

June 19, 2006

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 050-00409/06-001(DNMS) -  
LA CROSSE BOILING WATER REACTOR (LACBWR)

Dear Mr. Berg:

On May 24, 2006, 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 May 24, 2006, 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>.

W. Berg

-2-

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

Sincerely,

*/RA by G. McCann/*

Jamnes L. Cameron, Chief  
Decommissioning Branch

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

Enclosure:  
Inspection Report 050-00409/06-001(DNMS)

cc w/encl: Roger Christians, Plant Manager  
B. D. Burks, P.E., Director, Bureau of Field Operations  
J. Mettner, Chairman, Wisconsin Public  
Service Commission  
Spark Burmaster, Coulee Region Energy Coalition  
State Liaison Officer  
Chief, Radiation Protection Section  
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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No.: 050-00409

License No.: DPR-45

Report No.: 050-00409/06-001(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: March 21 through 23, 2006, and  
May 23 through 24, 2006

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 050-00409/06-001(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 was in compliance with the requirements of 10 CFR 50.59. (Section 1.1)
- The inspector determined that the licensee's audit and corrective action programs were adequately implemented in accordance with its Quality Assurance Program, and met regulatory requirements. (Section 1.2)
- The inspector determined that the conditions of the facility and equipment were adequate and capable of performing decommissioning activities. (Section 1.3)

#### Radiological Safety

- The inspector determined that the licensee continued to be effective in controlling workers personal exposure. (Section 2.1)
- The inspector determined that the licensee adequately implemented its effluent monitoring program. (Section 2.2)

#### 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 3.1)

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

### Summary of Plant Activities

The licensee's current activities were focused on routine operations regarding the safe storage of spent fuel in the fuel pool, preparations for removal of the reactor pressure vessel and Class C waste shipments of fuel shrouds, control rod blades, and beryllium source assemblies from the spent fuel pool.

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

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

###### a. Inspection Scope

The inspector reviewed safety screening reviews performed by the licensee's for the reactor pressure vessel (RPV) grouting, and the Class C waste shipment activities. The licensee's reviews were performed pursuant to Title 10, Code of Federal Regulations (CFR) Part 50, "Licensing of Production and Utilization Facilities," Section 50.59, "Changes, Tests, and Experiments." The inspector evaluated the licensee's conclusions regarding the need for conducting these safety reviews.

###### b. Observations and Findings

The licensee's safety review process, which is described in La Crosse Boiling Water Reactor (LACBWR) Administrative Control Procedure (ACP)-06.4, was consistent with the requirements of 10 CFR 50.59. The licensee conducted safety screening reviews of RPV grouting and Class C waste shipment activities per ACP-06.4. None of the design changes required a formal 10 CFR 50.59 safety evaluation.

###### c. Conclusions

The inspector determined that the licensee's process for evaluating the safety impacts of design changes 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 audits of the licensee's Offsite Dose Calculation Manual/Environmental Monitoring Program, and the Health Physic/Chemistry Program for the year 2005. Selected corrective action work orders associated with identified deficiencies were also reviewed..

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

b. Observations and Findings

The licensee's 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's audit and corrective action programs were adequately implemented in accordance with its Quality Assurance Program, and met regulatory requirements.

1.3 Decommissioning Performance and Status Review at Permanently Shut Down Reactors (71801)

a. Inspection Scope

The inspector performed a plant tour to observe and evaluate the licensee's activities related to the grouting of the reactor pressure vessel (RPV) and the crushing/shearing of the fuel shrouds in the spent fuel pool.

b. Observations and Findings

The workers involved in the RPV grouting and crushing/shearing operations wore appropriate protective equipment and followed established procedures. During the inspection, the licensee successfully completed grouting the RPV and placed 23 zirconium fuel shrouds in the liner.

The RPV and spent fuel pool areas were clear and free of obstacles and hazards. No fire hazards were observed. Installed fire suppression equipment was well identified and accessible. The plant was maintained in good condition and all radiological areas were adequately marked.

c. Conclusions

The inspector determined that the conditions of the facility and equipment were adequate and decommissioning activities were performed adequately.

