May 6, 2009

EA-08-349

Mr. Michael D. Wadley
Site Vice President
Prairie Island Nuclear Generating Plant
Northern States Power Company-Minnesota
1717 Wakonade Drive East
Welch, MN 55089

SUBJECT: FINAL SIGNIFICANCE DETERMINATION OF WHITE FINDING AND NOTICE OF VIOLATION; NRC INSPECTION REPORT NO. 05000282/2009008; 05000306/2009008; PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2

Dear Mr. Wadley:

This letter provides you the final significance determination of the preliminary Yellow finding discussed in our previous communication dated February 10, 2009, which provided Inspection Report Number 05000282/2008009; 05000306/2008009 (ML090410466). The finding involved the shipment of a package containing radioactive material, via an exclusive-use open transport vehicle. When the package arrived at its destination, the detected radiation levels exceeded Nuclear Regulatory Commission (NRC) regulations, which invoke the Department of Transportation requirements limiting the radiation level on the surface of a package shipped in an open transport vehicle to 200 millirem per hour.

At your request, a Regulatory Conference was held on March 17, 2009, to further discuss your views on this issue. During the conference, you and your staff described your assessment of the significance of the finding, and the corrective actions taken to resolve it, including the root cause evaluation of the finding. Specifically, your assessment of the significance of the finding focused on the appropriateness of the different radiation detectors used to accurately characterize the true dose rate for the source of the radiation. You presented information to support your belief that an ion chamber detector was the appropriate instrument to be used, due to the detector's slower response and its ability to accurately measure the true dose rate. You also provided information to support your belief that a Geiger-Mueller detector would greatly overestimate the actual dose rate. Therefore, you concluded that a White significance was the appropriate outcome.

On March 26, 2009, your staff provided supplemental information in response to NRC questions raised during the Regulatory Conference (ML090890369). After reviewing the information developed during the inspection and provided during and after the conference, we determined that both instruments provided valid measurements of the radiation levels near the surface of the package. The differences in the instrument responses appeared to be primarily due to the differences in detector geometries and response characteristics. While both

instruments provided measured radiation levels that exceeded the regulatory limit of 200 millirem per hour, the significance assessed using the public radiation safety Significance Determination Process (SDP) resulted in different significance levels depending on the instrument used.

The source of the radiation was from a discrete radioactive particle, which was a point source. The NRC is aware that the biological effect of exposure to point sources of radiation is less than that from an equivalent exposure to the whole body resulting from exposure to broader beams of radiation. However, this risk insight is not fully factored into the current public radiation safety cornerstone SDP, whose risk outcomes are based solely on the radiation level at the surface of a package relative to the regulatory limits. In this particular case, the source of radiation, the discrete radioactive particle, was located on the underside of the package in an area that was not readily accessible to a member of the public during transport. Therefore, because of the limited actual radiological risk to the public, the NRC determined that the application of Inspection Manual Chapter 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," was more appropriate to evaluate the actual public radiation safety significance of this finding.

The NRC used the results of the measurements obtained at the receipt of the package and the relative risk from the point radiation source to develop the significance of the finding. As stated above, both radiation detection instruments measured radiation levels that exceeded the regulatory limit, which provides a level of protection to a member of the public that may come into contact with the shipment. Although no exposures to the public resulted from the shipment, the potential consequences could have been greater under less favorable circumstances. Any shipment with radiation levels that exceed regulatory limits can be potentially significant, and in this case the risk was more than minimal. Based on this assessment and after considering the information developed during the inspection, the information you provided at the conference, and the supplemental information, the NRC has concluded that the finding is appropriately characterized as White, a finding with low to moderate increased importance to safety that may require additional NRC inspections.

You have 30 calendar days from the date of this letter to appeal the staff's determination of significance for the identified White finding. Such appeals will be considered to have merit only if they meet the criteria given in the NRC Inspection Manual Chapter 0609, Attachment 2.

The NRC has determined that the failure to properly characterize, prepare, and ship a package containing radioactive material and the failure to provide adequate training to workers who were involved in the preparation of the package for transport are violations of 10 CFR 71.5, which invokes 49 CFR 173.441(a) and 49 CFR 172.704, as cited in the enclosed Notice of Violation (Notice). The circumstances surrounding the violations were described in detail in the subject inspection report. In accordance with the NRC Enforcement Policy, the Notice is considered escalated enforcement action because it is associated with a White finding.

The NRC has concluded that the information regarding the reason for the violations, the corrective actions taken and planned to correct the violations and prevent recurrence, and the date when full compliance was achieved were adequately addressed at the Regulatory Conference and on the docket (ML090790543 and ML090700284). Therefore, you are not required to respond to this letter unless the description therein does not accurately reflect your corrective actions or your position.

