

DCS Numbers: 50293-840316
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U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-293/84-07

Docket No. 50-293

License No. DPR-35 Priority -- Category C

Licensee: Boston Edison Company
800 Boylston Street
Boston, Massachusetts 02199

Facility Name: Pilgrim Nuclear Power Station

Inspection At: Plymouth, Massachusetts

Inspection Conducted: March 13, 1984 - April 23, 1984

Inspectors: Joy R. Johnson
J. Johnson, Senior Resident Inspector

5/16/84
date

M McBride
M. McBride, Resident Inspector

5/16/84
date

R Borchardt
R. Borchardt, Reactor Engineer

5/17/84
date

Approved by: Robert M. Gallo
R. Gallo, Chief, Reactor Projects Section
No. 2A, Projects Branch No. 2

5/17/84
date

Inspection Summary:

Inspection on March 13, 1984 - April 23, 1984 (Report No. 50-293/84-07)

Areas Inspected: Routine Unannounced safety inspection of plant operations including followup of previous findings, an operational safety verification, followup on plant events and LER's, a review of surveillance and maintenance activities, a review of IE Circulars, site access requirements for inspectors, contractor access to inspectors, and a review of recirculation piping replacement activities. The inspection involved 311 inspector-hours by two resident inspectors and one reactor engineer.

Results: No violations were identified. A concern regarding the licensee's failure to include a corporate policy in Nuclear Operations Procedures is discussed in Paragraph 2.F.

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1. Persons Contacted

Within this report period, interviews and discussions were conducted with members of the licensee staff and management to obtain the necessary information pertinent to the subjects being inspected.

2. Followup on Previous Inspection Findings

- A. (Closed) Unresolved Item (80-18-04) Review actions for protecting rooms with concrete blocks from overpressure. NRC Report Nos. 81-08 and 83-24 describe previous review of this item. The inspector reviewed two Nuclear Engineering Department memos (DM 84-62 dated March 12, 1984, and DM 84-65 dated March 19, 1984). These memos document walkdowns and verification of door modifications from solid to wire mesh. The licensee representative stated that although the Q-List was not planned to be changed, the affected drawings (649B-A43) are being revised. This item is closed.
- B. (Open) Unresolved Item (80-30-01). Restoration of nitrogen supply system for drywell instrumentation. The station nitrogen supply system is being modified to enable the licensee to use nitrogen instead of air to power drywell instrumentation. The licensee expects to complete the modifications before startup, providing a contaminated heat exchanger can be cleaned or replaced. This item will remain open, pending the completion of the modifications.
- C. (Closed) Violation (81-04-02). Failure to have adequate procedures for backwash of radioactive resins. The licensee response, dated July 29, 1981, stated that procedure 2.2.97, "Condensate Demineralizer System", was revised on May 20, 1981 to include all valves manipulated in the loading of resins. The response also stated that a check list was incorporated into procedure 2.2.97 which required Watch Engineer review and approval of valve lineups.

The inspector verified that these commitments were fulfilled. Specifically, the licensee incorporated instructions and a checklist into procedure 2.2.97 which ensure that the block valve downstream from resin receiving hopper T-145 and the condensate transfer valves which bypass the block valve are closed after resin loading activities are completed. These instructions were subsequently incorporated into procedure 2.2.127, "Condensate Demineralizer Operations", which replaced procedure 2.2.97. Station drawings were also revised to include these valves. The inspector had no further questions. This item is closed.

