

September 12, 2005

Mr. W. L. Berg  
General Manager  
Dairyland Power Cooperative  
3200 East Avenue South  
P.O. Box 817  
La Crosse, WI 54602-0817

SUBJECT: NRC INSPECTION REPORT 050-00409/05-002(DNMS) -  
LA CROSSE BOILING WATER REACTOR (LACBWR)

Dear Mr. Berg:

On August 25, 2005, the NRC completed an inspection at the La Crosse Boiling Water Reactor (LACBWR) facility. The purpose of the inspection was to determine whether decommissioning activities were conducted safely and in accordance with NRC requirements in the areas of facility management and control, decommissioning support, radiological safety, and spent fuel safety. At the conclusion of the inspection on August 25, 2005, the NRC inspector discussed the findings with members of your staff.

The inspection consisted of an examination of activities at the facility as they relate to safety and compliance with the Commission's rules and regulations. 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, field observations of activities in progress, and interviews with personnel.

Based on the results of this inspection, the NRC did not identify any violations.

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>.

We will gladly discuss any questions you have concerning this inspection.

Sincerely,

/RA/

Jamnes L. Cameron, Chief  
Decommissioning Branch

Docket No. 050-00409  
License No. DPR-45

Enclosure: Inspection Report 050-00409/05-002(DNMS)

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No.: 050-00409

License No.: DPR-45

Report No.: 050-00409/05-002(DNMS)

Licensee: Dairyland Power Cooperative  
3200 East Avenue South  
La Crosse, WI 54602

Facility: La Crosse Boiling Water Reactor

Location: La Crosse Site  
Genoa, Wisconsin

Dates: August 23 through 25, 2005

Inspector: Peter J. Lee, Ph.D., CHP, Health Physicist

Approved by: Jamnes L. Cameron, Chief  
Decommissioning Branch

## **EXECUTIVE SUMMARY**

### **La Crosse Boiling Water Reactor (LACBWR) NRC Inspection Report 050-00409/05-002(DNMS)**

This routine decommissioning inspection covered aspects of facility management and control, decommissioning support activities, radiological safety, and spent fuel safety.

#### Facility Management and Control

- The inspector determined that the licensee's process for evaluating the safety impacts of design changes and modifications was in compliance with 10 CFR 50.59. (Section 1.1)
- The inspector determined that the licensee conducted audits that were appropriate for the activities being conducted, and implemented adequate and timely corrective actions in response to audit findings. (Section 1.2)

#### Decommissioning Support Activities

- The inspector determined that the licensee implemented its maintenance and surveillance programs in accordance with its Operation Manual and Health Safety Procedures. (Section 2.1)

#### Radiological Safety

- The inspector determined that the licensee continued to be effective in controlling personal exposures and preventing the spread of contamination. (Section 3.1)
- The inspector determined that the licensee complied with NRC and Department of Transportation regulatory requirements for shipping radioactive materials. (Section 3.2)
- The inspector concluded that the licensee adequately implemented the effluent monitoring program. (Section 3.3)

#### Spent Fuel Safety

- The inspector determined that the licensee properly maintained the fuel element storage well water level, temperature, chemistry, and cleanliness to ensure the safe wet storage of the spent fuel. (Section 4.1)

## **Report Details<sup>1</sup>**

### **Summary of Plant Activities**

The current licensee's activities were focused on routine operations regarding the safe storage of spent fuel in the fuel pool and removal of concrete shield blocks from the lower cavity of the reactor vessel and pipes from the main steam system.

#### **1.0 Facility Management and Control**

##### **1.1 Safety Reviews, Design Changes and Modifications (37801)**

###### **a. Inspection Scope**

The inspector reviewed the licensee's 10 CFR 50.59 safety screening program and the safety reviews completed since March 2005 to assess the licensee's conclusions regarding the need for safety evaluations.

###### **b. Observations and Findings**

The inspector verified that the safety review process stated in LACBWR Administrative Control Procedure (ACP)-06.4 was consistent with the requirements of 10 CFR 50.59. The licensee conducted several safety screening reviews of facility changes per ACP-06.4 and determined that none of the changes required a formal 10 CFR 50.59 safety evaluation.

