U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Report Nos. 50-272/91-18
50-311/91-18

Docket Nos. 50-272
50-311

License Nos. DPR-70
DPR-75

Licensee: Public Service Electric and Gas Company
P.O. Box 236
Hancocks Bridge, New Jersey

Facility Name: Salem Nuclear Generating Station, Units 1 and 2

Inspection At: Hancocks Bridge, New Jersey

Inspection Conducted: June 10-13, 1991

Inspector: RL Nimitz
R. L. Nimitz, CHP, Senior Radiation Specialist — 6/26/91 Date

Approved by: for James H Joyner
W. J. Pasciak, Chief, Facilities
Radiation Protection Section, DRSS — 6/26/91 Date

Inspection Summary: Inspection on June 10-13, 1991 (NRC Combined Inspection Report Nos. 50-272/91-18; 50-311/91-18)

Areas Inspected: This inspection was a routine, unannounced radiological controls inspection. The following areas were reviewed: licensee action on previous findings; radioactive material source inventory, control and leak testing; safety related ventilation system testing; process radiation monitor testing; and routine radiological controls.

Results: No violations were identified. The licensee was making good efforts to resolve self-identified radiological concerns. Two unresolved items associated with radiation monitor surveillance and control room ventilation system operation were identified.

DETAILS

1.0 Individuals Contacted

1.1 Public Service Electric and Gas Company

*C. Vondra, General Manager - Salem Operations
*E. H. Villar, Licensing Engineer
*V. Polizzi, Operations Manager, Salem
*T. Cellmer, RP/Chem Manager, Salem
*J. Wray, Radiation Protection Engineer, Salem
*M. Snedlock, Maintenance Manager, Salem
*M. Morroni, Technical Department Manager
*P. Duca, Delmarva Power
*G. Livermore, QA Engineer, Salem
*M. Prystupa, Radiation Protection Engineer, Hope Creek
*E. Katzman, Principal Engineer

1.2 NRC Personnel

*T. Johnson, NRC Senior Resident Inspector
S. Barr, NRC Resident Inspector

The inspector also contacted other individuals during the course of this inspection.

*Denotes those individuals attending the exit meeting on June 13, 1991.

2.0 Purpose and Scope of Inspection

This inspection was a routine, unannounced Radiological Controls Inspection. The following areas were reviewed:

- the licensee's actions on previous findings;
- radioactive source control, inventory and leak testing;
- safety related ventilation system testing;
- process and area radiation monitor testing;
- corrective action system; and
- routine radiological controls.

3.0 Licensee Action on Previous Inspection Findings

(Open) Unresolved Item (50-272/91-08; 50-311/91-08-01) The licensee did not have a well defined radiation protection supervisor training program. In addition, it was not apparent that one radiation protection supervisor met Technical Specification (TS) qualification requirements. The inspector's review of this matter indicated that the licensee evaluated the qualifications of the supervisor and concluded that the individual met TS qualification requirements. The licensee is currently developing a radiation protection supervisor training program.

4.0 Radioactive Material Source Inventory, Control and Leak Testing

The inspector reviewed radioactive material source inventory, control, and leak testing. The review was with respect to criteria contained in Unit 1 and Unit 2 Technical Specification 3/4.7.8, Sealed Source Contamination; Procedure SC.RP-TI.ZZ-053(Q), Revision 0, Radioactive Source Control; and 10 CFR 20, Standards for Protection Against Radiation.

The evaluation of the licensee's performance in the area was based on discussions with cognizant personnel, review of documents, and independent observations by the inspector. The inspector independently reviewed source storage locations, source accountability and performance of leak testing, including use of appropriate contamination detection instrumentation used for measuring loose surface contamination.

Within the scope of this review, no violations were identified. The following matters were brought to the licensee's attention:

- There was limited supervisory oversight of source sign-out accountability logs. Personnel were not completing all blocks of the radioactive source sign-out/sign-in records. These concerns had previously been identified by the licensee's QA group in April 1990. The licensee's QA group performed a thorough technical and programmatic review of radioactive source controls at that time. The licensee's corrective actions for these matters focused on radiation protection personnel. The corrective actions did not include I&C and chemistry personnel who appeared to be the individuals not completing appropriate records. The licensee subsequently discussed radioactive source sign-out/sign-in with appropriate I&C and chemistry personnel.

- The Instrumentation and Control (I&C) personnel using sources did not receive any special training on source handling or procedure requirements. In addition, the radiation work permit for use of sources by I&C personnel contained limited controls regarding use of sources.

- There was no authorization list identifying individuals authorized to receive and use sources. The licensee's radiation protection personnel were unable to identify individuals who had signed out sources.

- Sources with thin mylar coverings were not returned to specially designed source holders. The sources were left in the source storage location and were susceptible to damage.

- Several sources were contained in source cases with illegible identifying information.

- An out of date procedure for source control was in use at the Radiation Protection Services Calibration facility.

- A 4 curie Am-Be Neutron source was moved from the Unit 1 No. 11 Waste Gas Decay Tank Cubicle to the No. 12 Waste Gas Decay Tank Cubicle but the source control/accountability form was not updated to reflect the change.

- Two neutron sources located in the No. 12 Waste Gas Decay Tank Cubicle were not locked. The door to the cubicle was locked however, it was unclear who possessed keys to the cubicle. The licensee immediately re-cored the lock to provide for clear radiation protection group control of access.

The licensee initiated reviews of the above observations.

5.0 Control Room Emergency Ventilation System Testing

The inspector reviewed the testing of the Unit 1 and Unit 2 Control Room Emergency Ventilation System. The review was with respect to criteria contained in Technical Specification 3/4.7.6, Control Room Emergency Air Conditioning System.

