

February 28, 2005

Mr. Joseph Solymossy  
Site Vice-President  
Prairie Island Nuclear Generating Plant  
Nuclear Management Company, LLC  
1717 Wakonade Drive East  
Welch, MN 55089

SUBJECT: PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2  
NRC INSPECTION REPORT 07200010/2005-001(DNMS)

Dear Mr. Solymossy:

On February 2, 2005, the NRC completed a routine spent fuel storage inspection at the Prairie Island Nuclear Generating Plant. The purpose of this inspection was to determine whether a dry fuel cask, Number 18, was loaded and transferred to the Independent Spent Fuel Storage Installation safely and in accordance with applicable regulations. At the conclusion of the onsite inspection on February 2, the NRC inspectors discussed the findings with members of your staff.

This inspection consisted of examinations of dry fuel storage activities at the Prairie Island Nuclear Generating Plant as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. Areas examined during the inspection are identified in the enclosed report. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations of activities in progress, and interviews with personnel.

Based on the results of this inspection, the NRC did not identify any violations of NRC regulatory requirements. Overall, the loading activities and the spent fuel storage cask transfer were performed satisfactorily.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure 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). The NRC's document system is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

J. Solymossy

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We will gladly discuss any questions you may have regarding this inspection.

Sincerely,

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Jamnes L. Cameron, Chief  
Decommissioning Branch

Docket No. 07200010

Enclosure: Inspection Report 07200010/2005-001(DNMS)

cc w/encl: C. Anderson, Senior Vice President, Group Operations  
J. Cowan, Executive Vice President and Chief Nuclear Officer  
Regulatory Affairs Manager  
J. Rogoff, Vice President, Counsel & Secretary  
Nuclear Asset Manager  
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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No. 07200010

Report No. 07200010/2005-001(DNMS)

Licensee: Nuclear Management Company, LLC

Facility: Prairie Island Nuclear Generating Plant

Location: 1717 Wakonade Drive East  
Welch, MN 55089

Dates: January 18 through January 20, 2005  
January 31 through February 2, 2005

Inspector: Ross B. Landsman, Project Engineer  
Magdalena Gryglak, Reactor Inspector

Approved by: Jamnes L. Cameron, Chief  
Decommissioning Branch  
Division of Nuclear Materials Safety

## EXECUTIVE SUMMARY

### **Prairie Island Nuclear Generating Plant, Units 1 & 2 Prairie Island Inspection Report 07200010/2005-001(DNMS)**

This inspection included observation by the inspectors of various phases of the loading activities associated with the Independent Spent Fuel Storage Installation (ISFSI). The objective of this inspection was to establish whether the Prairie Island Generating Plant transferred fuel to spent fuel storage casks and subsequently to the ISFSI safely and in accordance with applicable regulations. Overall, the loading activities were performed satisfactorily.

#### **Operation of Independent Spent Fuel Storage Installation (IP 60855, IP 60855.1)**

- C The inspectors determined that the licensee's loading and transfer of cask Number 18 to the ISFSI was adequate and met the requirements in the Certificate of Compliance and associated Technical Specifications. (Section 1.0)

## Report Details

### 1.0 Operation of Independent Spent Fuel Storage Installation (IP 60855, IP 60855.1)

#### a. Inspection Scope

The inspectors evaluated selected activities associated with the licensee's loading of the 18th dry fuel storage cask and transfer of the cask to the Independent Spent Fuel Storage Installation (ISFSI) to verify compliance with the applicable Certificate of Compliance (CoC) conditions and associated Technical Specifications. The activities included loading of the cask with spent fuel, decontamination of the cask, placement and securing of the cask lid, installation of the neutron shield and the over pressure tank, and movement of the cask to the ISFSI pad.

#### b. Observations and Findings

The dry cask workers involved with each evolution associated with the loading and transfer of the storage cask attended pre-job briefings. Licensee management provided a detail description of planned activities and stressed the importance of personal safety. The briefings included an open forum where the dry cask team asked additional questions and sought clarifications. Also, the supervisor identified each worker's roles and responsibilities. During the loading process, workers completed the procedural tasks correctly. The loading procedure was closely followed with each step checked off as it was completed. Radiation protection controls were adequate. The team reinforced safety practices and exhibited good radiation worker practices. The inspector noted good communication between workers and health physics personnel. Management and quality control personnel were present on site during all stages of the dry cask loading activities, providing additional feedback and adequate supervision.

