U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Report No. 50-409/80-01

Docket No. 50-409 License No. DPR-45

Licensee: Dairyland Power Cooperative
2615 East Avenue - South
La Crosse, WI 54601

Facility Name: La Crosse Boiling Water Reactor

Inspection At: La Crosse Site, Genoa, WI

Inspection Conducted: March 19-20, and May 5-9, 1980

Inspectors: K. R. Ridgway 5/30/80

W. L. Forney (May 5-9, 1980) 5/30/80

M. W. Branch (May 5-9, 1980) 5/30/80

Approved By: K. R. Baker, Chief 5/30/80
Projects Section 3-2

Inspection Summary

Inspection on March 19-20 and May 5-9, 1980 (Report No. 50-409/80-01
Areas Inspected: Routine, unannounced inspection of the licensee's quality assurance program; design, design changes, and modifications; plant operations; TMI short-term modifications; and followup actions relative to previous items of noncompliance, IE Bulletins, Licensee Event Reports, and open inspection items. This inspection involved 105 inspector-hours on site by three NRC inspectors.
Results: Of the eight areas inspected, no items of noncompliance or deviations were found in seven areas; one item of noncompliance was found in one area (deficiency - failure to make prompt telephone notification to NRC Operations Center of significant event).

DETAILS

1. Persons Contacted

*R. Shimshak, Plant Superintendent
*J. Parkyn, Assistant Plant Superintendent
*G. Boyd, Operations Supervisor
*L. Goodman, Operations Engineer
*L. Krajewski, Health and Safety Supervisor
*H. Towsley, Quality Assurance Supervisor
S. Rafferty, Reactor Engineer
W. Angle, Process Engineer
*M. Polsean, Shift Supervisor
*W. Nowicki, Supervisor, Instrument and Electrical
R. Wery, QA Specialist
G. Joseph, Security and Fire Protection Supervisor

In addition, the inspector observed and held discussions with other engineers, plant equipment operators, reactor operators, assistants, and plant attendants.

2. General

The reactor was shut down on April 6, 1980, for equipment installation required by NUREG-0578 which consisted of position indicators for the safety valves and the addition of diverse parameter closure signals and manual resets on several containment isolation valves. Other maintenance work completed during the shutdown included the installation of a double check valve in the Fuel Storage Well drain line, repair of the 1A Forced Circulation Pump seal and repair of one of the generator's hydrogen seals.

On April 26, the reactor was taken critical and training criticals were performed through April 27. At 1921 on April 28, during heat up and at a low power level, the reactor was automatically shut down due to low water level trip while starting up the turbine. Two other automatic shutdowns occurred before the generator was synchronized to the grid at 1315 on April 30. The shutdowns were caused by a failed Control Rod solenoid and to a burned out fuse in the control power circuit caused by a shorted circuit during maintenance activities. The first automatic shut down was not reported within one hour to the NRC Operations Center as required by the new regulation, 10 CFR 50.72(a). This is considered to be an item of noncompliance of the deficiency level.

The licensee had issued a new procedure, ACP 2.8, Emergency Phones, dated March 18, 1980, Operating Memo DPC-76, to further clarify what constitutes a "significant event" for reporting within one hour to the NRC Operations Center. Subsequently, on May 1, 1980, the licensee revised the ACP to include reporting events such as described above. Therefore, the deficiency is considered to be resolved and a response is not required for this item.

No other noncompliance items were identified.

3. Quality Assurance Program (QA)

The inspectors reviewed changes on revisions and additions made to the QA Program, since the last QA inspection in January 1979, to determine that the changes conform to the QA criteria described in the licensee's QA Program Description submitted in 1976 and approved February 14, 1977. During this time, the licensee made QA Procedure changes that primarily involved format, wording and 2 year reviews.

Revised procedures were reviewed by the inspectors and appeared to meet the requirements of the approved QA Program Description and to provide proper instruction in document control. QA Procedures reviewed during the inspection were:

Procedure	Issue	Date	Title
ACP 03.1	2	11-5-79	Quality Assurance Department
ACP 05.0	1	2-11-80	Control of Vendor Evaluation
ACP 05.1	2	2-11-80	Procurement Document Control
ACP 06.2	3	11-5-79	Preparation & Use of Procedures
ACP 08.2	5	7-31-79	Receiving Inspection
ACP 08.4	1	12-13-78	Receiving Inspection-Radioactive Material
ACP 09.1	1	2-11-80	Identification & Control of Material, Parts & Components
ACP 10.1	2	2-11-80	Control of Special Processes
ACP 10.3	3	7-31-79	Control of Weld Material
ACP 11.1	2	2-11-80	Inspections
ACP 11.2	1	11-5-79	Reactor Vessel Internal Inspection
ACP 12.1	2	11-5-79	Test Control
ACP 13.1	1	8-22-79	Control of Measuring & Test Equipment
ACP 16.0	1	7-31-79	Quality Assurance Deficiency Reports & Disposition of Nonconformance Material, Parts & Components
ACP 19.0	0	1-26-79	Audits Access, Corrective Action & Response
QAI 1	0	3-22-79	Preparation, Issuance and Distribution of the Quality Assurance Program Description
QAI 3	0	3-22-79	Controlled Distribution of Quality Assurance Department Documents
QAI 5	0	5-23-79	Audit Frequency and Scheduling
QAI 7	0	7-31-79	Requirement for Issuance and Control of Deficiency Reports, and Disposition of Nonconforming Material, Parts & Components
QAI 8	0	3-12-79	QA Personnel Qualification and Training Program

