

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-293/84-29

Docket No. 50-293

License No. DPR-35

Priority --

Category C

Licensee: Boston Edison Company M/C Nuclear

25 Braintree Hill Office Park

Braintree, Massachusetts 02184

Facility Name: Pilgrim Nuclear Power Station

Inspection At: Plymouth, Massachusetts

Inspection Conducted: September 26-27, 1984

Inspectors:

R. L. Nimitz
R. L. Nimitz, Senior Radiation
Specialist

10/26/84
date

Approved by:

W. J. Pasciak
W. J. Pasciak, Chief, BWR
Radiation Safety Section

10/26/84
date

Inspection Summary: Inspection conducted on September 26-27, 1984

Areas Inspected: Special unannounced inspection of the implementation of planned corrective action for decontamination of the Control Rod Drive (CRD) Repair Room and resumption of CRD disassembly operation in the CRD Repair Room. The inspection involved 18 inspector hours onsite by one region-based inspector.

Results: No Violations or Deviations were identified. The licensee implemented the planned corrective action as described in Inspection Report 50-293/84-25. Observation found that effective radiological oversight was provided.

DETAILS

1. Persons Contacted

1.1 Boston Edison Company

- * J. F. Crowder, Senior Compliance Engineer
- * E. Graham, Compliance Group Leader
- * W. R. Hoey, Senior ALARA Engineer
- * A. L. Oxsen, Vice President - Nuclear Power
- * A. R. Trudeau, Chief, Radiological Engineer
- * C. J. Mathis, Nuclear Operations Manager
- * R. Sherry, Assistant - Chief Maintenance Engineer

1.2 Contractors

- * D. Neely, Hydro - Nuclear Inc.

1.3 NRC

- * J. R. Johnson, Senior Resident Inspector
- M. McBride, Resident Inspector

- * Denotes those individuals that attended the exit interview on September 27, 1984.

The inspector also contacted other personnel during the inspection.

2. Purpose of Inspection

The purpose of this special inspection was to review the implementation of licensee planned corrective actions to support Control Rod Drive Disassembly work. The commitments reviewed were those made to support decontamination of the Control Rod Drive Repair Room and future disassembly of Control Rod Drives.

3. Planned Action for Decontamination of the CRD Repair Room

The inspector reviewed the implementation of licensee planned corrective actions for decontamination of the CRD Repair Room as described in Inspection Report 50-293/84-25 (Section 9.3).

The licensee's performance in the area was based on discussions with licensee representatives, observations of on-going work, and review of documentation.

Licensee Planned Action 1

All personnel entering the room would wear extremity dosimetry.

Inspector review found that all personnel entering the room were provided extremity dosimetry. The RWP for the Re-Entry (84-2333) "Special Decontamination of CRD Repair Room" required use of extremity dosimetry.

The licensee implemented this planned action.

Licensee Planned Action 2

All personnel would be briefed on the August 18, 1984 unplanned exposure incident prior to their work in the CRD Repair Room.

The licensee established a special instruction for use in instructing personnel on the incident. The instruction was attached to all applicable radiation work permits. Selective review found appropriate personnel were properly instructed in the incident.

The licensee implemented this planned action.

Licensee Planned Action 3

Workers who perform tasks in the CRD repair room will be instructed that prior to initial handling of material, the material is to be surveyed by a radiation protection technician.

The licensee established a special instruction for this purpose. The instruction was attached to applicable radiation work permits. Selective review found appropriate personnel were properly instructed in the incident.

The licensee implemented this planned action.

Licensee Planned Action 4

Constant Radiation Protection coverage would be provided for each worker.

Observation of on-going CRD disassembly work found that the licensee provided constant coverage for each worker.

The licensee implemented this planned action.

Licensee Planned Action 5

A special instruction will be established to provide guidance as to what actions will be taken following identification of a highly radioactive chip of material in the CRD Repair Room.

The licensee established such an instruction and attached it to all applicable radiation work permits. Selective review found that appropriate personnel were properly trained in the instruction.

The licensee implemented this planned action.

Licensee Planned Action 6

Radiation protection personnel will be instructed in the inadequacies of using radiation survey instruments to measure contact dose rates on point sources.

The licensee generated special instructions regarding the inadequacies of using radiation survey meters to measure such dose rates and attached them to appropriate radiation work permits used for CRD work. The instruction included correction factors to convert apparent contact dose rates on point sources to actual contact dose rates.

The licensee implemented this planned action.

Licensee Planned Action 7

Special precautions will be taken to ensure unidentified chips are not left in mop buckets.

The licensee surveyed all material in the CRD Repair Room during decontamination of the room. This included surveys of mops and buckets.

