September 22, 2005

EA-05-175

Mr. John T. Conway
Site Vice President, Monticello Nuclear Generating Plant
Nuclear Management Company, LLC
Monticello Nuclear Generating Plant
2807 West County Road 75
Monticello, Minnesota 55362-9637

SUBJECT: REVISED NOTICE OF VIOLATION (INSPECTION REPORT 05000263/2005003); MONTICELLO NUCLEAR GENERATING PLANT

Dear Mr. Conway:

Thank you for your response by letter dated August 26, 2005, to the subject inspection report issued on July 27, 2005, concerning activities conducted at your facility. In your response, you denied a Notice of Violation (NOV) contained in the inspection report, associated with a failure to notify the NRC within eight hours of a partial actuation of the Primary Containment Isolation System (PCIS), Group II isolation on April 2, 2005, in accordance with 10 CFR 50.72 (b)(3)(iv)(A) and (B).

In your response, you indicated that: 1) the NOV included systems that were not referenced in 10 CFR 50.72(b)(3)(iv)(B); 2) the partial actuation of the PCIS, Group II isolation was not caused by a valid actuation signal, as defined in NRC NUREG-1022, Revision 2, "Event Reporting Guidelines 10 CFR 50.72 and 50.73;" and 3) an analogous condition, included as an example in NUREG-1022, was characterized as not reportable. Specifically, you noted that the Standby Gas Treatment and Control Room Emergency Filtration Systems were referenced in the NOV; however, these systems were not included in the applicable 10 CFR 50.72 reporting requirement. You also concluded that the radiation monitor, loss of power, upscale trip signal to the PCIS was not a part of the safety function of the radiation monitors; therefore, the loss of power, upscale trip signal should not be considered a valid actuation signal for the PCIS, Group II isolation. Finally, you noted that the conditions present immediately prior to the PCIS, Group II isolation were analogous to those presented in an example in NUREG 1022 for which the NRC had determined that conditions were not reportable.

The NRC conducted a detailed review of your response and the applicable licensing and regulatory documents. The review was conducted by NRC staff that were independent of the initial inspection effort and the results were reviewed by the NRC Office of Enforcement. After careful consideration of the bases for your denial of the NOV, we have concluded that a violation of 10 CFR 50.72(b)(3)(iv)(A) occurred as described in the subject inspection report. We also determined that the reporting violation was limited to your failure to report the partial

actuation of the PCIS, Group II isolation. Therefore, we have revised the violation originally provided to you as an attachment to the subject inspection report. A summary of our evaluation, conclusions, and the revised violation are provided as enclosures to this letter.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure and your response will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS), accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Geoffrey E. Grant
Deputy Regional Administrator

Docket No. 50-263
License No. DPR-22

Enclosures: 1. NRC Evaluation and Conclusions
2. Revised NOV

cc w/encls: J. Cowan, Executive Vice President
and Chief Nuclear Officer
Manager, Regulatory Affairs
J. Rogoff, Vice President, Counsel, and Secretary
Nuclear Asset Manager, Xcel Energy, Inc.
Commissioner, Minnesota Department of Health
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Minnesota Environmental Control Citizens
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OFFICE	RIII		NRR	RIII		RIII		RIII	
NAME	Kozak, T.		Nolan[1]	Satorius		O'Brien		Grant	
DATE	9/21/05		9/21/05	9/21/05		09/21/05		09/22/05	

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[1]Concurrence from HQ in 9/21/05 e-mail from D. Starkey, OE, to Ken O'Brien, RIII

MONTICELLO NUCLEAR GENERATING PLANT
INSPECTION REPORT 05000263/2005003
DISPUTED VIOLATION EVALUATION AND CONCLUSIONS

Notice of Violation 05000263/2005003

Summary of the event:

On April 2, 2005, with the reactor shutdown and in a refueling outage, the licensee was performing a surveillance procedure as post-maintenance testing for a relay replacement activity. As a result of a procedural error, the licensee failed to re-close test switches necessary to re-power the essential bus transfer (EBT) relays. Following the completion of additional procedural steps, the EBT logic sensed a loss of Bus 16 voltage and attempted to transfer the Bus 16 loads to alternate power sources (the 1AR Transformer or 12 Emergency Diesel Generator, both of which had been properly removed from service).