As a result of our review of Prairie Island Units 1 and 2 performance, including this White finding, we have assessed you to be in the Regulatory Response column of the NRC's Action Matrix. Therefore, we plan to conduct a supplemental inspection using Inspection Procedure 95001, "Inspection for One or Two White Inputs in a Strategic Performance Area," when your staff has notified us of your readiness for this inspection. This inspection procedure is conducted to provide assurance that the root cause and contributing causes of risk significant performance issues are understood, the extent of condition is identified, and the corrective actions are sufficient to prevent recurrence.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response, if you choose to provide one, 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. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction.

Sincerely,

/RA/

Mark A. Satorius
Regional Administrator

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

Enclosure:
Notice of Violation

cc w/encl: D. Koehl, Chief Nuclear Officer
Regulatory Affairs Manager
P. Glass, Assistant General Counsel
Nuclear Asset Manager
J. Stine, State Liaison Officer, Minnesota Department of Health
Tribal Council, Prairie Island Indian Community
Administrator, Goodhue County Courthouse
Commissioner, Minnesota Department of Commerce
Manager, Environmental Protection Division
Office of the Attorney General of Minnesota
Emergency Preparedness Coordinator, Dakota
County Law Enforcement Center

As a result of our review of Prairie Island Units 1 and 2 performance, including this White finding, we have assessed you to be in the Regulatory Response column of the NRC's Action Matrix. Therefore, we plan to conduct a supplemental inspection using Inspection Procedure 95001, "Inspection for One or Two White Inputs in a Strategic Performance Area," when your staff has notified us of your readiness for this inspection. This inspection procedure is conducted to provide assurance that the root cause and contributing causes of risk significant performance issues are understood, the extent of condition is identified, and the corrective actions are sufficient to prevent recurrence.

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Sincerely,
/RA/

Mark A. Satorius
Regional Administrator

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

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P. Glass, Assistant General Counsel
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DATE	05/04/09	05/01/09	05/04/09	05/04/09	04/30/09	04/30/09	05/05/09	05/05/09

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1 OE concurrence per N. Hilton received via e-mail from Gregory Bowman on April 30, 2009.
2 NRR concurrence per R. Pedersen received via e-mail from Gregory Bowman on April 30, 2009.

Letter to Mr. Michael D. Wadley from Mr. Mark A. Satorius dated May 6, 2009

SUBJECT: FINAL SIGNIFICANCE DETERMINATION OF WHITE FINDING AND NOTICE OF VIOLATION; NRC INSPECTION REPORT NO. 05000282/2009008; 05000306/2009008; PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2

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NOTICE OF VIOLATION

Northern States Power Company – Minnesota
Prairie Island Nuclear Generating Plant, Units 1 and 2

Docket Nos. 50-282; 50-306
License Nos. DPR-42; DPR-60
EA-08-349

During an NRC inspection conducted on November 17, 2008 through January 21, 2009, two violations of NRC requirements were identified. In accordance with the NRC Enforcement Policy, the violations are listed below:

Title 10 CFR 71.5, "Transportation of Licensed Material," requires licensees to comply with the Department of Transportation (DOT) regulations in Title 49 CFR parts 170 through 189 relative to the transportation of licensed material. Specifically,

1) Title 49 CFR 173.441(a) requires that each package of radioactive material offered for transportation must be designed and prepared for shipment, so that under conditions normally incident to transportation, the radiation level does not exceed 2 millisievert per hour (200 millirem per hour) at any point on the external surface of the package.

   Contrary to the above, on October 29, 2008, the licensee shipped a package containing radioactive material that was not designed or prepared to assure that, under conditions normally incident to transportation, the radiation level on the external surface of the package would not exceed 200 mrem per hour.

2) Title 49 CFR 172.704, "Training Requirements," requires that individuals involved in the transport of hazardous materials receive function specific training relative to their specific tasks, and that these individuals receive recurrent training at least once every three years.

   Contrary to the above, as of October 29, 2008, five people involved in preparing a package for radioactive shipment and transport had not received the required function-specific training.

These violations are associated with a White Significance Determination Process finding.

The NRC has concluded that information regarding the reason for the violations, the corrective actions taken and planned to correct the violations and prevent recurrence and the date when full compliance was achieved was adequately addressed on the docket in Inspection Report No. 05000282/2008009; 05000306/2008009, at the Regulatory Conference, and in your letter dated March 26, 2009. However, you are required to submit a written statement or explanation pursuant to 10 CFR 2.201 if the description therein does not accurately reflect your corrective actions or your position. In that case, or if you choose to respond, clearly mark your response as a "Reply to a Notice of Violation, EA-08-349", and send it to the

U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001 with a copy to the Regional Administrator, Region III, and a copy to the Prairie Island Resident Inspectors, within 30 days of the date of the letter transmitting this Notice of Violation (Notice).

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.

If you choose to respond, your response 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. Therefore, to the extent possible, the response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction.

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

Dated this 6th day of May 2009