- D. (Closed) Violation (81-08-02). Failure to follow procedures for completing valve lineup check sheets. The licensee response, dated July 3, 1981, stated that valve lineups will be tracked on a computerized plan and that final verification of proper valve lineup will be performed by a supervisor. The licensee included a step to "perform system valve lineup checks" into a computerized startup plan, dated September 26, 1981. The inspector verified that recent valve lineup check sheets for safety-related systems had appropriate maintenance request numbers noted for valves that were out of normal position and that a supervisor signed the completed check lists. The inspector had no further questions. This item is closed.
- E. (Closed) Violation (81-08-03). Failure to conduct a safety evaluation in accordance with 10 CFR 50.59 for modifications of the Instrument and Service Air Systems. The inspector reviewed safety evaluations 81-SE-5 and 81-SE-6 and ORC meeting minutes 81-58 which discussed the modifications. The inspector had no further questions. This item is closed.
- F. (Open) Violation (81-19-03). Failure to conduct a safety evaluation in accordance with 10 CFR 50.59 for a modification of the minimum flow protection equipment associated with the Residual Heat Removal (RHR) pumps. The licensee response, dated January 15, 1982, stated that a station policy was issued on September 22, 1981 which required that any safety related pump or system be considered inoperable whenever the minimum flow recirculation valve on the pump or system is made inoperable.

The licensee response also stated that a corporate directive was issued which required that a safety system be considered inoperable whenever any portion of the safety system or any portions of related auxiliary systems were made inoperable, unless a safety evaluation for the system as configured had been prepared in accordance with 10 CFR 50.59.

NRC inspection report 50-293/81-19 documents that a station policy consistent with the licensee response was issued on September 22, 1981. The inspector verified during the current inspection that a corporate directive consistent with the licensee response was issued on January 15, 1982.

Two Watch Engineers interviewed during the current inspection stated that they were unaware of these policies and would probably not declare an RHR loop inoperable if the minimum flow recirculation valve was disabled. Licensee safety evaluation 1354, dated January 15, 1982, states that an RHR pump cannot run without flow for more than 1.5 minutes without overheating and that shutting and deenergizing the minimum flow recirculation valves while leaving the RHR pumps energized and in the standby mode (plant at 80% power) involves an unreviewed safety question.

Following questioning by the inspector, the Station Manager determined that the Vice President's policy of September 22, 1981 had not been incorporated into the Nuclear Operations Procedures and that this issue would be reviewed. This item remains open pending a licensee decision on whether to incorporate this policy into an operations department document.

- G. (Closed) Follow Item (81-SB-01). Review program to reduce abnormally high radiation levels near the scram discharge instrument volume. The licensee has decontaminated the 6 inch scram discharge volume headers and expects to save 1000 man-rem exposure. The highly radioactive instrument volume has been removed as part of planned modifications to the system. This item is considered closed, however, licensee efforts to reduce occupational exposure and provide ready access to all safety related equipment will continue to be reviewed during routine inspections.
- H. (Closed) Unresolved Item (82-01-02). Apparent in-leakage of ground water into bay 15 of the torus room. The licensee repaired cracks in a concrete wall in 1983, which allowed apparent groundwater leakage into bay 15 of the torus room. The licensee stated that analysis of the water found in bay 15 indicated that it was not contaminated with radioactive material and probably not groundwater. The inspector verified that the cracks had been sealed and that no water was leaking into bay 15 on March 20, 1984. The inspector had no further questions. This item is closed.

- I. (Open) Follow Item (50-293/83-19-04). Review over current fault calculations. The inspector received additional licensee calculations (NED E12-0 dated November 21, 1983) entitled momentary current on 4.16 KV buses and forwarded them to the NRC Region I reviewer. This item remains open pending completion of this review.
- J. (Closed) Violation (50-293/83-24-01). Failure to log reactor vessel and recirculation loop temperatures every 15 minutes during cooldown. The licensee's response dated March 11, 1984 describes corrective actions. The licensee reviewed recorder charts TR 263-105 and TR 151-A&B to verify that the limit of 100° F/hour was not exceeded. NRC Inspection Report No. 83-24 documents independent verification that this limit was not exceeded.

The inspector also verified that an instructional memo was issued on February 24, 1984 to Watch Engineers and Operating Supervisors re-emphasizing the requirements of T.S. 46A1 and station procedure No. 2.1.7 regarding logging of temperatures. The inspector also reviewed documentation indicating that Watch Engineers and Operating Supervisors had reviewed procedure No. 2.1.7. This item is closed.