The evaluation of the licensee's performance in the area was based on discussions with cognizant personnel, review of applicable procedures and test results, independent walk down of both trains of the emergency ventilation system, and comparison of drawings and damper checklists to the installed system.

The following matters were noted:

- The pitot tube test holes were not plugged on the fresh air intake of the Unit 1 emergency air filtration (EAF) unit (IVHE-200).

- Access panel locks were missing from the cooling coil access door on the Unit 1 EAF unit.

- Bolts were missing from an electrical junction box on the Unit 1 ventilation system.

- The door latches (dogs) were not properly secured on the Unit 2 charcoal and HEPA EAF unit personnel access doors.

- The Unit 1 EAF unit appeared to be pressurized. The reason for this was unclear.

- The 18 month and 31 day surveillance tests for the Unit 1 and Unit 2 EAF units did not verify position of dampers CAA15, CAA16, and CAA21. These dampers open on an EAF unit activation signal.

In addition to the above, the inspector noted that the licensee's Unit 2 Technical Specifications required performance of a control room pressure test to verify that the control room could maintain a specified pressure. The inspector noted however that the licensee relied on the Unit 1 EAF for performance of this test. On an auto initiation signal, all four fans of the Unit 1 and Unit 2 EAF units (two fans at each unit) start. Subsequently, one fan at each unit is secured. The inspector noted that it was not clearly indicated that use of Unit 1 EAF units, for this purpose was permitted. Also, the Unit 1 EAF units were not required to be operable in Modes 5 and 6. The Unit 2 EAF units were required to be operable in all Modes.

Although, in practice, operations personnel indicated that the Unit 1 EAF units were maintained operable to ensure control room temperature was maintained, there were no administrative controls to preclude disabling of the Unit 1 EAF units with Unit 2 in an operating Mode where the Unit 1 systems were to be operable. The licensee had no data to indicate that the Unit 2 EAF units could maintain the required control room pressure. The licensee subsequently issued a Night Order requiring maintenance of operability of the Unit 1 EAF units in Modes 5 and 6.

The licensee indicated that the operational configuration of the control room EAF units would be reviewed and approved by the Station Operations Review Committee (SORC). The review and approval of the operational configuration of the Unit 1 and 2 EAF units and the reason for the apparent pressurization of the Unit 1 EAF system were considered an unresoved item (50-272/91-18-01).

The following positive observation was made:

- The inspector noted that the licensee has established a Configuration Basis Document (CBD) for ventilation systems. The document identifies areas for improvement and clarification.

6.0 Process and Area Monitoring Surveillance and Calibration

The inspector reviewed the surveillance testing and calibration of selected process radiation monitors. The review was with respect to criteria contained in Unit 1 and Unit 2 Technical Specification Table 4.3-3, Radiation Monitoring Instrumentation Surveillance Requirements.

The following instrumentation was reviewed:

- control room air intake monitors;
- fuel storage areas;
- containment area high range monitors; and
- containment air particulate monitors.

The evaluation of the licensee's performance in the area was based on discussions with cognizant personnel, review of documentation and observation by the inspector.

Within the scope of this review, no violations were identified. Within the scope of this inspection, the following item was brought to the licensee's attention:

- The inspector's review of a Unit 1 containment high range monitor surveillance test (Procedure 1IC-4.1.072, Revision 4, dated April 12, 1991) performed in April 1991, indicated that an out-of-specification voltage reading was identified. However, the test was approved with the out-of-specification data. It was noted that the voltage specification range was not consistent with the vendor's manual.

  It was not apparent that it was appropriate to approve the test with out-of-specification data. Also, the test procedure did not appear to have clear acceptance criteria contrary to the licensee's administrative procedures. The inspector indicated that approval of a test with out-of-specification data and lack of clear acceptance criteria in a surveillance procedure was an unresolved item (50-272/91-18-02).

The following positive observation was made:

- The inspector noted that the licensee has established a Configuration Basis Document (CBD) for the station radiation monitoring system. The document identifies areas for improvement and clarification.

7.0 Corrective Action System

The inspector review selected radiological occurrence reports. The reports are issued for purposes of tracking and resolution of radiological controls concerns.

The inspector's review indicated that the concerns were resolved in a timely manner, appropriate short and long term corrective actions were taken, and root causes were clearly identified.

8.0 Radiological Controls

The inspector toured the radiological controlled area (RCA) during the inspection. The following matters were reviewed.

- posting, barricading and access control (as applicable) to Radiation and High Radiation Areas;
- contamination controls;
- use and positioning of personnel radiation monitoring devices;
- use of appropriately checked radiation survey instrumentation; and
- posting, labeling and control of radioactive material.

The evaluation of the licensee's performance in the area was based on review of documentation, discussions with cognizant personnel and inspector performance of independent radiation dose rate measurements.

Within the scope of this review, no violations were identified. The following observations were made:

- posting and barricading appeared good; and
- overall plant housekeeping appeared good and improving

The following additional observation was made:

- One individual inside the posted radiological control area (RCA) was observed to ingest medication (pills). Ingestion of material is prohibited in the RCA. The individual immediately recognized his error when brought to his attention and informed his management who subsequently counseled the individual.

The inspector noted that this was an isolated occurrence. In addition, subsequent inspector review of whole body count data for the past 10 months and discussions with cognizant licensee personnel indicated that no individual sustained an intake of radioactive material greater than the 10 CFR 20.103(b)(2) action criteria for follow-up evaluation and implemention of corrective actions to prevent recurrence.

9.0 Exit Meeting

The inspector met with the licensee's representatives denoted in section 1 of this report on June 13, 1991. The inspector summarized the purpose, scope and findings of the inspection. No written material was provided to the licensee.