

U.S. NUCLEAR REGULATORY COMMISSION
REGION III

Report No. 50-409/90003(DRSS)

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 Raactor (LACBWR)

Inspection At: La Crosse Site, Genoa, Wisconsin

Inspection Conducted: December 13, 1990

Inspector: J. Foster *William Snell for*

12/26/90
Date

Approved By: *William Snell*
William Snell, Chief
Radiological Controls
and Emergency Preparedness Section

12/26/90
Date

Inspection Summary

Inspection on December 13, 1990 (Report No. 50-409/90003(DRSS))

Areas Inspected: Routine, announced inspection of the annual La Crosse Boiling Water Reactor emergency preparedness exercise involving review of the exercise scenario (IP 82302); observations by one NRC representative of key functions and locations during the exercise (IP 82301); routine inspection of the operational status of the emergency preparedness program (IP 82701); and follow-up on Emergency Plan activations (IP 92700).

Results: No violations, deficiencies or deviations were identified. The Licensee demonstrated a good response to a hypothetical scenario involving multiple equipment failures. Maintenance of the revised emergency preparedness program was adequate.

DETAILS

1. NRC Observers and Areas Observed

J. Foster, Control Room

2. Persons Contacted

Dairyland Power Cooperative

*R. Christians, Emergency Preparedness Coordinator

*J. Parkyn, Plant Superintendent

*Denotes those attending the NRC exit interview held on December 13, 1990.

The inspector also contacted other licensee personnel during the course of the inspection.

3. Background Information

On April 30, 1987, the LACBWR facility was permanently shut down as a nuclear generating facility. Removal of all fuel from the reactor vessel was completed on June 11, 1987, and all new, unused fuel has been shipped from the site. The plant is not in the Safe Storage or SAFSTOR condition.

On September 29, 1987, the licensee requested modifications be made to the facility Emergency Plan, and submitted analysis of the impacts of worst-case accidents possible under the plant's current status. The revised facility Emergency Plan was approved on July 8, 1988. Under the present Emergency Plan, emergency classifications are limited to Notification of Unusual Event and Alert. Emergency planning is now limited to onsite actions, provisions for offsite treatment of injured/contaminated workers, and liaison with local officials for information purposes.

4. General

An announced, daytime exercise of the La Crosse Boiling Water Reactor Emergency Plan was conducted at the LACBWR site on December 13, 1990. The exercise tested the licensee's emergency support organizations' capabilities to respond to a simulated accident scenario resulting in damage to the facility. This was a "utility only" exercise. State and local counties participated only to the extent of receiving notification calls. Attachment 1 describes the Scope and Objectives of the exercise and Attachment 2 describes the 1990 exercise scenario.

5. General Observations

a. Procedures

This exercise was conducted in accordance with 10 CFR Part 50, Appendix E requirements, using the La Crosse Boiling Water Reactor Emergency Plan and Emergency Plan Implementing Procedures.

b. Coordination

The licensee's response was coordinated, orderly and timely. If the scenario events had been real, the actions taken by the licensee would have been sufficient to mitigate the accident.

c. Observers

The licensee's controllers/observers monitored and critiqued this exercise along with one NRC observer.

d. Exercise Critique

The licensee's controllers/evaluators held a critique (with participants) immediately following the exercise. The NRC discussed observed strengths and weaknesses, developed independently by the NRC observer, during the Exit interview with the licensee which was held on December 13, 1990, the day of the exercise.

6. Specific Observations (IP 82301)

a. Control Room (CR)

The exercise was conducted in the actual Control Room (CR), with additional personnel playing the parts of shift operators. The exercise was initiated at 0900 hours by advising the exercise crew that earth tremors were being experienced.

Performance by exercise CR personnel was excellent. They promptly identified the earthquake as requiring initiation of the Emergency Plan, briefly reviewed the procedures to be followed, and proceeded to make technically correct decisions regarding plant conditions, and procedurally required notifications. Procedure EPP-1, Table 4.1 was briefly reviewed to determine the correct emergency classification. Procedures were well utilized and followed.

It was noted that plant Public Address system announcements contained more information than those made during the 1988 exercise, but additional information on plant status or periodic update announcements could be worthwhile.

Notifications were very quickly made to procedurally listed contacts and to the NRC Headquarters Operations Officer (HOO). The HOO inquired as to whether the NRC Resident Inspector had been notified of the (scenario) event (he was not aware that the Resident Inspector's office for LACBWR was closed some time ago).

