L-HU-07-001
10 CFR 50.54(f)

January 31, 2007

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
11555 Rockville Pike
Rockville, Maryland 20852

Monticello Nuclear Generating Plant
Docket 50-263
License No. DPR-22

Prairie Island Nuclear Generating Plant, Units 1 and 2
Dockets 50-282 and 50-306
License Nos. DPR-42 and DPR-60

Response to Request for Additional Information Regarding Resolution of Generic Letter 2006-02, "Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power"

References
1) Nuclear Regulatory Commission (NRC) Generic Letter (GL) 2006-02, "Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power", dated February 1, 2006, Accession Number ML060180352.
2) Nuclear Management Company, LLC (NMC) letter L-HU-06-030, "Response to Generic Letter 2006-02, 'Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power'", dated July 21, 2006, Accession Number ML062050349.
3) NRC letter, "Request for Additional Information Regarding Resolution of Generic Letter (GL) 2006-02, Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power (TAC Nos. MD0947 through MD1050), dated December 5, 2006, Accession Number ML063380300.
4) NRC letter, "Revised Response Date for Request for Additional Information Regarding Resolution of Generic Letter (GL) 2006-02, Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power (TAC Nos. MD0947 through MD1050), dated December 13, 2006, Accession Number ML063460440.

In Reference 1, the NRC requested that specific information be provided for each nuclear plant. Reference 2 provided the NMC responses to the requested information for the Monticello Nuclear Generating Plant (MNGP) and Prairie Island Nuclear Generating Plant (PINGP). In Reference 3, the NRC transmitted six requests for additional information (RAIs) for resolution of GL 2006-02 and a matrix listing the

applicable RAI questions for each specific plant. Reference 4 requested that the RAI responses be provided to the NRC by January 31, 2007.

Enclosure 1 provides the NMC response to RAI 3 for MNGP as requested by the NRC in Reference 3. Enclosure 2 provides the NMC responses to RAI 1 and RAI 3 for PINGP as requested by the NRC in Reference 3. RAI 3 requests information about analyses, procedures, and activities concerning grid operation not controlled by NMC. In providing information responsive to RAI 3, NMC makes no representation as to its accuracy or completeness.

Summary of Commitments

This letter contains no new commitments and no revisions to existing commitments.

I declare under penalty of perjury that the foregoing is true and correct.
Executed on January 31, 2007.

Edward J. Weinkam
Director, Nuclear Licensing and Regulatory Services
Nuclear Management Company, LLC

Enclosures (2)

cc: Administrator, Region III, USNRC
Project Manager, Monticello Nuclear Generating Plant, and Prairie Island Nuclear Generating Plant, USNRC
Senior Resident Inspector, Monticello Nuclear Generating Plant, and Prairie Island Nuclear Generating Plant, USNRC

Enclosure 1
Monticello Nuclear Generating Plant
Response to Request for Additional Information Regarding Resolution of Generic Letter 2006-02

Nuclear Regulatory Commission (NRC) Request for Additional Information (RAI) 3, Verification of RTCA [Real Time Contingency Analysis] Predicted Post-Trip Voltage:

Your response to question 2(g) indicates that you have not verified by procedure the voltages predicted by the online grid analysis tool (software program) with actual real plant trip voltage values. It is important that the programs used for predicting post-trip voltage be verified to be reasonably accurate and conservative.

a) What is the range of accuracy of your GO's [grid operator's] contingency analysis program?

b) Why are you confident that the post-trip voltages calculated by the GO's contingency analysis program (that you are using to determine operability of the offsite power system) are reasonably accurate and conservative?

c) What is your standard of acceptance?

Nuclear Management Company (NMC) response:

a) The Monticello Nuclear Generating Plant (MNGP) has a formal agreement with the TSO (Transmission System Operator - references to TSO and GO throughout this enclosure refer to Xcel Energy's Northern States Power System Control Center). The agreement is documented in the Voltage Support Agreement, June 12, 1990, and NMC – Xcel Nuclear Power Plant Operating Services Agreement, November 23, 1999.

The range of accuracy of the GO's contingency analysis program is the responsibility of the GO, North American Electric Reliability Council (NERC), and Federal Energy Regulatory Commission (FERC). The method used by the GO to verify accuracy of application results is to compare application resultant values against actual telemetered data and values from other analysis tools (State Estimator, Powerflow Analysis, Independent System Operator Security Analysis).

b) The RTCA is a tool fully within the purview of the GO; NMC confidence for use at the Monticello Nuclear Generating (MNGP) is based on the confidence the GO has in their equipment and the resultant values. The GO's confidence is based on many years of operating experience using this application and comparing powerflow study post contingency voltage results with actual following day RTCA results. In addition, the regional Independent System Operator (ISO) (Midwest ISO) runs an independent RTCA. The GO and ISO periodically compare the results of their analyses to further

assure reasonable results. Because many of the Midwest ISO (MISO) transmission owning member companies have similar RTCA programs, there are many opportunities to compare the results. This results in a high confidence that the RTCA results are accurate. However, if the resultant voltages are outside of the criteria, when they are predicted to be within, both the GO and MISO would initiate an investigation.

c) NMC acceptance for MNGP is based on the GO's acceptance. The GO's acceptance is based on their experience with using the application. If the GO suspects the Security Analysis results are inaccurate they can utilize their other analysis tools (Powerflow Analysis, Power Technologies International - Power System Simulator for Engineering loadflow) to check the Security Analysis results.