Procedure	Issue	Date	Title
QAI 9	0	7-31-79	Vendor Evaluation Program
QACP 1.4	0	3-23-79	Liquid Penetrant Examination, Water-Washable, Color Contrast Method
QACP 2.1	0	7-31-79	Receiving Inspection

The inspectors determined that the weekly memos to the Plant Superintendent do not appear to contain sufficient information to ensure that the Plant Superintendent is kept aware of all deficiences discovered or recommended corrective action. This is considered to be an unresolved item No. 50-409/80-01-01.

The inspectors also determined that outstanding inspection item 79-07,[1/] revision of the QA Program Description, had not been completed. A draft copy was being reviewed. The licensee stated that the QAPD would be completed by September 1980.

No items of noncompliance were identified.

4. Design, Design Changes, and Modifications

Five design changes from five reactor systems were selected and reviewed to determine that the changes were made in conformance to regulations, Technical Specifications, and implementing procedures. The Facility Changes reviewed were:

FC-78-12, Reactor feed pump oil system.

FC-78-09, Forced circulation pump non-contract vibration pickup.

FC-79-06, Modification of type "A" integrated leak rate test system.

FC-79-08, Addition of switch in CRD secondary position indication system.

FC-64-80-01, Installation of position indicators on steam safety valves.

The design, design changes and modifications in the above Facility Change files were reviewed to determine that the following areas had been evaluated and documented:

a. Provisions for unreviewed safety questions, 10 CFR 50.59.

b. Technical Specification requirements.

c. Specification of Quality Codes and Standards.

d. Independent reviews by qualified personnel for design, quality, and health and safety.

1/ IE Inspection Report No. 50-409/79-02, Paragraph 3.

e. Special procedures requirements, test and inspections.

The inspector reviewed procedures and design drawings to determine that the above changes had been incorporated in the applicable procedures and master drawings.

Inspections revealed the following:

f. For FC-64-80-01 and FC 78-12, facility drawings have not been updated to reflect the installations. This is considered to be an unresolved items (50-409/80-01-02).

g. For FC-64-80-01, Operating and Maintenance Procedures have not been revised to recognize installation. If the PI Detectors are removed for plant testing or testing of the safety valves, a procedure or method to ensure proper reinstallation and testing needs to be developed. This is considered to be an unresolved item (50-409/80-01-03).

h. ACP 07.1, under ORC review, requires ORC meeting minutes to contain the statement that the proposed procedure or change does not involve an unreviewed safety question. Meeting minutes of ORC do not contain such a statement, but they do contain words to the effect that no problems were found with the procedures under review. This is considered to be an unresolved item (50-409/80-01-04).

No items of noncompliance were identified.

5. Review of P[illegible]erations

The inspectors observed plant operations, control room manning, equipment tagging, key-lock control and valve lineups on the shutdown Condenser and Emergency Core Spray systems during a plant tour. Additionally, the following records were reviewed from April 1, 1980, to May 5, 1980, to determine compliance with Technical Specifications and to determine if the Night Order Instructions or Operating Memos conflicted in any way with operational requirements.

a. SO-18, Daily Log of MW-RMVA-MWH
b. L-84, Control Rod Position Indications
c. L-83, Reactor Plant Logs
d. L-82, Turbine Generator Plant Log
e. L-74, Control Room Panel A
f. L-42, Radiation Monitor and Dew Cells
g. L-119, AGS and Reactor Safety System Log
h. L-72, Turbine Generator Auxiliary Log
i. L-73, Reactor Plant Auxiliary Log
j. L-68-71, Temperature Recorder Logs
k. Night Order Instruction Book
l. Shift Supervisor Log
m. Incident Reports

n. Jumper and Bypass Key Log
o. Reactor Vessel Heatup and Cooldown Data
p. Turbine Operator Shift Log
q. Reactor Plant Leakage Log

No items of noncompliance were identified.