As a result of the loss of power from Bus 16, the licensee lost power to the 'B' Reactor Protection System (RPS) Bus, including the "B-side" Refueling Floor and Reactor Building Plenum Radiation Monitors (two separate monitor systems). Following the loss of power event, the radiation monitors registered an upscale trip condition and completed the logic necessary to cause a partial actuation of the Primary Containment Isolation System (PCIS), Group II logic. The radiation monitor trip outputs were combined in the PCIS logic such that an upscale trip on either side initiated a Reactor Building Ventilation shutdown, closure of the Secondary Containment Isolation damper, initiation of the Standby Gas Treatment System, initiation of the Control Room Emergency-Filtration Train System and closure of a select set of Group II primary containment isolation valves. During the loss of power condition the radiation monitoring systems functioned as designed.

Summary of Licensee's Response to the Notice of Violation (NOV):

The licensee presented the following key points in support of its dispute of the violation:

1) Not all of the systems listed in the NOV were associated with the reportability requirements of 10 CFR 50.72(b)(3)(iv)(A). Specifically, the licensee indicated that the 'A' Standby Gas Treatment System, and the 'A' Control Room Emergency Filtration Train System were not included in the systems listed under 10 CFR 50.72(b)(3)(iv)(B); therefore, an actuation of these systems was not reportable under 10 CFR 50.72(b)(3)(iv)(A). The licensee further indicated that actuations involving the PCIS, Group II isolation and the Reactor Building Ventilation Systems (Secondary Containment damper), in this case, would be reportable under the requirements of 10 CFR 50.72(b)(3)(iv)(A).

2) The licensee stated that the design bases for the Refueling Floor and Reactor Building Plenum Radiation Monitors was to provide actuation inputs to the PCIS logic based upon the presence of high radiation conditions. Therefore, a "valid" signal from the radiation monitors to the PCIS logic would have to include actual high radiation

conditions. The licensee did not consider the radiation monitors, loss of power, upscale trip signal to the PCIS logic to constitute a "valid" signal based upon an actual plant condition (or parameter). Therefore, a PCIS actuation on a loss of power to the radiation monitors was not a safety function for the system. The licensee cited an Example 1 "RPS Actuation," in NUREG-1022, Revision 2, "Event Reporting Guidelines 10 CFR 50.72 and 50.73," on pages 49 and 50, as supporting evidence for its assessment that the actuation was not reportable.

3) The licensee stated that the conditions which led to the PCIS, Group II actuation were directly analogous to those presented as Example 7 on page 52 of NUREG-1022. The example involved unintended system actuations during a maintenance activity as the result of a loss of continuity following the movement of a jumper.

NRC's Evaluation of Licensee's Response

Region III conducted an independent review of the issues associated with the NOV. The results of the staff's review were as follows:

1) Systems Included Under 10 CFR 50.72(b)(3)(iv)(A) and (B)

The staff confirmed that the 'A' Standby Gas Treatment, 'A' Control Room Emergency Filtration Trains and the Reactor Building ventilation systems were not listed under 10 CFR 50.72(b)(3)(iv)(B). The only system impacted by the loss of power to the radiation monitors was the PCIS. Therefore, the violation of 10 CFR 50.72(b)(3)(iv)(A) should be modified to only reference the PCIS.

2) Valid Versus Invalid Actuations

The staff considered the licensee's definition of the design and safety functions of the radiation monitors to be incomplete with regard to the "valid" signals intended to cause an actuation of the PCIS, Group II isolation. Specifically, the staff noted that 10 CFR 50, Appendix A, "General Design Criteria" (GDC), Criterion 23, "Protection System Failure Modes," requires, in part, that: "protection systems be designed to fail into a safe state or into a state demonstrated to be acceptable on some other design basis if conditions such as disconnection of the system, loss of energy (e.g., electrical power, instrument air), or postulated adverse environments (e.g., extreme heat or cold, or fire, pressure, steam, water, and radiation) are experienced." The licensee is committed to Draft GDC, Criterion 26, "Protection System Fail-Safe Design," per its Updated Final Safety Analysis Report (UFSAR), Appendix E, Section 2.4 which is equivalent to 10 CFR 50, Appendix A, Criterion 23.

The Refueling Floor and Reactor Building Plenum Radiation Monitors were designed to fail into a safe state on loss of power (as required by Draft GDC, Criterion 26) by registering an upscale tripped condition with a resultant partial PCIS, Group II actuation. The NRC staff noted that the loss of Bus 16 power and resultant loss of the Reactor

Protection System, Bus B power caused an upscale/loss of power signal from the 'B-side' Refueling Floor Radiation and the Reactor Building Plenum Radiation Monitors. The trip signal provided by these two subsystems was a valid signal to initiate the partial PCIS, Group II actuation consistent with its fail-safe design function to initiate the PCIS, Group II isolation on a loss of power to the radiation monitors. Based on these safety function design considerations, the staff concluded that partial actuation of the PCIS, Group II isolation on loss of power to Bus-16 was a valid actuation of the system based upon a sensed "actual plant condition or parameter", available power, necessary for the system to meet its design safety function, i.e., to actuate on a loss of power condition associated with the radiation monitors.