The licensee implemented this planned action.

Conclusion

Based on the above review, the licensee effectively implemented the planned corrective action for decontamination of the CRD Repair Room. Examination of pre and post decontamination radiation and contamination levels showed that the licensee significantly reduced levels of radioactive contamination and radiation in the CRD Repair Room.

No violations were identified.

4. Action for Review of the Radiological Controls Program and Resumption of CRD Disassembly Work

The inspector reviewed the implementation of corrective action plans and/or statements for review of the Radiological Controls Program and resumption of CRD disassembly work. The licensee plans and/or statements reviewed are described in Inspection Report 50-293/84-25 (Section 10.3).

The licensee's performance in the area was based on discussions with licensee representatives, observations of on-going work, and review of documentation.

Licensee Planned Action 1

The currently combined chemistry and radiation protection organization will be split into two separate organizations.

The licensee has initiated action to separate the currently combined radiation protection organization into two separate organizations. The licensee's onsite Operational Review Committee (ORC) has reviewed and approved the new planned organizations. The licensee has yet to submit the change to the NRC's Office of Nuclear Reactor Regulation for review and approval.

The licensee has initiated action to implement this planned action.

Licensee Planned Action 2

A contractor has been hired to review NRC concerns identified and the Radiological Controls Organization at Pilgrim Station.

The licensee has hired a contractor to review NRC concerns identified and the Radiological Controls Organization at the Pilgrim Station. The contractor started his review in September 1984.

The licensee has implemented this planned action.

Licensee Planned Action 3

Prior to further CRD work in the CRD Repair Room, all personnel, including radiation protection personnel, will be trained on a mock-up.

The licensee provided and is continuing to provide, CRD mock-up training for personnel, including radiation protection personnel, who perform CRD work in the CRD Repair Room. Inspector attendance at a CRD mock-up training class found: a complete CRD was provided and disassembled; a lesson plan for providing the training was in use, and the radiological hazards associated with CRD disassembly work were discussed. Review of training records of selected personnel performing CRD work found personnel to have received such training.

The licensee implemented this planned action.

The following recommendations for improvement were identified:

- improve the CRD disassembly mock-up training to
 - (1) better simulate the CRD repair room (e.g. location and position of a CRD on the Flush Tank)
 - (2) use tools whose handles are similar in length to those currently used for CRD disassembly work.

Licensee Planned Action 4

Prior to further work in the CRD Repair Room, a special instruction will be attached to the CRD disassembly radiation work permit to provide guid-

ance or what actions to take following identification of a highly radioactive chip.

The licensee established such an instruction and attached it to all applicable RWP's for work in the CRD repair room. Personnel signing in a CRD Repair Room RWP were required to read and adhere to the special instruction.

The licensee implemented this planned action.

Licensee Planned Action 5

Prior to further CRD disassembly work, the CRD disassembly/repair procedure will be revised to include specific CRD radiation survey hold points and CRD repair room allowable contamination and dose rate criteria. The licensee will provide NRC Region I with a copy of this procedure for review.

The licensee revised the CRD disassembly/repair procedure to include specific radiation survey hold points and CRD Repair Room allowable contamination and dose rate criteria. The licensee provided a copy of the reviewed procedure to NRC Region I.

The licensee implemented this planned action.

The following recommendations for improvement were identified:

- additional precautionary survey hold points should be included in the procedure for flange strainer disassembly (Section VII B.1.C.)
- include guidance for inspection and cleaning CRD of guide tubes (Section VII B.14).
- review the radiation and contamination levels specified to assure they are ALARA (Section VII D).

The licensee initiated action to review these recommendations and implement appropriate actions (as necessary).

Licensee Planned Action 6

Prior to further CRD work in the CRD Repair Room, additional radiation protection technicians will be used to monitor on-going activities in the CRD Repair Room.

The licensee instituted man-to-man coverage of personnel in the CRD Repair Room. Inspector review of on-going CRD disassembly work found the additional technicians to be providing effective radiological oversight of on-going CRD disassembly work.

The licensee implemented this planned action.

Conclusion

Based on the above review, the licensee effectively implemented the planned corrective action for resumption of CRD disassembly work in the CRD Repair Room.

No violations were identified.

5. Exit Interview

The inspector met with licensee representatives (denoted in Section 1) on September 27, 1984. The inspector summarized the purpose, scope and findings of the inspection. At no time during the inspection did the inspector provide written material to the licensee.

Comments by Licensee Representatives

Licensee representatives stated that periodic audits (not less than weekly) would be initiated on or about October 5, 1984 to ensure proper procedures are being used in the CRD Repair Room.