3. Operational Safety Verification

A. Scope and Acceptance Criteria

The inspector observed control room operations, reviewed selected logs and records, and held discussions with control room operators. The inspector reviewed the operability of safety related and radiation monitoring systems. Tours of the reactor building, turbine building, station yard, switchgear rooms, SAS, cable spreading room, auxiliary bay, rad-waste building, and control room, (daily) were conducted. Tours of the drywell, the torus room and the inside of the torus were also included in this review. Observations included a review of equipment condition, security, housekeeping, radiological controls, and equipment control (tagging); in addition, records of radioactive liquid and gaseous releases from the station were reviewed.

These reviews were performed in order to verify conformance with the facility technical specifications and the licensee's procedures.

B. Findings

- (1) On March 14, 1984 while draining the recirculation loops, the control room operators noted that the water level inside the core shroud was decreasing along with the annulus. This was not supposed to happen because the General Electric Co. personnel had plugged the jet pumps to allow the water inside the shroud to cover highly radioactive sources and provide shielding.

The inspector reviewed the details surrounding this observation. A review of the G.E. procedures implemented (PNPS 90.0 Rev. 0, 91.0 Rev. 0, 92.0 Rev. 0, 93.0 Rev. 0, 94.0 Rev. 0, 95.0 Rev. 2, 97.0 Rev. 0 and 98.0 Rev. 0) did not indicate any technical design problems. The inspector questioned the licensee in two areas: 1) the lack of documented quality control inspection activities and 2) proper authorization of changes to procedure No. 92. These two items were discussed with the contractor (G.E.) and licensee's Quality Assurance organizations. The inspector determined that the licensee's corrective actions were adequate.

The inspector also reviewed a memo from G.E. to the licensee dated March 30, 1984 (PPRP-E-47) which states that the most probable cause of the jet pump diffuser leakage is too low of a torque value to seal the Buna-N rubber of the plugs and uneven seating. The licensee decided to perform the recirculation piping replacement without the benefit of the inside-shroud above core water shielding.

No violations were identified.

- (2) On March 20, 1984, the inspector toured the torus room and the inside of the torus itself (on the cat walk). Two items were discussed with the licensee's management: 1) the condition of fire protective coating on the wood staging and 2) the graffiti on the outside shell of the torus. Immediate action was taken to recoat the bare wood and to evaluate the writing on the torus. No violations were identified.
- (3) On March 29, 1984, the licensee received a low voltage alarm from the 345 KV startup transformer which supplies offsite power to the site during the current outage. An alternative source of offsite power, a 23 KV shutdown transformer, was available but was tagged out and giving intermittent low voltage alarms. A storm with high winds on March 29 and 30 increased salt buildup on insulators in the station switchyard which increased the chance that the startup transformer would short out and isolate. One diesel generator was operable at the time of the alarm. The licensee took precautionary measures on March 29 and 30 to prepare the station for a loss of offsite power (which did not occur).

At the time of the alarm, all fuel had been removed from the reactor vessel and was in the spent fuel pool. The fuel pool cooling pumps are not powered by an emergency electrical bus. Emergency power is supplied to the RHR pumps which can be used for fuel pool cooling. However, the RHR pumps were tagged out on March 29 and 30. The licensee temporarily connected and powered one pump from an emergency electrical bus (B7) on March 30 as a precaution.

The licensee estimated that if fuel pool cooling was lost, the fuel pool temperature would increase at less than 4°F/hr. No violations were identified. This temporary power lineup to the fuel pool cooling pump is planned to continue until normal electrical distribution or redundant cooling supplies are available. The inspector had no further questions.

(4) During a routine plant tour on March 28, 1984, the following potential health physics problems were noted:

-- A worker was observed packaging radioactive waste with diatomaceous earth in a posted high radiation area on the 74 ft. elevation of the Reactor Building with an area air sampler 20 to 30 feet from the job site. The worker was not wearing a respirator. A radiation survey indicated that general area radiation dose rates were 8 to 10 mr/hr and contact radiation rates were as high as 600 mr/hr on the bags of waste to be packaged. The worker was signed in on Radiation Work Permit (RWP) 84-123, "Prepare and Package Dry Waste for Shipment." This RWP contained general instructions for all work areas where dry waste was being packaged.

