minnesota Statutes 216E.001 to 216E.18)? If accepted, should the Commission authorize the Department to appoint a public advisor and an advisory task force?

Should the Commission coordinate the public hearing for this docket with the pubic hearing required for docket E002/CN-08-185?

If the application is accepted, the Commission needs to notify the applicant in writing of the acceptance. If the application is rejected, the Commission must advise the applicant of the deficiencies in the application.

Introduction and Background

On May 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 Monticello Nuclear Generating Plant (MNGP) Extended Power Uprate Project.

The MNGP utilizes a boiling water reactor (BWR). In a boiling water reactor, a nuclear reaction in the reactor core generates heat, which boils water to produce steam inside the reactor vessel, which in turn is directed to turbine generators to produce electrical power. The steam is cooled in a condenser and returned to the reactor vessel to be boiled again. The cooling water is force-circulated by electrically powered feedwater pumps. Emergency cooling water is supplied by other pumps, which can be powered by onsite diesel generators.

Project Description

Xcel Energy proposes to uprate the electrical generating capacity of MNGP from 585 megawatts electric to 656 megawatts electric (MWe). The uprate will occur in two phases – the first completed by 2009, the second by 2011. The 71 MWe uprate will be achieved by increasing the steam output of the nuclear reactor and capturing this additional output with improved electrical generation equipment and systems. Steam output will be increased through an increase in the

number of new fuel assemblies replaced in the reactor core at each refueling. Equipment and systems modifications include:

- Replacement of the high pressure turbine
- Replacement of the low pressure turbine
- Replacement of condensate pumps, motors, and demineralizers
- Upgrades of electrical power supplies and power cooling systems

All modifications, except for limited power supply upgrades, will occur within the current physical footprint of MNGP. No new structures are proposed.

The proposed MNGP uprate is part of Xcel Energy's 2007 Resource Plan to meet projected base load energy and capacity needs.

Nuclear Regulatory Commission

When the NRC issues a license for a commercial nuclear power plant, the agency sets limits on the maximum heat output, or power level, for the reactor core. This power level plays an important role in many of the analyses that demonstrate plant safety, so the NRC's permission is required before a plant can change its maximum power level. A "power uprate" only occurs after the NRC approves a commercial nuclear power plant's request to increase its power. The process for requesting and approving a change to a plant's power level is governed by 10 CFR 50.90-92.

As of January 2008, the NRC has approved 116 uprates, resulting in a gain of approximately 15,600 MWt (megawatts thermal) or 5,200 MWe (megawatts electric) at existing plants. Collectively, these uprates have added generating capacity at existing plants that is equivalent to more than five new reactors.

The design of every U.S. commercial reactor has excess capacity needed to potentially allow for an uprate, which can fall into one of three categories:

- **Measurement uncertainty recapture power uprates** are power increases less than 2 percent of the licensed power level, and are achieved by implementing enhanced techniques for calculating reactor power. This involves the use of state-of-the-art devices to more precisely measure feedwater flow which is used to calculate reactor power. More precise measurements reduce the degree of uncertainty in the power level which is used by analysts to predict the ability of the reactor to be safely shut down under possible accident conditions.
- **Stretch power uprates** are typically between 2 percent and 7 percent, with the actual increase in power depending on a plant design's specific operating margin. Stretch power uprates usually involve changes to instrumentation settings but do not involve major plant modifications.
- **Extended power uprates** are greater than stretch power uprates and have been approved for increases as high as 20 percent. Extended power uprates usually require significant modifications to major pieces of non-nuclear equipment such as high-pressure turbines, condensate pumps and motors, main generators, and/or transformers.

The Xcel Energy's proposed power uprate to the MNGP is an extended power uprate. An application to the NRC is pending at this time.

State Regulatory Process and Procedures

Determination of Need

This project also required 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 February 14, 2008, in accordance with Minnesota Rules Chapter 7829 and 7849. On April 10, 2008, the Commission accepted the application as complete (April 18, 2008 order).

The docket number for the certificate of need is E002/CN-08-185.

The Department of Commerce Office of Energy Security (OES) 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 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 provides that in the event an applicant for a certificate of need for a LEPGP or a HVTL applies to the Commission for a site permit or route permit prior to the time the OES completes the environmental report OES may elect to prepare an environmental assessment (EA) in lieu of the required environmental report. If combining the processes would delay completion of the environmental review, the applicant and the Commission must agree to the combination. If the documents are combined, OES includes in the EA 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. However, this project has been filed pursuant to 216E.04, the Power Plant Siting Act Alternative Review process. There is no similar statutory directive related to alternative review process projects.

Site Permit

The proposed uprate of the electrical generating capacity of the MNGP from 585 MW electric to 656 MW electric falls within the definition of a Large Electric Power Generating Plant in the Power Plant Siting Act and, thus, requires a Site Permit from the Commission prior to construction. The Chapter 7849 rules provide for three different procedures for obtaining a site permit: full review, alternative review, and local review.