Enclosure 2
Prairie Island Nuclear Generating Plant
Response to Request for Additional Information Regarding Resolution of Generic Letter 2006-02

Nuclear Regulatory Commission (NRC) Request for Additional Information (RAI) 1, Switchyard Minimum Voltage:

In response to question 1(g) you did not identify specific minimum switchyard voltage limits (kV) that you supplied to the local transmission entity. Please, provide the following information:

a. **What is the specific minimum acceptable switchyard voltage included in your protocol agreement with your grid operator (GO) and what was the basis for this value?**

b. **How is this value related to your technical specification degraded voltage relay setpoints?**

Nuclear Management Company (NMC) response:

The Prairie Island Nuclear Generating Plant (PINGP) has a formal agreement with the TSO (Transmission System Operator - references to TSO and GO throughout this enclosure refer to Xcel Energy's Northern States Power System Control Center). The agreement is documented in the Voltage Support Agreement, June 12, 1990, and NMC – Xcel Nuclear Power Plant Operating Services Agreement, November 23, 1999. The agreement requires the TSO to notify PINGP if a Real Time Contingency Analysis (RTCA) post contingent alarm is received indicating that the post-trip grid voltage at the PINGP substation will be below the calculated minimum voltage for the present plant substation and plant electrical system alignment.

NMC provides the calculated minimum switchyard grid voltage for a given PINGP electrical alignment to the TSO. The basis for the minimum switchyard grid voltages provided by PINGP are a series of analyses performed for PINGP that evaluated the minimum switchyard voltages required to maintain the 4160V safeguards buses' voltage at or above 96.5% of nominal bus voltage for a variety of plant substation and electrical system alignments. The 96.5% value is greater than both the drop-out and reset setpoints of the 4160V bus degraded voltage relays. The specific minimum acceptable switchyard grid voltages, in the normal plant electrical alignment (Unit 1 Train A supplied by 1R Transformer, Unit 1 Train B supplied by CT11 Transformer, Unit 2 Train A supplied by 2R Transformer, Unit 2 Train B supplied by CT12 Transformer, and the Motor Driven Cooling Water Pump Swing Bus supplied by Unit 2 Train A), are as follows:

- With no cooling towers in service: 345 kV grid voltage > 336.1 kV and 161 kV grid voltage > 160.2 kV; and

- With all cooling towers in service: 345 kV grid voltage > 340.9 kV and 161 kV grid voltage > 160.2 kV.

The minimum acceptable switchyard voltage relates to the Technical Specification degraded voltage relay setpoints as follows. The Technical Specification voltage Allowable Value for the 4160V safeguards buses' degraded voltage channels is 3973V $\pm$ 29V (95.5% $\pm$ 0.7% of nominal voltage) with a time delay of 8 $\pm$ 0.5 seconds. The minimum switchyard voltages provided to the TSO as described above come from a series of analyses that are based on providing a minimum of 96.5% of nominal voltage to the 4160V safeguards buses.

NRC RAI 3, Verification of RTCA [Real Time Contingency Analysis] Predicted Post-Trip Voltage:

Your response to question 2(g) indicates that you have not verified by procedure the voltages predicted by the online grid analysis tool (software program) with actual real plant trip voltage values. It is important that the programs used for predicting post-trip voltage be verified to be reasonably accurate and conservative.

a) What is the range of accuracy of your GO's [grid operator's] contingency analysis program?

b) Why are you confident that the post-trip voltages calculated by the GO's contingency analysis program (that you are using to determine operability of the offsite power system) are reasonably accurate and conservative?

c) What is your standard of acceptance?

NMC response:

a) The range of accuracy of the GO's contingency analysis program is the responsibility of the GO, North American Electric Reliability Council (NERC), and Federal Energy Regulatory Commission (FERC). The method used by the GO to verify accuracy of application results is to compare application resultant values against actual telemetered data and values from other analysis tools (State Estimator, Powerflow Analysis, Independent System Operator Security Analysis).

b) The RTCA is a tool fully within the purview of the GO; NMC confidence for use at the PINGP is based on the confidence the GO has in their equipment and the resultant values. The GO's confidence is based on many years of operating experience using

this application and comparing powerflow study post contingency voltage results with actual following day RTCA results. In addition, the regional Independent System Operator (ISO) (Midwest ISO) runs an independent RTCA. The GO and ISO periodically compare the results of their analyses to further assure reasonable results. Because many of the Midwest ISO (MISO) transmission owning member companies have similar RTCA programs, there are many opportunities to compare the results. This results in a high confidence that the RTCA results are accurate. However, if the resultant voltages are outside of the criteria, when they are predicted to be within, both the GO and MISO would initiate an investigation.

c) NMC acceptance for PINGP is based on the GO's acceptance. The GO's acceptance is based on their experience with using the application. If the GO suspects the Security Analysis results are inaccurate they can utilize their other analysis tools (Powerflow Analysis, Power Technologies International - Power System Simulator for Engineering loadflow) to check the Security Analysis results.