A conservative decision was made, at 0926 hours, to upgrade the emergency classification to the Alert level, based on overall plant conditions, radiation levels in the containment building, and the possibility for loss of easy containment access.

Accountability of plant personnel was rapidly accomplished, and was completed by 0935 hours with all personnel accounted for.

Control Room personnel quickly and correctly surmised the location and volume of the postulated leak, but did not have any method of immediate confirmation of their conclusions. They were aware that a leak from the area believed to be leaking would not uncover the spent fuel elements. However, there was a potential for elevated radiation levels in the containment building, and the possibility that water could accumulate in the lower levels of the plant to the extent that containment access would be lost. Radiation levels in the containment building were closely monitored.

Excellent technical discussions were held on methods of determining the exact location of the Fuel Element Storage pool leak, and establishing continuous or intermittent cooling for the stored irradiated fuel elements (current levels of decay heat generation are relatively low). It was recognized that pool level instrumentation would not indicate levels lower than two feet above the fuel elements, and a method of determining pool level via water pressure was developed. Licensee personnel indicated that consideration would be given to adding the details of the level determination by pressure method to the appropriate procedure.

Licensee personnel were well aware that the assumed leakage into the plant could cause problems related to containment access or operability of certain systems. They were also cognizant that such potentially contaminated water could not be discharged to the river without sampling and analysis.

No violations or deviations were identified.

7. Exercise Objectives and Scenario Review (IP 82302)

The licensee submitted the exercise and scope and objectives and a scenario package for review by the NRC observer prior to the exercise. Scenario review did not indicate any significant problems. The scenario package was adequate in scope and content to ensure ease of use and contained enough information so that licensee controllers could control the exercise.

The licensee's scenario was sufficiently challenging for a "utility only" exercise, including: multiple equipment failures, and assembly/accountability. The scenario was also consistent with the present status of the facility. The only accidents which could presently result in a radioactive release of radioactive material would be an accident involving the stored spent fuel.

The degree of challenge in an exercise scenario is considered when assessing observed exercise weaknesses.

No violations or deviations were identified.

8. Exercise Control

Overall, exercise control was considered adequate.

There were adequate controllers to control the exercise, and they were knowledgeable regarding their tasks. No instances of controller prompting were observed.

No violations or deviations were identified.

9. Licensee Critiques

The licensee held a critique where the conclusions of the Controller/Evaluators presented their findings to the players. The NRC observer attended this critique, and determined the exercise deficiencies had been properly observed and critiqued.

10. Operational Status of the Emergency Preparedness Program (IP 82701)

a. Emergency Plan and Implementing Procedures

An NRC Safety Evaluation Report (SER) documented the review of the modified (Revision 10) Emergency Plan, which was approved by the NRC on July 18, 1990. Revisions made to the supporting Emergency Plan Procedures (EPP-1 through EPP-17) have been submitted to the NRC as required. The latest revisions to selected procedures were made in February 1990.

Letters of agreement with Corns International Security Services, Genoa Fire Department, LaCrosse Lutheran Hospital, Tri-State Ambulance, and the County of Vernon Sheriff's Department were updated during September 1989.

No violations or deviations were identified.

b. Emergency Response Facilities (ERFs), Equipment, and Supplies

The onsite ERFs were viewed and were as described in the Emergency Plan and relevant procedures. The requirements for equipment and facilities are minimal. There are no longer provisions for a Technical Support Center, Emergency Operations Facility, or Joint Public Information Center.

A review of completed checklists indicated that procedurally required inventories of emergency equipment located at the Lutheran Hospital, Assembly Point had been completed during 1989 and 1990. Emergency field team and decontamination kit inventories were also reviewed and found to be acceptable for 1989 and 1990.

Emergency phone testing checklists indicated that communications equipment had been tested on a periodic basis during 1989 and 1990, as required.

Reviewed checklists addressed minimum quantities of items and required verification of the supplies locations. Checklists indicated that missing or inoperative items had been replaced or repaired as needed.

No violations or deviations were identified.

c. Organization and Management Control

No changes have taken place in the overall Organization and Management Control of the facility or the Emergency Preparedness program since the last inspection.

No violations or deviations were identified.

d. Training

Training records for plant personnel were available. A brief review did not disclose any problem areas. Performance during the exercise indicated that the training program had successfully prepared personnel for their emergency response duties.

