



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, IL 60532-4352

April 9, 2010

EA-10-031

Mr. Mark A. Schimmel
Site Vice President
Prairie Island Nuclear Generating Plant
Northern States Power Company, Minnesota
1717 Wakonade Drive East
Welch, MN 55089

**SUBJECT: PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2
NRC INSPECTION REPORT 05000282/2010503(DRS);
05000306/2010503(DRS) PRELIMINARY WHITE FINDING**

Dear Mr. Schimmel:

On March 4, 2010, the U. S. Nuclear Regulatory Commission (NRC) completed an Emergency Preparedness inspection at your Prairie Island Nuclear Generating Plant, Units 1 and 2. The enclosed report documents the inspection findings, which were discussed on March 4, 2010, with you and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspector reviewed selected procedures and records, observed activities, and interviewed personnel.

The enclosed inspection report discusses a finding that appears to have low to moderate safety significance (White) that may require additional inspection. As documented in Section 1EP4 of this report, a finding was identified for failure to follow and maintain in effect emergency plans which use a standard emergency classification and action level scheme. Specifically, the licensee's emergency plan Alert emergency action levels (EALs) RA1.1 and RA1.2 specified instrument threshold values that were beyond the indicated ranges of the effluent radiation monitors. This finding was assessed based on the best available information, using the Emergency Preparedness Significance Determination Process (SDP). The final resolution of this finding will be conveyed in separate correspondence.

The finding is also an apparent violation of NRC requirements and is being considered for escalated enforcement action in accordance with the Enforcement Policy, which can be found on the NRC's Web site at <http://www.nrc.gov/reading-rm/doc-collections/enforcement>.

In accordance with NRC Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," we intend to complete our evaluation using the best available information and issue our final determination of safety significance within 90 days of the date of this letter. Although the SDP encourages an open dialogue between the NRC staff and the licensee, the dialogue should not impact the timeliness of the staff's final determination.

Before we make a final decision on this matter, we are providing you with an opportunity: (1) to attend a Regulatory Conference where you can present to the NRC your perspective on the facts and assumptions the NRC used to arrive at the finding and assess its significance; or (2) submit your position on the finding to the NRC in writing. If you request a Regulatory Conference, it should be held within 30 days of the receipt of this letter and we encourage you to submit supporting documentation at least one week prior to the conference in an effort to make the conference more efficient and effective. If a Regulatory Conference is held, it will be open for public observation. If you decide to submit only a written response, such submittal should be sent to the NRC within 30 days of your receipt of this letter. If you decline to request a Regulatory Conference or submit a written response, you relinquish your right to appeal the final SDP determination, in that by not doing either, you fail to meet the appeal requirements stated in the Prerequisite and Limitation sections of Attachment 2 of IMC 0609.

Please contact Mr. Hironori Peterson, Chief, Operations Branch, at 630-829-9707 within ten days from the issue date of this letter to notify the NRC of your intentions. If we have not heard from you within ten days, we will continue with our significance determination and enforcement decision. The final resolution of this matter will be conveyed in separate correspondence.

Because the NRC has not made a final determination in this matter, no Notice of Violation is being issued for this inspection finding at this time. In addition, please be advised that the characterization of the apparent violation described in the enclosed inspection report may change as a result of further NRC review.

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

Sincerely,

/RA/

Anne T. Boland, Director
Division of Reactor Safety

Docket Nos. 50-282; 50-306
License Nos. DPR-42; DPR-60

Enclosure: Inspection Report 05000282/2010503; 05000306/2010503
w/Attachment: Supplemental Information

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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 50-282; 50-306

License Nos: DPR-42; DPR-60

Report No: 05000282/2010503; 05000306/2010503

Licensee: Northern States Power Company, Minnesota

Facility: Prairie Island Nuclear Generating Plant, Units 1 and 2

Location: Welch, MN

Dates: July 13, 2009 through March 4, 2010

Inspector: Robert Jickling, Senior Emergency Preparedness Inspector

Approved by: Hironori Peterson, Chief
Operations Branch
Division of Reactor Safety

Enclosure

SUMMARY OF FINDINGS

IR 05000282/2010503, 05000306/2010503; 07/13/2009 - 03/04/2010; Prairie Island Nuclear Generating Plant, Units 1 and 2; Emergency Action Level and Plan Changes

This report covered an inspection by a regional emergency preparedness inspector. One finding of potential White safety significance and an associated Apparent Violation (AV) were identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process."