The proposed MNGP power uprate qualifies for the alternative environmental review process (Minn. Rule 7849.5500) and Xcel Energy has applied for a site permit following the alternative review process.

The application is being reviewed under the Alternative Review Process of the Power Plant Siting Act (Minnesota Statutes 216E.001 to 216E.18). Under the Alternative Review Process, an applicant is not required to propose any alternative sites or routes, but must include in the application the same information required under the full process (Minn. Rule 7849.5220). The OES Energy Facility Permitting (EFP) staff holds a public information/scoping meeting, develops a scoping decision recommendation and prepares a document called an Environmental Assessment. The review process begins with the determination by the Commission that the application is complete. The Commission has six months to reach a decision under the Alternative Process from the time the application is accepted. The commission must issue a certificate of need prior to issuing a site permit.

Hearing Process

Upon completion of the EA, a public hearing must be held pursuant to Minnesota Statute 216E.04, subd. 6 and Minnesota Rule 7849.5710. The hearing examiner is appointed to conduct the hearing, but the examiner need not be an Administrative Law Judge (ALJ). Members of the public have an opportunity to speak at the hearings, present evidence, ask questions, and submit comments. The Alternative Review Process does not include a contested case hearing proceeding.

Public Advisor

Upon acceptance of an application for a site or route permit, the Commission must designate a staff person to act as the public advisor on the project (Minnesota Rule 7849.5250). The public advisor is someone who is available to answer questions from the public about the permitting process. In this role, the public advisor may not act as an advocate on behalf of any person.

The Commission can authorize the Department to name a staff member from the EFP staff as the public advisor or assign a PUC staff member.

Advisory Task Force

The Commission may appoint an advisory task force (Minnesota Statute 216E.08). An advisory task force must, at a minimum, include representatives of local governmental units in the affected area. A task force can be charged with identifying additional sites or specific impacts to be evaluated in the EA and terminates when the Department Commissioner issues an EA scoping decision. The Commission is not required to assign an advisory task force for every project.

If the Commission does not name a task force, the rules allow a citizen to request appointment of a task force (Minnesota Rule 7849.5580). The Commission would then need to determine at its next meeting if a task force should be appointed or not.

The decision whether to appoint an advisory task force does not need to be made at the time of accepting the application; however, it should be made as soon as practicable to ensure its charge can be completed prior to the EA scoping decision by the OES Director.

OES EFP Staff Analysis and Comments

Completeness
OES EFP staff conducted a completeness review of the Xcel Energy LEPGP Site permit application and concludes that the Application meets the content requirements of Minnesota Rule 7849.5530 and is complete. Application acceptance allows staff to initiate and conduct the public participation and environmental review process.

Advisory Task Force
In analyzing the merits of establishing an Advisory Task Force for the project, EFP staff considered four project characteristics: size, complexity, known or anticipated controversy and sensitive resources.

Project Size. MNGP is a 585-megawatt electrical (MWe), nuclear-powered, single-unit boiling water reactor located in Monticello, Minnesota. The uprate would increase output by 71 MWe, approximately 12 percent. The plant is located on the western bank of the Mississippi River in Wright County, approximately 50 miles northwest of Minneapolis. MNGP is owned by Xcel Energy and operated by Nuclear Management Company, LLC (NMC) under contract with Xcel Energy. NMC is a wholly owned subsidiary of Xcel Energy.

The MNGP site itself consists of approximately 2,150 acres with roughly two miles of frontage on the north and south banks of the Mississippi River in Wright and Sherburne Counties. Most of the site is located on the southern side of the Mississippi River with approximately 450 acres on the northern side. Approximately 50 acres are occupied by the plant and its supporting facilities. The remaining acres are undeveloped with approximately 174 acres leased by local farmers for growing row crops and 144 acres are under lease for recreational use.

The proposed uprate project would not require new structures or buildings, and so would not change the "footprint" of the existing site.

Complexity. The project is relatively uncomplicated; the increased thermal power is achieved primarily by increasing the number of new fuel assemblies replaced in the reactor core at each refueling.

No changes in operating pressure or core flow are necessary to support the uprate.

Although few modifications are required for the reactor and its support systems, the uprate will require steam turbine replacements and a variety of other balance-of-plant improvements to take advantage of the increased steam production.

Known/Anticipated Controversy. Nationally, uprates at boiling water reactor nuclear facilities have not been without controversy and/or operational issues; however, here in Minnesota, the public has been silence through the public comment period on the completeness of the CON application.

The controversy in other states has mainly centered on concerns of safety (vibration of components and emergency cooling system issues), additional waste generation and a lack of public confidence in the NRC's Reactor Oversight Process (ROP).