During the loading campaign, the licensee encountered an unexpected condition associated with the cask drain port. After removal of water from the cask, the licensee attempted to disconnect the Hansen quick-connect fitting and the nipple which was tack welded to the fitting in order to seal the port. After several attempts, the licensee removed the entire assembly including the adapter from the drain port which was screwed onto the cask lid. After removing the entire assembly, the licensee learned that the lack of proper lubrication between the nipple and the adapter and the tight clearance caused the nipple to jam inside the adapter. Immediately, upon discovery of the issue, the licensee generated a condition report documenting the situation (CAP 40635). The licensee previously experienced a similar problem during loading of cask Number 12. A safety evaluation was performed at that time that allowed removal of the adapter fitting permanently if realignment or galling prevents reinstallation. Removal of the drain fitting did not affect the Safety Analysis Report (SAR). The SAR specified the use of the drain fitting (adapter) or a drain lance as two alternatives to drain or refill water. As a result of the evaluation, the licensee decided to seal the drain port without reinstalling the drain port assembly. As part of the corrective actions, the licensee communicated this issue to the cask vendor. The vendor processed a Design Change Request (DCR) to add the proper lubricant for the Hansen coupling and nipple to drain tube adapter threaded connection. Also, the licensee revised its receipt procedure to include inspection of the entire drain port assembly ensuring the proper lubrication had been applied. In addition, after further questioning by the inspectors, the licensee included caution statements in the cask unloading procedure, D95.2. The statements caution users that cask Numbers

12 and 18 are missing the drain tube adapters to reduce the likelihood of unnecessary radiation exposure in the event that the fuel is unloaded from the cask.

c. Conclusions

The inspectors determined that the licensee's loading and transfer of cask Number 18 to the ISFSI was adequate and met the requirements in the CoC and associated Technical Specifications.

**2.0 Exit Meeting Summary**

The inspectors presented the preliminary results of the inspection to the licensee on January 20, 2005. On February 2, 2005, the inspectors presented the final inspection results to the licensee. The licensee acknowledged the findings presented and did not identify any documents or processes reviewed by the inspectors as proprietary.

**PARTIAL LIST OF PERSONS CONTACTED**

L. Clewett, Plant Manager  
W. Bodin, Shift Manager  
J. Kapitz, Superintendent, Nuclear Engineers  
J. Kivi, Senior Regulatory Compliance Engineer  
T. Morrison, Project Engineer-Dry Fuel Storage  
E. Perry, Nuclear Oversight Manager  
L. Samson, Project Manager  
R. Waterman, System Engineering-Fuel Storage

**INSPECTION PROCEDURE USED**

IP 60855      Operation of an Independent Spent Fuel Storage Installation  
IP 60855.1    Operation of an Independent Spent Fuel Storage Installation at Operating Plants

**ITEMS OPENED, CLOSED AND DISCUSSED**

Opened

None

Closed

None

Discussed

None

## LIST OF ACRONYMS USED

CoC	Certificate of Compliance
DCR	Design Change Request
ISFSI	Independent Spent Fuel Storage Installation
SAR	Safety Analysis Report

## LICENSEE DOCUMENTS REVIEWED

TN-40 Cask Loading Procedure, Revision 13, dated December 14, 2001.

TN-40 Cask Unloading Procedure, Revision 8, dated December 10, 2001.

TN-40 Cask Removal and Storage Procedure, Revision 10, dated December 20, 2001.

TN-40 Cask Receipt Procedure, Revision 14, dated December 8, 2004.

Empty TN-40 Cask Storage Procedure, Revision 7, dated November 11, 2001.

Empty TN-40 Cask Retrieval Procedure, Revision 5, dated November 30, 2001.

CAP 40635, "TN-40 Drain Tube Fitting Welded to Coupling Adapter," dated January 20, 2005.

PCR 37147, "Revise D95.3 Based on the Recommendation In SES 781," dated February 2, 2005.

DCR 37114, "TN DCR for the Hensen Coupling/Nipple to Adapter Threaded Connection," dated January 31, 2005.

PCR 37113, "Revise D95.4 Based on Recommendation in CE007011," dated January 31, 2005.

PCR 37148, "Revise D95.2," dated February 2, 2005.

Safety Evaluation Screening 781, "Storage of TN-40 Casks Without the Drain Fitting," Revision 0, dated October 26, 2001.