Licensee health physics management stated that only wet mops were packaged in the area on the 74 ft elevation of the Reactor Building and that the chances of the packaging work generating significant levels of airborne radioactivity were small. The licensee moved the area air sampler closer to the job site and started collecting lapel air samples during the work. The licensee also issued a job specific RWP for the work. No violations were identified. RWP air sample data will be reviewed during future routine inspections.

-- Two workers were noted inside a welding tool cage which was posted as a radioactive materials storage area on the 74 ft. elevation of the Reactor Building. Contrary to instructions on the posting, the workers were not wearing slip ons while inside the cage. Several bags labeled as radioactive material had ripped open in the cage.

The health physics technicians responsible for the area stated that they believed the floor of the cage was not contaminated, but that the area was not routinely surveyed or controlled because the technicians did not have keys to the cage. The technicians did not know the basis for the instructions on the sign. The licensee instructed the workers in the cage on the importance of following posted instructions. The licensee conducted a contamination survey of the cage and subsequently removed the sign requiring slip ons. No violations were identified. The inspector had no further questions.

- (5) On April 2, 1984, the inspector noted a reduction in operations staffing in the control room on the back shifts. The position of Nuclear Operating Supervisor (control room R.O. or S.R.O.) was not being manned if the work load allowed it. The inspector reviewed the requirements of the Technical Specifications and station procedures and verified that this was authorized. The licensee was making use of this period of time to allow for training, vacations, a limited amount of overtime and to maintain adequate numbers of qualified staff to assure safe operations. No inadequacies were identified.
- (6) On April 18, 1984, the licensee made a shipment of waste lubricating oil from the turbine building to a fossil station for disposal. The inspector questioned the licensee concerning sampling for possible radioactivity. Sampling had not been performed prior to the first shipment but was performed subsequently. No contamination was identified. The licensee also revised the system operating procedure to require sampling in the future. No violations were identified.
- (7) On April 19, 1984, the inspector performed a review of tags placed on control room panel pump and valve switches that had multiple tags. Six valve and five pump switches were reviewed. No unsafe conditions were identified, however, two comments were made to the Watch Engineer and subsequently to the station management: 1) information on some tags was more appropriate for a circuit breaker than the control switch, and 2) there was lack of consistency in nomenclature used for switch positions. The licensee stated that actions would be taken to improve these issues. No violations were identified.

4. Followup on Events and Licensee Event Reports (LERs)

A. Events

- (1) On March 16, 1984, and again on March 27, 1984, a full scram signal was generated. The reactor was in cold shutdown and all fuel was in storage in the fuel pool. The inspector reviewed the circumstances surrounding these scram signals to verify proper equipment design. The inspector determined that the equipment operated as designed and that the cause of the scram signals was due to several independent maintenance and modification activities for which personnel failed to recognize the association with the scram bypass circuitry. The licensee has submitted LER No. 84-001 which further describes the causes and corrective actions.
- (2) On March 18, 1984, control room operators smelled burning vapors and identified a hot and smoking (normally energized) Reactor Protective System General Electric Co. HFA relay. The relay was de-energized and a replacement GE Century series relay was installed. Cause was determined to be long term high temperature breakdown of the normally energized A.C. nylon coil. As found testing of the old unit showed that it was still operable (suggesting that it was de-energized by operators before too much damage had occurred).

The licensee submitted LER No. 84-002 which describes further details and corrective actions.

The inspector noted that the licensee is also required to respond to the NRC's Bulletin 84-02, Failures of General Electric Type HFA Relays in Use in Class 1E Safety Systems. This response will include the licensee's plans for testing and maintenance of all safety-related HFA relays in the station. No violations were identified.