On April 16, 2005, Xcel Energy applied to the NRC for a 20-year license renewal for its Monticello Nuclear Generating Plant. Xcel Energy's current NRC license for the Monticello Plant expires in 2010. To operate the plant past 2010, Xcel Energy had to gain a license extension from the NRC, as well as state approval for additional nuclear spent fuel storage capacity at the plant. Xcel Energy's request resulted in environmental review of the facility from both the federal and state governments.

On November 18, 2005, the DOC issued an Environmental Impact Statement; the EIS addressed the environmental impacts of both the proposed ISFSI and the continued operation of the Monticello Generating Plant until 2030.

According to the application, the proposed uprate would not significantly change the maximum projected annual off-site dose or cumulative radiation dose. On-site and off-site radiological doses would remain well below federal regulatory limits.

Sensitive Resource. The primary impact of the uprate is a small temperature increase in the circulating water leaving the main condenser due to the increase in thermal power output. Cooling water discharge temperature will be maintained through increased use of the cooling towers or other methods; therefore, the thermal discharge will remain within the limits of the recently reissued NPDES permit. No changes are planned for the MNGP plant intake system or intake flow rates, therefore no change in permitted water appropriation is needed. The amount of water consumption will increase slightly, but remain well below the level the NRC determined to be insignificant in their Environmental Impact Statement for the MNGP re-licensing.

Except for transportation of equipment during construction and the routine disposal of waste, the uprate maintenance activities are confined to the inner-plant security fenced area. The uprate does not affect the storage requirements for above ground or below ground tanks. Other lands located outside the inner security fence will not be modified or changed to support uprate activities. The uprate does not involve changes to any aesthetic resources and does not involve any impacts to lands with historical or archaeological significance.

Based on the analysis above, OES EFP staff concludes that an advisory task force is not warranted in this case.

Environmental Review

The OES EFP staff has concluded that combining the ER and EA into a single environmental review document is warranted in this case. The site permit application was filed prior the completion of the ER required for the CON and prior to initiation of the scoping process for the ER. Thus, preparing an EA in lieu of the ER will achieve process efficiencies. It will enable staff to solicit comments pertinent to the scoping of both the Environmental Report (CON

process) and the Environmental Assessment (LEPGP Siting process) at a single public informational meeting. OES will then develop one scoping document and one environmental document for both applications.

Combining the processes will not delay completion of the environmental review; it is anticipated that the EA will be completed by the end of July, 2008.

Public Hearing
In its April 18, 2008, order, the Commission referred the Certificate of Need docket (PUC Docket No. E002/CN-08-185) to the Office of Administrative Hearings for conduct of the Minnesota Rules Chapter 1405 contested case proceeding. Thus, the hearing for the certificate of need will be a contested case hearing presided over by an ALJ. The ALJ will issue a report containing findings, conclusions, and a recommendation on whether the Commission should issue a certificate of need for the proposed project.

The public hearing required in the siting docket (PUC Docket No. E002/GS-07-1567) is governed by Minn. Rule 7849.5710, Subp. 2. This rule specifies a non-contested, less formal process.

However, the Commission also ordered that at least one public hearing be held by the ALJ at a time and place determined by the ALJ after consultation with Commission staff. It delayed determination on whether it would be appropriate to join the public hearing for the application for a CON with the public hearing for the application for a site permit for the MNGP Uprate Project, since it was unclear when the site permit application would be received.

Because the site permit application was filed so early in the CON process, efficiencies could be gained by coordinating the "public hearing" portion of the CON contested case proceeding with the public hearing required in the Alternative Review process. This can be accomplished by authorizing staff to work with the ALJ assigned to the CON contested case proceeding to schedule a public hearing date compatible with both proceedings. The "evidentiary hearing" portion of the CON contested case hearings would not be affected; it would be held separately.

Commission Decision Options

A. Application Acceptance

1. Accept the LEPGP Site permit application submitted by Xcel Energy for the MNGP Uprate project as complete and authorize OES EFP Staff to initiate the alternative review process under Minnesota Rules Chapter 7849.
2. Reject the LEPGP Site permit application as incomplete and issue an order indicating the specific deficiencies to be remedied before the Application can be accepted.
3. Find the Application complete upon the submission of supplementary information.
4. Make another decision deemed more appropriate.

B. Public Advisor

1. Authorize the OES EFP staff to name a public advisor in this case.
2. Appoint a Commission staff person as public advisor.

3. Make another decision deemed more appropriate.

C. 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.

D. Public Hearing

1. Approve coordination of the public hearing for the MNGP Uprate project siting docket (E002/GS-07-1567) with the public hearing portion of the CON docket (E002/CN-07-185) and authorize OES EFP staff to work with the ALJ assigned to the CON docket to determine the public hearing time and place.
2. Make another decision deemed more appropriate.

EFP Staff Recommendation

Staff recommends Options A-1, B-1, C-3 and D-1.

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ATTACHMENT 1

Monticello Nuclear Generating Plant Location and Regional Features within 6-Mile Radius