The staff determined that the radiation monitors, loss of power, upscale trip signal to the PCIS, Group II initiation logic was consistent with the information included in Example 1 on pages 49 and 50 of NUREG-1022. Specifically, the PCIS, Group II actuation was a result of the radiation monitors sensing an actual plant condition, a loss of power to the monitors, and generating the upscale trip signals consistent with its design safety function to initiate a PCIS, Group II actuation upon either a sensed, actual high radiation condition or a loss of power condition which could mask the presence of an actual high radiation condition.

3) Analogous NUREG-1022 Example

The staff determined that the conditions associated with the actuation signal generation were not analogous to those discussed in Example 7, "Actuation During Maintenance Activity" of NUREG-1022. Specifically, the Example 7 actuation signal resulted from a loss of continuity of a jumper used to prevent an actuation signal during maintenance, a situation that did not involve actual plant conditions or parameters being present that would normally cause a system actuation. In the Monticello case, the PCIS actuation signal was generated as a direct result of the radiation monitors sensing an actual plant condition or parameter that existed and was a part of the safety function of the system. That is, the radiation monitor system was designed to cause a PCIS Group II isolation on either a sensed high radiation condition or a loss of power. The latter function was included in the system design in order to meet single failure criteria and, more importantly, to ensure that conditions, which may result in a radiation release concurrent with or independent of a loss of power, would not prevent the safety system from performing its design function.

Finally, the staff determined that Example 3 on page 51 of NUREG-1022 was a more appropriate example to illustrate the reportability guidance for the Monticello event. Example 3 documents an event in which an emergency diesel generator was automatically started when a technician inadvertently caused a short circuit that de-energized an essential bus during a calibration. The actuation was valid because the actuation signal was the result of the system sensing an actual plant condition or parameter for which the system was designed to respond, i.e., the essential bus was

de-energized. The event was reportable because the emergency diesel generator auto-start was not an expected condition or outcome at the step in the calibration procedure being implemented. The Monticello partial PCIS, Group II isolation is analogous to this example because the radiation monitors responded to an actual loss of power condition, consistent with its safety design.

NRC Conclusion

Based upon the independent review, the staff determined that the partial Primary Containment Isolation System, Group II actuation, as described in NRC Inspection Report 05000263/2005003, was the result of a valid signal and met the requirements of 10 CFR 50.72(b)(3)(iv)(A) that required the licensee to make an 8-hour report to the NRC. The staff also determined that the licensee's response did not provide sufficient justification for the NRC to retract the violation. However, the NRC will modify the violation to accurately reflect the system actuation that was reportable.

NOTICE OF VIOLATION

During an NRC inspection conducted from April 1, 2005, through June 30, 2005, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy the violation is listed below:

> Section (b)(3)(iv)(A) of 10 CFR 50.72 requires the licensee to notify the NRC Operations Center as soon as practical and in all cases within eight hours of the occurrence of any event or condition that results in a valid actuation of any of the systems listed in paragraph (b)(3)(iv)(B) except when the actuation results from and is part of a pre-planned sequence during testing or operation.
>
> Contrary to the above, on April 2, 2005, the licensee failed to make a required notification to the NRC when it experienced a valid partial Primary Containment Isolation System, Group II actuation, a system specified under 10 CFR 50.72 as being reportable upon a valid actuation. As of June 30, 2005, the licensee failed to notify the NRC Operations Center, a period in excess of eight hours.

This is a Severity Level IV violation (Supplement I).

Pursuant to the provisions of 10 CFR 2.201, Nuclear Management Company is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555 with a copy to the Regional Administrator, Region III, and a copy to the NRC Resident Inspector at the facility that is the subject of this Notice, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include: (1) the reason for the violation, or if contested, the basis for disputing the violation or severity level, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given for extending the response time.

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington DC 20555-0001.

Because your response will be made available electronically for public inspection in the NRC Public Document Room or from the Publically Available Records (PARS) component of the NRC's document system (ADAMS), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction. ADAMS is accessible from the NRC Web site at http://www.nec.gov/NRC/ADAMS/index.html (the Public Electronic Reading Room).

If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the basis for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days.

Dated this 22nd day of September, 2005