Cornerstone: Emergency Preparedness

- Apparent Violation. A licensee identified finding and associated Apparent Violation (AV) of 10 CFR 50.54(q) and 10 CFR 50.47(b)(4) was identified for the failure to follow and maintain in effect emergency plans which use a standard emergency classification and action level scheme. Specifically, the licensee's emergency plan Alert emergency action levels (EALs) RA1.1 and RA1.2 specified instrument threshold values that were beyond the indicated ranges of the effluent radiation monitors.

The performance deficiency was determined to be more than minor because the deficiency, if left uncorrected, would have the potential to lead to a more significant safety concern. Specifically, in the event of a radiological emergency, the deficiency could lead to the failure to declare two Alert conditions in a timely manner. The finding was evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Appendix B. Using the "Failure to Comply" flowchart, the performance deficiency screened as a risk significant planning standard problem. The inspector determined the problem was a degraded function, rather than function failure, because even though the two Alerts (RA1.1 and RA1.2) would not be able to be declared due to the EAL threshold values being beyond the range of the associated instruments, an Alert could be declared, although in a delayed manner, using RA1.3 which is based on a sample results. The degraded risk significant planning standard function resulted in a preliminary White finding.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstone: Emergency Preparedness

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

.1 (Closed) Unresolved Item 05000282/2009004-04; 05000306/2009004-04: Potential Non-Compliance for EALs RA1.1 and RA1.2

a. Inspection Scope

The inspector completed a screening review of revisions made to the licensee's emergency plan to determine whether the changes identified in those revisions may have reduced the effectiveness of the licensee's emergency plan. The screening review of these revisions does not constitute approval of the changes and, as such, the changes are subject to future NRC inspection to ensure the emergency plan continues to meet NRC regulations. Documents reviewed are listed in the Attachment to this report. The inspector also reviewed licensee actions to resolve identified problems with effluent radiation monitors and emergency plan emergency action levels (EALs).

This emergency action level and emergency plan changes inspection constituted one sample as defined in IP 71114.04-05.

b. Findings

Introduction: A licensee identified preliminary White finding with low to moderate safety significance and associated Apparent Violation (AV) of 10 CFR 50.54(q) and 10 CFR 50.47(b)(4) was identified for the failure to follow and maintain in effect emergency plans which use a standard emergency classification and action level scheme. Specifically, the licensee's emergency plan Alert emergency action levels (EALs) RA1.1 and RA1.2 specified instrument threshold values that were beyond the indicated ranges of the effluent radiation monitors.

Description: In November 2005, Prairie Island submitted a revision to their EAL scheme to the NRC for approval which was subsequently implemented on January 18, 2006. During an NRC emergency preparedness program inspection in July 2009, the inspector discussed the licensee's identification of an issue associated with this change.

The issue involved threshold values for declaring Alert emergencies for releases of radioactivity to the environment greater than 200 times the radiological effluent technical specifications/offsite dose calculation manual (ODCM) for 15 minutes or longer. Their EAL threshold values (e.g., 200 times ODCM limit) for declaring Alert emergencies were higher than the instrument range capabilities for the R-18 waste effluent liquid monitor and the spent fuel pool vent radiation effluent monitors R-25 and R-31.

Prairie Island staff provided documents and records concerning their EAL threshold values and radiation monitors ranges. These documents identified a problem with emergency plan EALs RA1.1 and RA1.2, after the new EAL scheme was implemented in 2006, The licensee initiated corrective action program (CAP) 01026385 to document

and evaluate EALs RA1.1 and RA1.2 for clarification regarding the radiation monitor ranges and the EAL threshold values. This CAP identified EALs RA1.1 and RA1.2 had Alert threshold values that were higher than the R-18, R-25, and R-31 radiation monitors ranges. Prairie Island believed through discussions with the industry and the NRC, the use of sampling and analysis results would be acceptable when instrument ranges were exceeded. The licensee indicated that there were no documents or records made of the discussions with the industry or NRC staff.