- (3) On March 22, 1984 at approximately 2:00 p.m. a small fire occurred when a spark from overhead cutting activities ignited some duct tape securing equipment wrappings on the 9 ft. elevation of the drywell. The licensee stated that the spark apparently penetrated an overlap seam in noncombustible material which covered the duct tape and equipment wrapping. The fire was quickly extinguished by an individual serving as fire watch on the 9 ft. elevation. The inspector reviewed the incident during a routine inspection of the drywell shortly after the fire occurred. The inspector also interviewed personnel involved in the cutting work and reviewed the preliminary licensee fire loss report which recommended removing covered insulation from the area. The inspector had no further questions. No violations were identified.

- (4) On March 23, 1984, during a meeting with a licensee representative, the inspector was informed that the Nuclear Engineering Department had completed an analysis of masonry block walls and concluded that 1) forty-five additional sections of walls required modifications and 2) documentation was missing which demonstrated that many sections of walls had been addressed at all.

The licensee conducted a walk down and review of block walls and blockout sections of poured concrete walls. The licensee also informed NRC:NRR of these preliminary findings by telephone and by letter dated April 13, 1984, "I.E. Bulletin 80-11 Additional Information". Following a review of the evaluation the licensee plans on submitting a final report to the NRC. The Station Manager informed the inspector at the exit meeting that although some of these walls were safety related, none of the problems would have caused inoperability of safety related systems. The inspector had no further questions at this time. No violations were identified.

- (5) On April 5, 1984, the inspector reviewed a control room log entry for April 4, 1984 which described the issuance of an internal trouble report on Safety-Relief Valve (SRV) test failures. Followup indicated that the licensee had received telephone reports from their vendor (Wyle Lab.) that both safety valves lifted low out of specification during as-found testing. Also, the licensee received telephone reports that the four SRV's had problems on as-found testing. Two SRV's indicated stuck pilot valves and two had pilot valve leakage but lifted in specification.

At 1:53 p.m. on April 5, 1984, the licensee made an ENS report to the NRC duty officer reporting these problems.

The inspector reviewed the information available during this inspection period and attended a licensee meeting on April 17, 1984 which included representatives from G.E. and the BWR owners' group.

The licensee established a task force to review all information and has submitted LER's to the NRC describing these events (LER No. 84-004 concerning the Safety Valves, and LER No. 84-005 concerning the Safety-Relief Valves). Specific causes for the failures have not yet been determined and updated LER's are planned when this information is available. This will be reviewed in a future routine inspection.

- (6) At 9:30 a.m. on April 16, 1984, the licensee transported a potentially contaminated injured man to a local hospital. The man had a piece of angle iron dropped on his foot while working inside the drywell. The licensee implemented procedures No. 5.6.1 and 5.7.12 and declared an unusual event. Upon completion of a survey of the individual at the hospital with no contamination identified, the unusual event was cancelled.

No violations were identified. The inspector determined that the licensee should perform more liason with the hospital staff concerning treatment of contaminated injured personnel. The station manager indicated that action would be taken to improve in this area.

B. Review of Licensee Event Reports (LERs)

LERs submitted to the NRC:Region I office were reviewed to verify that the details were clearly reported and that corrective actions were adequate. The inspector also determined whether generic implications were involved and if on site followup was warranted. The following reports were reviewed.

<u>No.</u>	<u>Subject</u>
80-41	Inoperable sample valves
81-15	CO ₂ hose inoperable
84-001	Scram signal during power transfer
84-002	HFA relay failure
84-004	Safety Valve setpoints out of specification
84-005	Target Rock SRV as found testing problems

No inadequacies were identified. LER's 84-002 and 84-005 describe events for which the NRC has determined to be generic and has taken seperate action to resolve.

5. Surveillance Activities

The inspector reviewed the licensee's actions associated with surveillance testing in order to verify that the testing was performed in accordance with approved procedures and facility Technical Specifications

The following test was reviewed.

- Procedure No. 8.4.6, once-per-cycle test firing of the standby liquid control system squib valves ('B' loop).

The inspector reviewed the licensee's actions to replace the squib valves to ensure that replacement charges were from a batch that had been test fired. Although there was some question as to which channel had been fired during the last cycle, the licensee reviewed maintenance and surveillance records and determined that the 'A' channel had been fired in October, 1981.

