

DETAILS

1. Persons Contacted

Principal Licensee Employees

Mr. J. Cullen, General Health Physics Supervisor
Mr. S. Curry, Nuclear Training Director
Mr. P. Gaudio, Health Physics Supervisor
Mr. J. Higgins, General Chemistry Supervisor
Mr. E. Imbimbo, Nuclear Training Assistant
*Mr. L. Kawula, Acting Plant Manager
*Mr. J. Makepeace, Technical Engineering Director
*Mr. W. Monti, Manager, Nuclear Power Generation
Mr. R. Vogle, Health Physics Supervisor
*Mr. S. Wisla, Chemistry and Radiation Safety Director

Other Personnel

Mr. M. Kreps, Site Coordinator (Numanco)
*Mr. T. Rebelowski, Resident Reactor Inspector (USNRC)
Mr. R. Robinson, Supervisor (Numanco)

The inspector also interviewed approximately 12 other licensee and contractor employees including health physics technicians and clerks and members of the security force.

* denotes those present at the exit interview on July 27, 1979.

2. Licensee Action on IE Circulars and Previous Inspection Findings

IE Circulars

The inspector examined licensee equipment and interviewed licensee representatives to verify the licensee's response to IE Circulars 77-14 (Units 1 and 2) and 79-09 (Units 1 and 2).

77-14: Licensee evaluation of clean/contaminated system interfaces was previously reported in Combined Inspection Report (50-003/78-03; 50-247/78-04). See additional actions under unresolved item (247/ 75-07-02) below.

79-09: Punctured regulator diaphragms in certain self-contained breathing apparatus. The types of respirators referenced in the circulars are not used by the licensee in his respiratory protection program.

Previous Inspection Findings

(Closed) Unresolved item (247/75-07-02): The inspector reviewed clean/contaminated interfaces with licensee personnel including monitoring, readout, and alarm functions of continuous monitors. The field installation and readout of the continuous monitor installed on the auxiliary boiler was examined by the inspector. This completed licensee action on this item which had previously been reviewed in Combined Inspection Report (50-003/78-03; 50-247/78-04).

(Closed) Inspector followup item (247/78-25-01): The inspector examined the exposure records of the three individuals and verified that their exposures had been updated on their NRC-5 forms.

3. Procedures

Technical Specification (TS) 6.8 "Procedures" requires written procedures and administrative policies that meet or exceed the requirements and recommendations of Sections 5.1 and 5.3 of ANSI N18.7-1971 and Appendix "A" of Regulatory Guide 1.33 (issued November 1972). Station Administrative Order (SAO) 102 Rev. 5 details the licensee's administrative controls for procedure issue and procedure changes. Technical Specification 6.11 requires that procedures for personnel radiation protection shall be prepared consistent with the requirements of 10 CFR 20 and shall be approved, maintained and adhered to for all operations involving personnel radiation exposure. Health Physics Administrative Directive RS-AD-2 Rev. 5 states the licensee's administrative controls for issue and revision of Health Physics Instructions.

The licensee maintains "Health Physics Procedures" (HPPs) which are developed pursuant to TS 6.8 and "Health Physics Instructions" (HPIs) which are developed pursuant to TS 6.11. The following HPPs and SAOs and outage procedures were reviewed against the criteria in TS 6.8 and SAO-102:

- HPP 1.2, Rev. 4, "Administrative Radiation Exposure Control"
- HPP 2.2, Rev. 4, "Access Control"
- HPP 2.3, Rev. 2 "Radiation Contamination and Airborne Activity Guides and Limits"

- HPP 2.4, Rev. 1 "Containment Entry and Egress"
- HPP 4.1, Rev 4 "Issuance and Control of Personnel Dosimetry"
- HPP 5.2, Rev. 2 "Survey and Laboratory Instruments"
- HPP 6.3, Rev. 1 "Inventory and Leak Testing of Sealed Sources"
- HPP 6.4, Rev. 3 "Decontamination"
- SAO 102, Rev. 5 "Procedure/Procedure Change Approval Policy"
- SAO 103, Rev. 1 "Station Health Physics Policy"
- 2CM 1.32, "Explosive Tube Plugging of Steam Generator Tubes"
- Health Physics Temporary Instruction "Temporary Procedure for Steam Generator Primary Channel Head Work"

The inspector noted that page 3 of SAO 103 termed a "restricted area" a "radiation area" and that HPP 2.2 contained no requirements for personnel contamination surveys when exiting outside contaminated areas. A licensee representative stated that minor procedural changes would be made to correct these oversights. The inspector also noted that FSAR Section 11.2.3 states on pages 11.2-2 and 11.2.22b, respectively, "The plant site is divided into two categories, the Conventional Area and the Controlled Area.

The Radiation Control Area encompasses all plant areas in which radioactive materials and radiation are present in excess of limits specified in 10 CFR 20, 20.202, b2." and, "All persons subject to occupational radiation exposure are issued beta-gamma film badges and are required to wear such film badges at all times while within the Controlled Area."

HPP 2.2, Rev. 4, "Access Control", defines the controlled area as "only areas within buildings on the nuclear side of the plant where access is normally gained through the Security Room in the Nuclear Service Building." The inspector noted that the HPP-2 definition was less conservative than the FSAR. Although no persons were found unbadged in outside radiation areas, the potential exists for technicians and security guards, following HPP-2, to allow unbadged persons in these areas. A licensee representative stated that further evaluation would be made regarding FSAR Section 11.2.3 and HPP-2. This area will be further reviewed at a subsequent inspection (247/79-14-01).

No items of noncompliance were identified.

4. Advance Planning and Preparation

Increased Staffing

The licensee uses contractor health physics technicians to provide increased radiation protection staffing for the outage.