The Prairie Island's corrective actions resulting from CAP 01026385 included adding a note to Revision 1 of the EALs (implemented March 30, 2007) which indicated if 200 times the offsite dose calculation manual alarm reading exceeded the instrument range, the classification should be made based on RA1.3 (EAL RA1.3 required an Alert emergency be declared for a confirmed sample analysis for gaseous or liquid releases in excess of 200 times the offsite dose calculation manual limits (ODCM) lasting 15 minutes or longer).

Between March 2007 and November 2008, the licensee would have relied upon sampling and analysis as a means for determining if the EAL thresholds had been met for declaring an Alert emergency. On November 18, 2008, CAP 01159643 was initiated to document Prairie Island's EALs RA1.1 and RA1.2 may not be in compliance with regulatory requirements, based on NRC enforcement actions for a similar issue at another nuclear generating station. Corrective actions to revise EALs RA1.1 and RA1.2 threshold values were initiated from this CAP, but were delayed due to the misinterpretation that a change to the EAL threshold values would be a deviation from the NRC approved scheme.

On June 5, 2009, Prairie Island implemented their corrective actions and revised EALs RA1.1 and RA1.2 to be within the ranges of the specified radiation monitors. In Revision 3 of the EALs, the licensee lowered RA1.1 and RA1.2 thresholds within the range of waste effluent liquid monitor R-18. For gaseous radiation monitors R-25 and R-31, the licensee lowered the offsite dose calculation manual limits to within the instrument ranges.

Prairie Island staff documented their EAL threshold value and radiation monitoring instrument range issue in an apparent cause evaluation in CAP 011839337, initiated on June 12, 2009. The cause evaluation summary identified that the failure to promptly identify and correct the issue was a result of faulty assumptions used during the initial EAL revision and corrective action processes.

Analysis: The inspector concluded that the failure to maintain in effect emergency plans which meet the regulations and standards and have a standardized EAL scheme in use based on facility system and effluent parameters from January 18, 2006 through June 5, 2009, was a performance deficiency.

The performance deficiency was screened to be more than minor because the deficiency, if left uncorrected, would have the potential to lead to a more significant safety concern. Specifically, in the event of a radiological emergency, the deficiency could lead to the failure to declare two Alert conditions in a timely manner.

The performance deficiency meets the SDP criteria for an EAL classification process which would not declare more than one Alert. The failure to maintain a standardized

EAL scheme in use based on facility system and effluent parameters was a result of assumptions by the licensee that if the range of the effluent radiation monitors in the control room was exceeded, then it was acceptable to obtain a sample from the effluent pathway, analyze the sample, and report the results to the control room to declare the Alert level events. The belief that sampling and analysis could replace the instrumentation readings, specified in EALs RA1.1 and RA1.2 thresholds, continued until October 2008 when another nuclear plant was issued preliminary enforcement actions for a similar issue.

The finding was evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Appendix B. Using the "Failure to Comply" flowchart, the performance deficiency screened as a risk significant planning standard problem. The inspector determined the problem was a degraded risk significant planning standard function, rather than a loss of function. The two Alerts (RA1.1 and RA1.2) would not be declared due to the EAL threshold values being beyond the range of the associated instruments. However, an Alert could still be declared, although in a delayed manner, using RA1.3 which would be based on a sample results. The degraded risk significant planning standard function resulted in a preliminary White finding.

Enforcement: Title 10 of the Code of Federal Regulations, Part 50.54(q) requires, in part, a licensee shall follow and maintain in effect emergency plans which meet the standards in 50.47(b). The requirements of 10 CFR 50.47(b)(4) requires, in part, that an emergency plan must have a standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee and State and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures.