**2.0 Radiological Safety**

2.1 Occupational Radiation Exposure (83750)

a. Inspection Scope

The inspector reviewed external exposure records for licensee and contractor personnel involved with operations to grout the RPV, the crushing/shearing of fuel shrouds and control rod blades in the spent fuel pool. The inspector reviewed air sampling results obtained during operations to cut recirculation piping, to install grout injection points, and during the grouting of the RPV.

b. Observations and Findings

The licensee installed high efficiency particulate air filter-equipped (HEPA) filtration systems in the vicinity of the work areas during the cutting of the recirculation piping, and the installation of the grout injection points to reduce potential worker intake of radioactive materials. Also, a HEPA system was installed to create a negative pressure inside the RPV during grouting operations.

The results of air sampling did not indicate any potential intake of radioactive material for workers during the grouting operations. Air sampling data indicated that during recirculation pipe cutting and during the installation of grout injection points that the workers internal doses were less than 2.5 millirem (mrem). The results of personnel monitoring reviewed did not identify any exposures in excess of 10 percent of any applicable occupational limit in 10 CFR Part 20.

Review of external exposure records for workers involved with operations relating to the cutting of the recirculation piping, installing the grout injection points in the lower cavity, and during crushing and shearing of the fuel shrouds and control rod blades in the spent fuel pool, demonstrated that the doses were below the licensee's radiation work permit dose limits of 2,000 and 100 mrem, respectively for these operations.

c. Conclusions

The inspector determined that the licensee continued to be effective in controlling workers personal exposure.

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

a. Inspection Scope

The inspector evaluated the licensee's activities to effectively control, monitor, and quantify releases of radioactive materials in liquid, gaseous, and particulate forms to the environment. The inspector reviewed the licensee's 2005 "Effluent and Environmental Monitoring Reports," and the Offsite Dose Calculation Manual (ODCM).

b. Observations and Findings

The licensee's gaseous effluent monitors and waste water effluent monitor were calibrated and checked for proper operation in accordance with station procedures. The licensee participates in a cross check program with an off-site laboratory to confirm the quality of its analytical data. Results of a cross checked completed in calendar year 2005 indicated agreement in all analytical data.

The ODCM was comprehensive and contained the requirements listed in the licensee's technical specifications. The effluent monitoring data indicated that release concentrations were consistent with limits specified in 10 CFR Part 20, Appendix B, Table 2, and that doses to the general public were in conformance with Appendix I of 10 CFR Part 50. Further, environmental sampling results indicated only background radiation levels with no distinct contribution from the shutdown reactor.

c. Conclusions

The inspector determined that the licensee adequately implemented its effluent monitoring program.

**3.0 Spent Fuel Safety**

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

a. Inspection Scope

The inspector reviewed the licensee's activities to ensure the safe wet storage of spent fuel in the Fuel Element Storage Well (FESW). The review included the verification of water temperature, and water level requirements of Technical Specification (TS) 4.1.2, the surveillance requirements of TS 5.1.2, and the water chemistry and cleanliness control requirements of the licensee's Health and Safety Procedure HSP-7.2, for the period of January through May 2006

b. Observations and Findings

All parameters reviewed were consistent with limits specified in HSP-7.2, "Sampling of Fuel Element Storage Well." The FESW water level and temperature met the requirements of TS 4.1.2. The FESW water level and temperature had been monitored daily according to the surveillance requirements of TS 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.

**4.0 Exit Meeting**

The inspector presented the inspection results to members of the licensee's staff at the conclusion of the inspection on May 24, 2006. 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 70801: Decommissioning Performance and Status Review at Permanently Shut Down Reactors
- IP 83750: Occupational Radiation Exposure
- IP 84750: Radwaste Treatment, Effluent, and Environmental Monitoring
- IP 60801: Spent Fuel Pool Safety at Permanently Shutdown Reactors

## 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

- |           |      |
|-----------|------|
| Opened    | None |
| Closed    | None |
| Discussed | None |

## INITIALISMS AND ACRONYMS

- |        |   |
|--------|---|
| ACP    | Administrative Control Procedure                  |
| ADAMS  | Agencywide Documents Access and Management System |
| CFR    | Code of Federal Regulations                       |
| DNMS   | Division of Nuclear Materials Safety              |
| FESW   | Fuel element storage well                         |
| LACBWR | La Crosse Boiling Water Reactor                   |

mrem	Millirem
NRC	Nuclear Regulatory Commission
ODCM	Offsite Dose Calculation Manual
PARS	Publicly Available Records
RPV	Reactor Pressure Vessel
TS	Technical Specifications