The inspector reviewed quality assurance receipt inspection records (MRIR 82-786) for the withdrawal of three trigger assemblies and verified the shelf life, manufactured date and lot numbers to ensure that the replacement charges would meet the requirements of the T.S. No inadequacies were identified.

6. Maintenance/Modification Activities

A. Scope

The inspector reviewed the licensee's actions associated with maintenance and modification activities in order to verify that they were conducted in accordance with station procedures and the facility Technical Specifications. The inspector verified for selected items that the activity was properly authorized and that appropriate radiological controls, equipment control tagging, and fire protection were being implemented.

The items/documents reviewed included the following:

- Maintenance Request (M.R.) 84-95; Replace HFA Relay 5AK12F
- M.R. 84-61445; Inspect and Test 'A' Diesel Generator
- Temporary Modification 84-18; Provide temporary power to the fuel pool cooling pump
- Maintenance activities associated with the recirculation piping replacement project (see also Paragraph 10 below).

B. Findings

During the review of the activities associated with the burned up HFA relay, the inspector noted that a Non Conformance Report (NCR) No. 84-33 had been issued for the replacement relay.

The licensee had procured 50 Century 100 relays from G.E. for replacement in accordance with a testing program (and NRC IE Bulletin 84-02). Although the purchase order specified the panel locations, and the fact that the use was for the reactor protection system, no certifications for suitability or environmental qualification was provided with shipment. Boston Edison quality control department issued a document deficiency notice (No. 84-002) during receipt inspection and is in the process of resolving this problem with G.E.

The relay was replaced in accordance with M.R. 84-95, and procedure No. 3.M.1-11, Routine Maintenance. Although the inspector noted that Procedure No. 3.M.1-11 does not provide any specific instructions, it does allow replacement of relays. The inspector also noted that the electricians performing the work documented relay wiring schematics, and contact wiper, gap, and pick-up voltage in accordance with NED 83-636 engineering evaluation and G.E. SIL No. 44, Rev. 4.

No violations were identified during this review.

7. Followup on NRC Inspection and Enforcement (IE) Circulars

The inspector reviewed the licensee's actions in response to the IE Circulars listed below to verify that the actions adequately addressed the concerns identified.

IEC 78-15; Tilting Disk Check Valves Fail to Close

IEC 78-15 reported that a check valve failed to close with gravity because it was installed in a vertical rather than horizontal position. The inspector reviewed the licensee's records (NED 79-571 dated July 2, 1979) and found that the recommended actions were taken and that the conditions were acceptable. This circular is closed.

IEC 78-18; UL Fire Test

This circular provided information on a full-scale vertical cable tray fire test that was conducted by Underwriters Laboratories. The inspector reviewed the licensee's NED Fire Protection Task Force analysis (NED 79-254 dated March 20, 1979) and found that it addressed the issues of this circular. This circular is closed.

IEC 79-04; Loose Locking Nut on Limitorque Valve Operators

This circular provided information on the failure of valves to operate as required because the operators did not have the locking nut securely fastened.

The inspector reviewed the licensee's information report of May 23, 1974 in which they identified a similar problem and documented their corrective actions. The Onsite Review Committee also reviewed this event.

The licensee also reported in LER No. 83-40 the failure of core spray valve No. 1400-25A to operate due to a loose stem nut. The licensee re-staked this nut and performed an inspection of all other similar valves inside the dry-well. No similar problems were identified. This circular is closed.

IEC 79-17; Contact Problem in SB-12 Switches

The licensee determined that they did not purchase any of the subject switches (with an intermittent contact problem). This is documented in NED memo 79-895 dated October 10, 1979. This circular is closed.

IEC 80-01; G.E. Induction Disc Relays

This circular provided information dealing with certain G.E. induction disc relays that were experiencing higher than normal pick up values because of excess petroleum jelly lubricant. The licensee performed a review of installed equipment and determined that the subject relays were not in use. The inspector independently reviewed the licensee's list of type and location of induction disc relays and verified that they were not of the type and date code as those specified to have the problems. This circular is closed.

