

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-311/86-33

Docket No. 50-311

License No. DPR-75 Category C

Licensee: Public Service Electric and Gas Company
P.O. Box 236
Hancocks Bridge, New Jersey 08038

Facility Name: Salem Generating Station Unit 2

Inspection At: Hancocks Bridge, New Jersey

Inspection Conducted: November 4-7, 1986

Inspector: *T. Dragoun* Senior Radiation Specialist 12/12/86
date

Approved by: *M. Shanbaky* 12/12/86
M. Shanbaky, Chief, Facilities Radiation
Protection Section date

Inspection Summary: Inspection on November 4-7, 1986 (Report No. 50-311/86-33)

Areas Inspected: Routine, unannounced inspection of the radiological safety program including: status of previously identified items; control of outage work; status of radiation protection procedures revision; and personnel dosimetry.

Results: No violations were identified.

8612230190 861215
PDR ADOCK 05000311
Q PDR

DETAILS

1.0 Persons Contacted

During the course of this routine safety inspection the following personnel were contacted or interviewed:

1.1 Licensee Personnel

J. Zupko, General Manager - Salem
L. Miller, Assistant Superintendent
J. Trejo, Radiation Protection Manager
D. Mohler, Radiation Protection Engineer
R. Patwell, Licensing
E. Browder, Station QA

1.2 NRC Personnel

K. Gibson, Resident Inspector
T. Kenny, Senior Resident Inspector

All above personnel attended the exit interview on November 7, 1986

2.0 Purpose

The purpose of this routine inspection was to review the licensee's radiation protection program with respect to the following elements:

- o Status of previously identified items
- o Control of Outage work
- o Replacement procedures
- o Personnel dosimetry

3.0 Status of Previously Identified Items

- 3.1 (Closed) Followup Item (272/79-15-01) The minimum detectable level of I-131 in RHR liquid is higher than 10 CFR 20 Appendix B limits. Since I-131 levels in RHR are normal, this matter is no longer a concern.
- 3.2 (Closed) Followup Item (272/81-18-01) Review transportation training. Training is periodically provided. The latest session was held on April 1986.
- 3.3 (Closed) Followup Item (311 & 272/84-09-02) Review potential unmonitored radioactivity release paths during outages per IEB 80-10. Procedure AP-13 "Temporary Jumpers, Pumps, and Lifted Leads" specifies the precautions for use of temporary pumps to transfer contaminated fluids.

- 3.4 (Closed) Followup Item (311 & 272/84-09-03) Implement revised radiation protection procedures. Status of this item is discussed in section 5.0 of this report.
- 3.5 (Closed) Followup Item (311 & 272/84-21-01) Issue ALARA Manual. The manual was issued by Radiation Protection Services on September 9, 1985.
- 3.6 (Closed) Followup Item (311 & 272/84-21-02) ALARA engineer to coordinate man-rem estimates. Procedure AP-7 "ALARA Program" requires that the ALARA supervisor include man-rem goals in the pre-job checklists.
- 3.7 (Closed) Follow-up Item (311 & 272/84-21-03) Establish review of HP procedures for regulatory compliance. In accordance with Technical Specification Amendment 33 and procedure AP-32, all revised RP procedures are checked by a qualified reviewer to ensure procedural compliance with the applicable regulations.
- 3.8 (Closed) Followup Item (311 & 272/84-21-04) Expand procedure for response to CAM alarm. Revision 3 to procedure RP8.031 "Use of the Eberline AMS II Beta Continuous Area Monitoring System" provides complete emergency instructions.
- 3.9 (Closed) Followup Item (272/84-35-01) Review dose assessment of 3 workers cleaning the steam generator. The licensee's calculations and methodology were reviewed and found acceptable.
- 3.10 (Closed) Violation (272/84-35-02) Ensure that procedures require upper arm dosimetry in certain radiation fields. Procedure RP3.021 "Multiple Special TLD Badging" was revised to include situations requiring that upper arm exposures be monitored. The corrective action described in licensee letter dated December 19, 1984 is complete and satisfactory.
- 3.11 (Closed) Followup Item (311/84-44-01) Review revised Lapse of Radiological Controls (LRC) procedure. Procedures RP 1.025 "Procedure for Processing of LRC" was revised and RP1.030 "Generating a Radiological Occurrence Report" was issued to encourage workers to report radiological deficiencies.
- 3.12 (Closed) Followup Item (272/84-45-11) Finalize procedures for implant radioiodine sampling. Procedure EP-1V-123 "Emergency Implant Air Sampling" and EP-1V-118 "High Activity Sample Analysis" were issued in November 1985. Both procedures were reviewed and determined to be adequate.
- 3.13 (Closed) Followup Item (272/84-45-12) Review new respirator training program. Respirator training is now a separate 4 hour session that includes practical factors and a final exam. Lesson plan TP-211 Rev.1 provides adequate technical information.