6. Followup on Licensee Event Reports

The inspectors reviewed the following LER's to determine if the reports were correct and if the evaluations performed and corrective actions taken were appropriate and complete as stated in the LER.

a. (Closed) LER 50-409/79-17. During the unscheduled shutdown on November 9, 1979 caused by a sticking turbine control system, the cooldown rate exceeded the Technical Specification limit of 150°F/hr. The excessive cooldown rate was caused by continuous operation of the shutdown condenser for about ten minutes and above normal vessel water level due to delay in tripping the reactor feedwater pump. The vessel cooldown rate had been exceeded on two previous occasions in 1970 and 1974. Following these events, the vessel stresses were calculated by consultants who concluded that the stresses remained within the requirements of Section III, ASME Boiler and Pressure Vessel Code for Nuclear Vessels.[2/][3/] The Vessel stresses during this event, which were between the two previous events in severity, were also estimated to be within code requirements for primary and secondary stresses; and the incident had negligible effect on vessel or piping usage since the maximum usage factor was greater than 0.0005 (1/2000 cycles).[4/]

b. (Closed) LER 50-409/80-01. Failure of electrical penetrations No.s 3, 4, and 5 to meet the Type B containment leak rate test. Seven of the eight individual penetration leaks were found to be caused by cracked brass glands. Five of these were replaced completely, including new MI cable. The other two were repaired by soldering. One small thread lead was corrected using teflon tape. Only the two small leaks on penetrations 3 and 5 were found to compromise containment integrity. After repairs were made, the penetrations were satisfactorily retested. No leakage was detected on those penetrations sealed with a new sealant used for the first time in early 1979.

c. (Closed) LER 50-409/80-02. Failure of the inside containment building exhaust damper to meet the Type C leak rate test. The outer damper maintained containment integrity. The leakage

2/ Letter UNC to US AEC Division of Reactor Development and Technology dated 6/9/70.
3/ Nuclear Engineering Services Report No. NES 81A0014, 9/13/74.
4/ Nuclear Engineering Services letter to DPC dated 11/28/79.

was attributed to an indentation in the damper seat ring caused by the valve disc when in the open position. The depressions have been noted before and when the test pressure is applied in the normal direction from inside containment, no leaks have been observed from these indentations. The seat ring was replaced, both exhaust valves repacked and retested satisfactorily.

d. (Closed) LER 50-409/80-03. Failure of the containment building condensate return isolation valve to meet the Type C leak rate test. This was the first failure of this valve and the failure was attributed to normal wear. The valve seals were replaced and the retest was satisfactory.

No items of noncompliance were identified.

7. Followup on IE Circulars (IEC)

The inspectors reviewed the licensee's evaluation of the following IECs to determine that any necessary actions had been taken.

a. IEC 79-13, Replacement of Diesel Fire Pump Starting Contactors.

b. IEC 79-15, Bursting of High Pressure Hose and Malfunction of Relief Valves on SCUBA.

c. IEC 80-04, Securing of the Threaded Locking Devices on Safety Related Equipment.

No items of noncompliance were identified.

8. Followup on IE Bulletins

a. (Closed) IEB 79-27, Loss of Non-Class-I-E Instrumentation and Control Power System Bus During Operation. The licensee reviewed the design of and emergency procedures for the five Class I-E and Non-Class I-E buses supplying power to control systems. During the review, it was noted that the 1C inverter did not have a "loss of power" annunciator in the control room. This has been installed. Reviews requested by IE Circular 79-02 concerning failures of 120-volt AC vital power supplies were again made and no changes were deemed necessary.

b. (Closed) IEB 80-01, Operability of ADS Valve Pneumatic Supply. Since LACBWR does not have an Automatic Depressurization System (ADS), a review of the Manual Depressurization System (MDS) conducted by the licensee reviewd no mechanism which could prevent operation of the MDS when required.

c. (Closed) IEB 80-02, Inadequate Quality Assurance for Nuclear Supplied Equipment. None of the equipment referred to in the Bulletin is used at LACBWR. The manufacturer had not supplied any other equipment to LACBWR.

d. (Closed) IEB 80-03, Loss of Charcoal From Standard Type II, 2-inch, Tray Absorber Cells. LACBWR does not use any Flanders filters and a review of their specially designed filter did not reveal any of the problems associated with them.

e. (Closed) IEB 80-07, BWR Jet Pump Assembly Failure. LACBWR does not use jet pumps.

f. (Closed) IEB 80-09, Hydramotor Actuator Deficiencies. None of the ITT General Controls hydramotor actuators are in use at LACBWR.

No items of noncompliance were identified.

9. Followup on Open Inspection Items (OII)

(Closed) (OII 79-06).[5/] The licensee had reviewed and approved the QA Program of Nuclear Engineering Services, their engineering consultant, and the review had been properly documented on a QA Checklist Qualifications of Suppliers and Contractors dated August 21, 1979.

No items of noncompliance were identified.