IEC 80-15; Loss of Reactor Coolant Pump Cooling

This circular described an event involving a Pressurized Water Reactor's response to a total loss of component cooling water flow to the reactor coolant pumps. This circular is not applicable since this plant is designed for limited natural circulation operations.

IEC 80-23; Potential Defect in Beloit Power Systems Emergency Generators.

The licensee does not have the subject diesel generators installed. This circular is not applicable to the facility.

IEC 81-05; Self Aligning Rod End Bushings for Pipe Supports

This circular provided information on loose bushings in snubber and sway strut assemblies which could result in a complete disengagement of the bushing with the paddle assembly. This would invalidate the original assumptions used in piping seismic analysis. The licensee conducted an inspection to identify and locate any potential occurrences and found that there were no assemblies which had the potential for total bushing disengagement. The inspector reviewed the licensee's inspection records and determined that the sampling size and subsequent evaluation was adequate. Samples included those of various loads, clamp size, orientation and location. Engineering Department memo dated June 3, 1982 documents inspection results. This circular is closed.

No violations were identified during this review.

8. NRC Inspector Access to the Station

On April 4, 1984, the inspector attended a meeting at the licensee's training center in Plymouth, Mass. to discuss the licensee's program for NRC inspector access to the site. NRC management and licensee representatives from several disciplines were in attendance.

Topics discussed included medical examinations, training, whole body counting, badging, and respirator training.

No unacceptable conditions were identified. Further discussions are planned between the NRC and the licensee in an attempt to reduce unnecessary processing times.

9. Worker Access to NRC Inspectors

On April 5, 1984, a worker contacted the inspector and discussed concerns relating to access to NRC inspectors and regulations regarding whole body counting. Following discussions with NRC:Region I management personnel and Boston Edison Co. management, the licensee's contractor, Bechtel Power Corporation, conducted an investigation into this event.

The inspector also held discussions with several workers at random to determine whether the licensee or its contractors were prohibiting workers from access to the NRC. The inspector could not substantiate the allegation that workers were prohibited from access to the NRC inspectors.

On April 12, 1984, Bechtel Power Corporation issued a memo to all employees re-iterating their policy regarding access to NRC inspectors. This policy is in accordance with 10 CFR 19, "Notices, Instructions and Reports to Workers".

The inspector reviewed radiological conditions regarding the workers job location, survey data, and bioassay results. No unacceptable conditions were identified.

The inspector had no further questions regarding this matter at this time.

10. Recirculation Piping Replacement Activities

A. Project Quality Assurance

During a review of implementation of several procedures for preparing the reactor vessel and internals to support the piping removal, the inspector noted a problem of not properly approving a revision to a procedure, and a lack of documented quality control inspections.

The licensee's contractor, General Electric Company, took immediate action to correct these two concerns.

Subsequently, the inspector held a meeting with the licensee's Quality Assurance Manager regarding 1) the contractor's quality assurance organization, and interfaces between several groups, 2) quality control requirements including use of travelers and documenting inspection activities, and 3) the scope of Boston Edison Company inspection, surveillance, and auditing of this work.

The inspector determined that the licensee was increasing oversight actions and had recently conducted an audit of the project activities. Also, the licensee's on site Quality Control Inspection group has assigned two inspectors to the project who implement hold points at their discretion on the G.E. work activity travelers.

The inspector had no further questions at this time. No violations were identified. Further NRC review of these activities has also been performed by Region based specialists. Those findings will be described in a separate report. The problem of not properly approving a procedure revision is considered an isolated case.

B. Piping Removal

On March 21, the inspector observed a demonstration of how plasma arc cutting would be conducted in the drywell. The licensee stated that containments of noncombustible material connected to air ventilation units would be used to control contamination in the drywell if plasma arc cutting was used.