A training exercise with LaCrosse Lutheran Hospital held on August 23, 1990, dealt with handling of a contaminated, injured person from the LACBWR facility. The exercise was critiqued by licensee personnel. Several observations and suggestions were made in regard to the Lutheran Hospital procedures.

No violations or deviations were identified.

e. Independent Reviews/Audits

Quality Assurance (QA) department records for the 1990 audit of the plant's emergency preparedness program were reviewed.

Audit No. 70-90-2, performed October 22-29, 1990, addressed emergency planning and meteorological monitoring. The audit found all reviewed items to be acceptable, and there were no open items remaining from the 1989 program audit. Audit records were readily available and satisfied the minimum requirements of 10 CFR 50.54(t). Discussion with licensee personnel indicated that the audit would be made available to offsite authorities.

No violations or deviations were identified.

11. Exit Interview

The inspector held an exit interview the day of the exercise on December 13, 1990, with the representatives denoted in Section 2.

The NRC observer discussed the scope and findings of the inspection. No violations, deficiencies or open items were identified as a result of this inspection.

The licensee was also asked if any of the information discussed during the exit interview was proprietary. The licensee responded that none of the information was proprietary.

Attachments:

1. La Crosse Boiling Water Reactor 1990 Exercise Scope and Objectives
2. La Crosse Boiling Water Reactor 1990 Exercise Scenario Outline

C O N F I D E N T I A L

1.0 SCOPE AND OBJECTIVES

1.1 Scope

The simulated event will begin with the plant personnel being informed that they are experiencing sharp ground tremors, which will last approximately 15 seconds. This should lead to the declaration of either "UNUSUAL EVENT" or "ALERT". A simulated Fuel Element Storage Well "Lo Level" alarm will occur approximately (4) minutes later. This should lead to discussion of how to assess and mitigate the problem which may include Containment Building (CB) atmospheric samples being taken and/or CB entry for assessment of damages and methods of repair. The Control Room Operator should also initiate water addition to the FESW.

When a CB entry is made, the person making the entry will be informed that the FESW suction line, at the storage well outlet on the mezzanine level, has ruptured and water is issuing from the line. The location of the leak makes it unisolable, but the FESW level will only drain to the suction point. This point is approximately two feet above the top of the spent fuel, but draining the well to this level does expose approximately (6) feet of the (8) control rods stored in the well. Exposure of these control rods will raise radiation levels in the CB, causing a high radiation alarm locally and in the Control Room. Other alarms (flooding, high retention tank levels, etc.) and indications will be simulated to add a degree of realism.

The simulated break will be at the FESW suction isolation valve flange and will allow for a repair consisting of a blank flange, closing of the 6" isolation valve, use of a separate 4" suction line and re-filling of the well.

The exercise should last between 1/2 hour and 2 hours, depending on what course(s) of action is pursued.

C O N F I D E N T I A L

1.2 Objectives

- 1.2.1 Demonstrate the ability of Control Room personnel to recognize, assess, and properly classify a simulated event.
- 1.2.2 Demonstrate the ability to make the required offsite notifications within the time allotted by procedure.
- 1.2.3 Demonstrate the ability to properly account for personnel.
- 1.2.4 Demonstrate the ability to assess and control a potential radiological hazard and take proper precautionary measures to protect personnel.
 - a. Demonstrate proper use of radiation monitoring equipment.
 - b. Demonstrate proper survey techniques.
 - c. Demonstrate proper access control to radiological hazard areas.
- 1.2.5 Demonstrate ability to properly communicate between ERD, damage assessment personnel, and radiological protection personnel.
- 1.2.6 Demonstrate ability to coordinate recovery and cleanup.

C O N F I D E N T I A L

2.0 Scenario Time Line

0900

Exercise Begins: Personnel throughout the plant are advised of sharp tremors shaking the various buildings. Tremors last for approximately (15) seconds.

0903

Alarm C-14-1, "Rx Building Sump Hi Level Alarm"

0904

Alarm E-14-2, "Fuel Element Storage Well Level Lo"

0906

Alarm F-4-2, "Rx Building Basement Flooding"

0910

Alarm F-1-3, "Rx Building Mezzanine Flooding"

0920

Alarm C-7-4, "Area Radiation Monitor Hi"

0930

Alarm E-12-3, "Retention Tank Level Hi"

1000

Exercise terminated (sooner or later, depending on when various objectives are achieved.)