Licensee personnel responsible for the screening reviews had completed an annual refresher training course on the 10 CFR 50.59 screening and evaluation process, and were competent in technical or administrative matters related to the activities being reviewed. The licensee also had provided the 10 CFR 50.59 screening and evaluation process training to the contractor personnel participating in the reactor vessel removal project.

###### **c. Conclusions**

The inspector determined that the licensee's process for evaluating the safety impacts of design changes and modifications was in compliance with the requirements of 10 CFR 50.59.

##### **1.2 Self Assessment, Auditing, and Corrective Actions (40801)**

###### **a. Inspection Scope**

The inspector reviewed Quality Assurance (QA) Audits to determine the effectiveness of the licensee's self-assessment program and the effectiveness of corrective actions that were initiated to improve licensee performance.

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<sup>1</sup>NOTE: A list of acronyms used in the report is included at the end of the report.

All of the audits completed since the last inspection were minimally reviewed, while the following two audits which were pertinent to current activities were reviewed in depth:

1. QA Audit No. 70-04-03, "ODCM/Environmental Monitoring" dated January 3 - February 9, 2005.
2. QA Audit No. 70-04-02, "Emergency Planning (EP)/Meteorological Monitoring," dated January - February 2005.

b. Observations and Findings

The audits were appropriately focused in both scope and level of detail. In all cases, the licensee initiated appropriate corrective actions in a timely manner to resolve the audit findings.

c. Conclusions

The inspector determined that the licensee conducted audits that were appropriate for the activities being conducted, and implemented adequate and timely corrective actions in response to audit findings.

**2.0 Decommissioning Support Activities**

2.1 Maintenance and Surveillance (62801)

a. Inspection Scope

The inspector reviewed the work orders for routine maintenance and surveillance from January 2005 to August 2005 to verify that maintenance and surveillance for structures, systems, and components (SSCs) were conducted in a manner that resulted in the safe storage of spent fuel.

b. Observations and Findings

All the maintenance and surveillance for SSCs were conducted in accordance with the licensee's Operation Manual and Health Safety Procedures. Thirteen functional goals were established based on the SSC safety significance. No incident reports were generated by the licensee related to the safe storage of spent fuel since its last assessment of maintenance effectiveness conducted on March 10, 2004, which confirmed that all functional goals had been met since then.

c. Conclusions

The inspector determined that the licensee implemented its maintenance and surveillance programs in accordance with its Operation Manual and Health Safety Procedures.

### **3.0 Radiological Safety**

#### **3.1 Occupational Radiation Exposure (83750)**

##### **a. Inspection Scope**

The inspector reviewed the external exposure records for the second quarter of 2005 for licensee and contractor personnel. The inspector reviewed the direct radiation survey and smear sample results from the reactor building and the turbine building for the period of April 2005 to August 2005.

##### **b. Observations and Findings**

Review of personnel external exposure records identified that three contract workers received external exposures of around 1800 millirem (mrem) during the removal of asbestos insulation from the reactor vessel, recirculation piping, and steam piping in the lower cavity. This work was performed in preparation for the removal of the reactor vessel planned for the Winter/Spring of 2007. The doses received were under the 2000 mrem limit as stated in the radiation work permit.

The results of the licensee's direct radiation and removable contamination surveys indicated that the licensee appropriately controlled contaminated areas, and contamination levels within the facility had been kept to a minimum.

##### **c. Conclusions**

The inspector determined that licensee continued to be effective in controlling personal exposures and preventing the spread of contamination.

#### **3.2 Transportation of Radioactive Materials (86750)**

##### **a. Inspection Scope**

The inspector reviewed the radioactive materials shipping program and applicable shipping documents. The inspector evaluated whether the licensee was in compliance with NRC and Department of Transportation (DOT) shipping requirements.

##### **b. Observations and Findings**

The licensee has processed five radiological waste shipments since the last inspection. The waste contained concrete shield blocks from around the reactor vessel and metal pipes from the main steam system. The licensee shipped the radiological waste to GTS Duratek in Oak Ridge, Tennessee. The licensee properly prepared the documents for each shipment, including the waste stream analysis for 10 CFR Part 61, the loaded waste shipment radiation surveys, and NRC Forms 540 and 541 for shipment of low-level radioactive waste. The licensee conducted audits of the shipments by reviewing all documents and signed off the checklist before the material left the site.

c. Conclusions

The inspector determined that the licensee complied with NRC and DOT regulatory requirements for shipping radioactive materials.