On March 22, 1984, the inspector observed the set up and initial Quality Assurance check on the first cut into the recirculation ring header in the drywell. This activity was controlled by G.E. procedure No. 50.0, "Recirc Removal; Cutting, Equalizing Pipe between Loops A and B", Revision 1, March 21, 1984 and by Traveler No. Rt-45.1, Revision 0, March 12, 1984. The inspector reviewed the procedure and traveler and noted that appropriate Quality Assurance hold and check points were signed on the traveler on March 22, 1984.

On March 25, 1984, at about 5:00 p.m., workers in the drywell noticed several grooves on the inside surface of the drywell liner. These grooves were cut into the liner when missile shields (metal plates) were removed by torch cutting as part of interference removal. The licensee suspended further plate removal pending a review of cause and corrective actions which are being tracked by G.E. quality assurance non-conformance report number Recirc. 14.

Licensee measurements indicate the depth of the grooves was up to 7/16 inch. The inspector reviewed the FSAR Figure L.1-2 which shows the thickness of the liner as 13/16 inch at this location.

The inspector had no further questions at this time. No violations were identified.

C. Drywell Decontamination

In early March, the licensee attempted to decontaminate the drywell using dry wipes followed by a low pressure water wash followed by a high pressure water wash (hydrolaze). The goal of the decontamination was to eliminate the generalized need for respirators in the drywell. The decontamination had limited success, however, as localized contamination levels were still in the mrad/hr range after hydrolazing. As a result, respirators were still required for all work in the drywell.

The licensee evaluated additional decontamination and contamination containment strategies and intends to eliminate the generalized need for respirators in the drywell.

The licensee stated on March 22, 1984 that protective wrappings on drywell electrical instrumentation were not successful in shielding the instruments from water during hydrolazing in the drywell. The inspector observed wrapped instruments in the drywell and confirmed that some bagged electrical connections contained visible amounts of water. The licensee stated that sensitive electrical equipment in the drywell has been identified and will be tested for possible water damage prior to startup. No violations were identified.

On April 18, 1984, following additional decontamination and evaluation of survey data the licensee removed the requirement to wear respiratory equipment in the drywell in certain areas and under certain conditions. Respirators were still required in the bottom elevation (9 foot level), and for cutting, grinding or welding, for any decontamination work, and for anyone within about 10 feet of these activities.

The inspector held several discussions with different workers who were concerned about not wearing respirators. The inspector reviewed the licensee's air surveys, contamination surveys, process controls, and monitoring practices. No unacceptable conditions were identified. The inspector toured the drywell and observed implementation of radiological controls.

The inspector determined that although the licensee could have provided more advance notice to the workers concerning the planned removal of respiratory equipment, no violations were identified.

11. Radiological Occurrence Reporting

On March 13, 1984, the inspector reviewed procedure No. 6.1-209, "Radiological Occurrence Reports", Revision 1, March 7, 1984. The licensee committed to revise this procedure by March 7, 1984 at an enforcement conference at Region I on February 21, 1984. Specifically, the licensee stated that the procedure would be revised to require: 1) time limits for notifying licensee management of certain types of radiological events, and 2) that Failure Malfunction Reports be completed for certain types of Radiological Occurrence Reports (ROR).

Revision 1 to procedure 6.1-209 did contain time limits for notifying licensee management of radiological events. However, the revision did not contain guidance on which types of radiological events required Failure Malfunction Reports. Instead, the revision only referenced the Failure Malfunction Report procedure, No. 1.3.24. Procedure 1.3.24 does not address radiological events.

In response to this finding, the licensee submitted a revision to procedure 6.1-209 to the Operations Review Committee on March 14, 1984. This revision contains guidance on completing Failure Malfunction Reports for radiological events and fulfills the licensee commitment. The inspector had no further questions.

12. Unresolved Items

Areas for which more information is required to determine acceptability are considered unresolved. Unresolved items are discussed in Paragraph 2.

13. Management Meetings

During the period of the inspection, licensee management was periodically notified of the preliminary findings by the resident inspectors. A summary was also provided at the conclusion of the inspection and prior to report issuance.