10. Special Inspection Regarding TMI Short Term Items (NUREG-0568)

On March 19-20, 1980, the inspector attended a meeting[6/] between the licensee and members of the Office of Nuclear Reactor Regulation regarding short-term commitments made by the licensee in replys to NUREG-0578, TMI Lessons Learned.

During this inspection, the inspector verified that the following commitments had been completed by the licensee during the shutdown in April 1980:

a. NUREG-0578, Item 2.1.3.a, Installation of position indication of the three safety valves (also see Paragraph 4). The inspection revealed that the installation met the licensee's design and facility change procedures and the environmental qualifications of components used were documented and appeared to be satisfactory. The backup safety valve position indication has been in use previously and procedures were in place. As noted in paragraph 4, operating and maintenance procedures have not been completed. This is considered to be an unresolved item.

b. NUREG-0578, Item 2.1.4, Installation of manual reset switches on containment isolation signals to prevent automatic valve opening upon clearance of the isolation signal. The installation was made under Facility Change 79-25 and Maintenance

5/ IE Inspection Report No. 50-409/79-02.
6/ Letter, Dennis L. Zieman, BRB #2 to Frank Linder, DPC, dated April 25, 1980.

Request 3038, which the inspector reviewed for completion and testing. The inspector reviewed procedures to determine that valve switches associated with the isolation systems affected would be placed in the closed position before the circuits were reset.

c. NUREG-0578, Item 2.1.6.a, The inspector verified that a periodic leak test procedure had been established for the component cooling water system and the off-gas system. Procedures had been written, and the tests conducted prior to plant startup on April 28, 1980.[7/] The inspector reviewed the test results and found them to be satisfactory. The inspector noted that the tests had yet to be placed on the refueling surveillance schedule. This is considered to be an unresolved item (50-409/80-01-05).

d. NUREG-0578, Item 2.2.1.

(1) (a) The inspector reviewed Operations Memo, DPC-84 dated December 31, 1979, Shift Supervisor's Responsibilities and found it to be adequate to meet NUREG-0578 commitments.

(2) (b) The inspector verified that the licensee had established a Shift Technical Advisor (STA) function by reviewing Administrative Control Procedures. A Shift Technical Advisor Committee meeting had been held to further define the STA Program and operating experience assessment.

(3) (c) The inspector reviewed ACP-2.3, Shift Transition (Turnover), Issue 3, April 3, 1980, to determine that a uniform shift turnover procedure had been established and the inspectors observed that the procedures were being carried out.

e. NUREG-0578, Item 2.2.2.

(1) a. The inspector reviewed Operations Memo DPC-83, dated December 31, 1979 to determine that authority to limit access to the Control Room had been established and assigned to the Shift Supervisor.

(2) b. and c. The inspector reviewed the following procedures to determine that an adequate plan had been established to activate the Technical Support Center and Operations Support Center:

ACP 2.7, Issue 0, Technical Support Center, January 11, 1980.
ACP 2.8, Issue 0, Emergency Phones, March 18, 1980.

7/ Letter, Frank Linder, DPC to Harold Denton, NRR dated May 6, 1980.

ACP 2.1, Issue 3, Authorities and Responsibilities for LACBWR Operation and Shutdown, November 5, 1979.
EPP 5, Issue 2, Emergency Evacuation of Onsite Personnel, January 6, 1980
EPP 6, Issue 2, Emergency Evacuation Point Operation, January 6, 1980.

f. NUREG-0578, Item, High Point Vents

The inspector reviewed operating and emergency procedures for the use of the Manual Depressurizing System for venting the reactor and found them to be adequate.

g. NUREG-0578, Item 2.1.8, Items a, b, and c.

The inspector verified that the stack noble gas monitor and Control Room and Technical Support Center radioiodine monitors were in place. Procedures for calibration and operation were not reviewed. This is considered to be an unresolved item (50-409/79-01-06).

The above unresolved items in the short term TMI lessons learned program will be reviewed and closed in a future inspection.

No items of noncompliance were identified.

11. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance, or deviations. Unresolved items disclosed during the inspection are discussed in Paragraphs 3, 4, 10 c. and 10 g.

12. Exit Interview

The inspectors met with the licensee representatives (denoted in Paragraph 1) at the conclusion of the inspection. The inspectors summarized the scope and result of the inspection. In response to several items discussed by the inspectors, the licensee agreed to:

a. Revise the approved QA Program Description to bring it into agreement with changes in organization and QA procedure systems, estimated to be complete by September 1980.

b. Review ACP 03.1 requirements for weekly memo to Plant Superintendent and ensure memos contain sufficient information for the Plant Superintendent to maintain both administrative and technical control over the QA Department.

c. Review ACP 07.1 requirements for ORC meeting minute information and revise requirements or ensure ORC meeting minutes contain the required statements.