3.3 Radioactive Waste Treatment, and Effluent and Environmental Monitoring (84750)

a. Inspection Scope

The inspector examined and evaluated aspects of the effluent monitoring program, including a review of calibration procedures for liquid, gaseous, and air particulate radiation monitors. The inspector also reviewed effluent release data for calendar year (CY) 2005 to verify it met the requirements of Technical Specification (TS) 6.4.2.3, "Radioactive Effluent Controls Program."

b. Observations and Findings

Review of the applicable records indicated that the primary and secondary stack air effluent monitors, and waste water effluent monitors were properly calibrated and checked for operation in accordance with station procedures. Review of the effluent release data in CY 2005 indicated that the licensee effluent control program met the requirements of TS 6.4.2.3.

c. Conclusions

The inspector concluded that the licensee adequately implemented the effluent monitoring program.

**4.0 Spent Fuel Safety**

4.1 Spent Fuel Pool Safety at Permanently Shutdown Reactors (60801)

a. Inspection Scope

The inspector verified the safe wet storage of spent fuel in the Fuel Element Storage Well (FESW). The review included the verification of the March through August 2005 water temperature, level, chemistry, and cleanliness control against the surveillance requirements of TS 5.1.2.1.

b. Observations and Findings

All reviewed parameters were within procedural limits. Cleanliness control in the area of the FESW was adequate. The FESW water level and temperature had been monitored daily according to the surveillance requirements of Technical Specification 5.1.2.1.

c. Conclusions

The inspector determined that the licensee properly maintained the FESW water level, temperature, chemistry, and cleanliness to ensure the safe wet storage of the spent fuel.



## **5.0 Exit Meeting**

The inspector presented the inspection results to members of the licensee's staff at the conclusion of the inspection on August 25, 2005. The licensee did not identify any of the documents or processes reviewed by the inspector as proprietary.

### **PARTIAL LIST OF PERSONS CONTACTED**

- \* R. Christians, Plant Manager
- \* R. Cota, Training/Security Supervisor
- \* J. Henkelman, Quality Assurance Specialist
- \* M. Johnsen, Tech Support Engineer
- \* L. Nelson, Health and Safety Supervisor
- \* S. Rafferty, Reactor Engineer
- \* M. Moe, Captain, Burns Security
- \* D. Egge, Quality Assurance Supervisor
- \* R. Lewton, Electrician & Instrument Technician
- \* J. McRill, Tech Support Engineer

\* Persons present at the exit meeting.

### **INSPECTION PROCEDURES USED**

- |           |   |
|-----------|---|
| IP 37801: | Safety Reviews, Design Changes and Modifications                      |
| IP 40801: | Self Assessment, Auditing, and Corrective Actions                     |
| IP 83750: | Occupational Radiation Exposure                                       |
| IP 84750: | Radwaste Treatment, Effluent, and Environmental Monitoring            |
| IP 86750: | Solid Radwaste Management and Transportation of Radioactive Materials |
| IP 60801: | Spent Fuel Pool Safety at Permanently Shutdown Reactors               |
| IP 62801: | Maintenance and Surveillance  |

### **LIST OF DOCUMENTS REVIEWED**

The licensee documents reviewed and utilized during the course of this inspection are specifically identified in the "Report Details" above.

### **ITEMS OPENED, CLOSED, AND DISCUSSED**

None

## INITIALISM AND ACRONYMS

ACP	Administrative Control Procedure
ADAMS	Agencywide Documents Access and Management System
CFR	Code of Federal Regulations
DNMS	Division of Nuclear Materials Safety
DOT	Department of Transportation
FESW	Fuel element storage well
LACBWR	La Crosse Boiling Water Reactor
NRC	Nuclear Regulatory Commission
PARS	Publicly Available Records
QA	Quality Assurance
SSC	Structures, systems, and components
TS	Technical Specifications