Technical Specification (TS) 6.3.1, "Facility Staff Qualifications", endorses American National Standards Institute (ANSI) standard N.18.1-1971. ANSI N18.1-1971 requires that "Technicians in responsible positions shall have a minimum of two years working experience in their specialty." The inspector reviewed the qualifications of 37 contractor technicians by interviews, review of training records and examinations and review of resumes. 34 of the technicians met or exceeded the ANSI standard; the remainder were not in responsible positions based upon a review of the level of supervision they were given and the level of independent action and decision making they were allowed.

Mock-up Training

The inspector reviewed the licensee's use of the onsite steam generator mockup. The licensee's outage included steam generator tube inspection and tube plugging as required. Personnel were trained on various tasks including installing templates and installing fixtures. The training was used to improve worker proficiency, to improve the methodology of the task and to head off potential problems, thus lowering the exposures received by the workers performing the task on the steam generators in the plant.

No items of noncompliance were identified.

5. Training

The inspector audited a portion fo the radiation worker course given in accordance with 10 CFR 19.12. Section 3 of the power plant training manual requires annual training/retraining for all personnel allowed access to the controlled area. Training records and examinations of 13 individuals from various contractors and Con Edison's power generation maintenance group who had unescorted access to the controlled area were examined.

No items of noncompliance were identified.

6. Exposure Control

The inspector reviewed the dosimetry devices issued to workers by the licensee for the purpose of measuring and recording exposure as required by 10 CFR 20.202. Each individual was issued a film badge (FB), thermoluminescent dosimeter (TLD) and one or more self-reading pocket dosimeters (SRD). Certain tasks require additional special dosimetry due to the peculiarities of the radiation fields. The dosimetry used on the steam generator eddy current testing was examined. Individuals were issued extremity dosimeters (finger and wrist TLD's) and whole body dosimeters were placed on the individual's head, which would be in the highest radiation fields. Approximately 60 SRD's being used by personnel were checked for calibration stickers. Six were found without them (they had apparently fallen off). The inspector checked calibration records against the serial numbers on the SRD's to verify that the SRD's had been calibrated.

The inspector reviewed the licensee's exposure control system for compliance with 10 CFR 20.101, 20.102, 20.103, and 20.401. The records of seventeen individuals with quarterly whole body exposure in excess of 10 CFR 20.101(a) limits were examined and NRC-4's had been completed on all of the individuals prior to exceeding the 10 CFR 20.101(a) limits for whole body exposure. No individuals exceeded the 10 CFR 20.101(b) limits.

The licensee's log of exposure times and airborne activity concentrations used to keep exposures within 10 CFR 20.103 limits was examined. Bioassay (whole body counting) data from six individuals who had received surface contamination while working on the internals lifting rig on July 19, 1979, was examined. The men were decontaminated, principally by showering, which rapidly reduced the activity. By July 20, three of the men had less than the licensee's surveillance and recount level of 50 nCi, ^{60}Co and 300 nCi ^{58}Co . By July 23 all six workers were less than the recount level. There appeared to be little if any bodily uptake.

No items of noncompliance were identified.

7. Respiratory Protection

The inspector reviewed the licensee's engineering controls used to lower airborne activity. This included adding oxygen to the primary system to bring activated corrosion products (crud) off the piping and into the circulating coolant where the crud could be removed by filters and demineralizers. An additional cation demineralizer was put into service on the chemical and volume control system. The filters and demineralizers lowered the crud by approximately an order of magnitude and ^{131}I by over an order of magnitude over the period June 19 thru 27.

Airborne activity surveys taken during the reactor head removal on July 4, 1979, showed concentrations less than the concentrations in 10 CFR 20 Appendix B, Table 1, column 1. Airborne activity surveys taken in support of the repair of the number 21 residual heat removal (RHR) pump taken over the period July 7 thru July 14, 1979 were reviewed. The inspector also examined the results of airborne activity surveys taken in the steam generator primary water box on July 22 thru 24, 1979.

No items of noncompliance were identified.

8. Posting and Control

The inspector toured the Primary Auxiliary Building (PAB) and Vapor Containment (VC) to observe licensee posting and control of radiation, high radiation, contaminated, and airborne activity areas and to verify compliance with 10 CFR 20.203 and Health Physics Procedures 2.2 and 2.3. Independent radiation measurements were made by the inspector to verify licensee posting.

Traffic control and procedure adherence were observed as personnel entered and exited the licensee's access points to the controlled area. An additional control point at the entrance to the VC was checked to insure that radiation work permits and the access list were maintained.

Several portable survey meters at various locations were checked for calibration dates as were friskers at exit points. The inspector observed several contractor workers exiting the controlled area and found that they adhered to the survey and sign-out procedure requirements. Several Radiation Work Permits (RWP) were reviewed including Nos. 2501, 2477, 2522, 2306, 2291, and 2240; job sites were visited to observe adherence to RWP requirements.

No items of noncompliance were identified.

9. Radioactive Material Control

The inspector examined the flow of low level baleable waste generated by the outage from collection thru compacting and temporary storage outside the PAB. The material was labeled and the areas posted in accordance with 10 CFR 20.203. The inspector also observed temporary storage marking, posting and labeling of radioactive and contaminated components in the VC.

No items of noncompliance were identified.

10. Surveys

Radiation and contamination surveys were reviewed for work performed under RWP Nos. 2501, 2477, 2577, 2306, 2291 and 2240. Surveys taken in support of steam generator eddy-current testing and No. 21 RHR pump repair (many RWP's for each task) were also examined.

No items of noncompliance were identified.

11. Exit Interview

The inspector met with licensee representatives (denoted in Paragraph 1) at the conclusion of the inspection on July 27, 1979. The inspector summarized the purpose and scope of the inspection and the inspection findings.