Contrary to the above, from January 18, 2006 through June 5, 2009, Prairie Island failed to maintain a standard emergency classification scheme, which included facility system and effluent parameters that the State and local response plans can rely on for information to determine minimum initial offsite response measures. Specifically, the licensee's emergency plan Alert EALs RA1.1 and RA1.2 specified instrument threshold values that were beyond the indicated ranges of the effluent radiation monitors R-18, R-25, and R-31. Pending determination of safety significance, this finding was identified as an apparent violation **(AV) 05000282/2010503-01; 05000306/2010503-01**, Failure to Maintain a Standard Emergency Action Level Scheme. This closes URI 05000282/2009004-04; 05000306/2009004-04, Potential Non-Compliance for Emergency Action Levels RA1.1 and RA1.2.

40A6 Management Meetings

.1 Exit Meeting Summary

On March 4, 2010, the inspector presented the inspection results to you and other members of the licensee staff by teleconference. The licensee acknowledged the issues presented. The inspector confirmed that none of the potential report input discussed was considered proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

M. Schimmel, Site Vice President
M. Agen, Senior Emergency Plan Coordinator
J. Anderson, Regulatory Affairs Manager
T. Burr, Emergency Planning Coordinator
M. Davis, Regulatory Affairs
S. DiPasquale, Regulatory Affairs
A. Hass, Emergency Planning Coordinator
M. Klee, Emergency Planning Coordinator
L. Kuehl, Communications
S. Martin, Nuclear Oversight
J. Muth, Nuclear Oversight Manager
J. Nemcek, M. Davis, Regulatory Affairs
K. Peterson, Business Support Manager
G. Salamon, Director of Nuclear Licensing and Emergency Planning
B. Sawatzke, Director Site Operations
R. Seipel, Nuclear Oversight
D. Sheely, Communications Consultant
L. Sueper, Regulatory Affairs

NRC

H. Peterson, Chief, Operations Branch, Division of Reactor Safety
K. Stoedter, Senior Resident Inspector
R. Lerch, Project Engineer

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

05000282/2010503-01; 05000306/2010503-01	AV	Failure to Maintain a Standard Emergency Action Level Scheme (Section 1EP4)
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Closed

05000282/2009004-04; 05000306/2009004-04	URI	Potential Non-Compliance for Emergency Action Levels RA1.1 and RA1.2 (Section 1EP4)
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Discussed

None

LIST OF DOCUMENTS REVIEWED

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspector reviewed the documents in their entirety, but rather, that selected sections of portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

1EP4 Emergency Action Level and Emergency Plan Changes

F3-2.1; Emergency Action Level Technical Bases; Revisions 0, 1, 2, 3, and 4

CAP 01183937; Evaluate Organizational Issues for CAP 01159643

CAP 01183937; Apparent Cause Evaluation; Revision 3

CAP 01159643; Emergency Plan EALs RA1.1 and RA1.2 May Not Be in Compliance

CAP 01026385; Evaluate EALs RA1.1 and RA1.2 for Clarification on Radiation Monitors

LIST OF ACRONYMS USED

ACE	Apparent Cause Evaluation
ADAMS	Agencywide Document Access Management System
AV	Apparent Violation
CAP	Corrective Action Program Document
CFR	Code of Federal Regulations
DRS	Division of Reactor Safety
EAL	Emergency Action Levels
IMC	Inspection Manual Chapter
NRC	U. S. Nuclear Regulatory Commission
ODCM	Offsite Dose Calculation Manual
PARS	Publicly Available Records
SDP	Significance Determination Process
URI	Unresolved Item

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Sincerely,

/RA/

Anne T. Boland, Director
Division of Reactor Safety

Docket Nos. 50-282; 50-306
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SEE PREVIOUS CONCURRENCES

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Letter to Mark A. Schimmel from Anne T. Boland, dated April 9, 2010.

SUBJECT: PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2
NRC INSPECTION REPORT 05000282/2010503(DRS);
05000306/2010503(DRS) PRELIMINARY WHITE FINDING

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