- 3.14 (Closed) Followup Item (311/85-12-01) Provide new job descriptions for RP department. Position descriptions are now available for new staff positions.
- 3.15 (Closed) Followup Item (272/85-17-01 and 311/85-19-01) Verify corrective action regarding improper sampling of waste gas decay tanks. Chemistry technician training lesson plan #150 has been revised to include a detailed review of LER 85-05. This would provide for proper sampling of the waste gas decay tanks.
- 3.16 (Closed) Followup Item (272/85-21-01) and 311/85-23-01) Limit work assigned to HP technicians in training. A memo issued by the Radiation Protection Engineer on September 23, 1985 limits trainee work assignments. Revision 11 to procedure RP4.001 "Radiation Protection Survey Schedules" requires a review of surveys performed by trainees by an ANSI qualified technician.
- 3.17 (Closed) Followup Item (272 and 311/86-13-01) Incorporate ALARA information in lesson plans for contractor HP technicians. Lesson plan #404 Rev.01 issued August 22, 1986 incorporates a discussion of the station ALARA program.
- 3.18 (Closed) Followup Item (272 and 311/86-13-02) Provide formal guidance for screening qualification of contractor HP technicians. Procedure RP 2.001 "Radiation Protection Qualification Program" was revised to include this guidance.
- 3.19 (Open) Unresolved Item (272 and 311/86-13-03) Establish a firm schedule and revise RP procedures. The procedures to be revised have been identified and a completion schedule has been issued. This major procedure change is further discussed in section 5.0.

4.0 Control of Outage Work

The licensee's safety program for the control of outage work was reviewed with respect to the criteria contained in:

- o Technical Specification 6.11 Radiation Protection Program
- o Technical Specification 6.8 Procedures and Programs
- o 10 CFR 20 Standards for Protection Against Radiation
- o Reg Guide 1.33 Rev.2 (February 1978) Appendix A
- o Station procedures RP1.013, RP1.017, RP1.030 and RPIP230

The licensee's performance relative to these criteria was determined from:

- o Review of active RWPs and supporting radiation surveys
- o Tour of the work areas
- o Discussions with RP supervisors and technicians
- o Review of the Radiological Occurrence Reports

Within the scope of this review no violations were observed. The inspector noted the following changes were implemented by the licensee in an effort to enhance the program:

Procedure RPIP230 "Radiation Work Permits" is the first in a series of new procedures issued under the RP procedures overhaul program. This procedure is not SORC committee approved per the recent amendment 33 to the Technical Specifications. The procedure was reviewed by RP department personnel only. The inspector reviewed RPIP230 and found that it provided clear, explicit instructions. However, the computer generated RWP form was cluttered with extraneous data such that the radiological conditions and protective measures may not be immediately evident to the worker. The licensee is aware of this problem and plans to simplify the form. This matter will be reviewed in a future inspection. (86-33-01)

The licensee assigned six senior technicians specific outage work packages to be followed from preplanning stages through job completion. This coordination and planning improved job performance and resulted in significant dose savings in a few instances.

The refueling exposure goal for Unit-2 was 75 man-rem of which 55 man-rem was used. The Salem site goal was 720 man-rem for 1986 of which about 560 man-rem was used.

For the year to date there were 219 Radiological Occurrence Reports. The majority of these reports concerned personnel contamination, lost dosimetry and violations of RWP requirements. The inspector noted that the licensee's ability to identify radiological deficiencies, identify trends, and take appropriate corrective action has improved.

5.0 RP Procedures Revisions

The procedures revision project was discussed fully in inspection report 86-13. During this inspection the licensee stated that draft revised RP procedures would be completed by September 1987 and fully implemented by December 1987. On November 10, 1986 the licensee published a detailed schedule that identified the new procedures, assigned responsibility to the RP staff, and provided completion dates. This will ensure completion of all procedure revisions and training of personnel prior to the 1987 Unit 1 outage. The inspector noted that the current timetable for this project is acceptable.

6.0 Personnel Dosimetry

The licensee recently lengthened the processing interval of TLD badges from monthly to quarterly. This change was implemented to allow badging all personnel on the Hope Creek/Salem sites. The impact of this change was assessed through discussions with the Dosimetry Supervisor and a review of licensee test data and manufacturers (Panasonic) data regarding TLD fading.

Within the scope of this review, no violation was observed. The TLD fading over a 3 month interval is small and predictable. Various cross checks such as TLD-SRP comparisons, use of control badges, and TLD glow curve analysis are used to identify anomalies. These controls ensure the accuracy of personnel exposure reports. However, the difficulties in assessing personnel exposures when dosimetry is lost and other potential technical problems will be assessed in a future inspection after the implementation of this new system.

7.0 Exit Interview

The inspector met with the personnel denoted in section 1 at the conclusion of this inspection on November 7, 1986. The scope and findings of the inspection were discussed at that time.