

U. S. NUCLEAR REGULATORY COMMISSION

Region I

Report No. 50-29/82-11

Docket No. 50-29

License No. DPR-3 Priority _____ Category C

Licensee: Yankee Atomic Electric Company
1671 Worcester Road
Framingham, Massachusetts 01701

Facility Name: Yankee Rowe

Inspection At: Yankee Rowe, Monroe Bridge, Massachusetts

Inspection Conducted: August 23-27, 1982

Inspectors: *M. H. McBride* 10/13/82
M. H. McBride, Ph.D., Radiation Specialist date signed

Approved By: *E. G. Greenman* 10/21/82
E. G. Greenman, Acting Chief, Facilities date signed
Radiation Protection Section, Technical
Programs Branch

Inspection Summary:
Inspection on August 23-27, 1982 (Report No. 50-29/82-11)

Areas Inspected: Routine, unannounced safety inspection by one region-based inspector of the licensee's Radiation Protection Program including: licensee action on previous inspection findings; qualification and training; advance planning and preparation; and exposure control. The inspection involved 32 inspection hours onsite by one region-based inspector.

Results: No violations were identified.

DETAILS

1. Persons Contacted

- H. Autio, Plant Superintendent
- *E. Chatfield, Training Manager
- *B. Drawbridge, Technical Director
- *D. O'Donnell, Health Physicist
- *N. St. Laurent, Assistant Superintendent
- *J. Tribble, President
- *M. Vandale, Radiation Protection Engineer

NRC

- *S. Collins, Senior Resident Inspector

*Denotes those present at the exit interview on August 27, 1982. Other individuals were also contacted.

2. Licensee Action on Previous Inspection Findings

(Closed) Inspector Follow-up Item (50-029/78-19-05) Review update of respiratory protection manual policy on respiratory protection. The inspector reviewed the respiratory protection policy statements contained in the Yankee Rowe Radiation Protection Manual, April 30, 1980, and found them consistent with the requirements of 10 CFR 20.103(e)(3). The licensee stated that this manual was distributed to licensee, but not contractor, employees.

(Closed) Deficiency (50-029/79-08-02) Failure to complete Form NRC-5 instructions and procedure resulting in loss of 479, 44, and 40 mrem for three individuals, fourth quarter, 1978. The inspector reviewed a sampling of recent dosimetry records and verified that Form NRC-5's were properly completed.

(Closed) Inspector Follow-up Item (50-029/79-08-07) Followup on procedural aspects of dosimeter placement, lost badge reports, and dosimetry record keeping. The inspector reviewed licensee procedures for dosimeter placement and reporting lost badges and reviewed a sampling of dosimetry records. No problems were identified.

(Closed) Inspector Follow-up Item (50-029/81-08-01 and 03) Check adequacy of personnel monitoring. The inspector observed personnel frisking practices at the licensee control point. No problems were identified.

3. Personnel Qualification and Training

3.1 Health Physics Personnel

The inspector reviewed licensee health physics technicians' qualifications and found them consistent with the requirements of ANSI

N18.1-1971, "Selection and Training of Nuclear Power Plant Personnel." The inspector also reviewed the resumes of the senior contractor technicians selected to work during the upcoming outage and found their training and experience consistent with the requirements of ANSI N18.1-1971.

Licensee health physics technicians have completed week-long courses in plant systems and general health physics this year. Selected licensee health physics personnel also completed a Scott SCBA respirator maintenance course this year.

3.2 Radiation Worker Training

The inspector reviewed the licensee radiation worker training program against the requirements in:

- 10 CFR 19.12, "Instructions to Workers"
- Regulatory Guide 8.27, "Radiation Protection Training for Personnel at Light-Water-Cooled Nuclear Power Plants".

The licensee's radiation worker training program for new employees consists of a series of video tapes, supplemented by discussion and lecture periods. The inspector reviewed selected portions of the training tapes and noted that tape segments on worker use of radiation protection permits (RWP) to select protective clothing and on the location of friskers and frisking directions in the contaminated locker room did not appear to conform with current plant practices.

Specifically, the tapes showed a worker using a personal copy of an RWP in the locker room when selecting protective clothing. In practice, the workers refer to the supervisor's copy of the RWP or to a copy of the RWP posted on a bulletin board near the control point for clothing information. The tapes also instructed workers to frisk protective clothing at frisking stations in the contaminated locker rooms and directed workers to follow protective clothing contamination action level instructions on signs in the locker rooms. At the time of the inspection, neither contaminated locker room had a frisking station. The licensee stated that workers were to instead frisk protective clothing at the entrance point to the controlled area. A frisking station was re-established in one of the contaminated locker rooms during the inspection. Only one locker room had the protective clothing contamination action level sign posted during the inspection. The licensee subsequently posted a clothing contamination sign in the second locker room. No action level sign was posted at the frisking station at the entrance to the controlled area.

The licensee stated that the radiation worker training tapes were several years old and contained some outdated information. The licensee had previously identified segments of the tapes, dealing principally with security matters, which were outdated and had highlighted these segments in instruction outlines for class discussion. However, at the time of the inspection, the licensee did not have a method of identifying outdated or inaccurate radiation worker information. The radiation worker instructor stated that she could not identify inaccurate or outdated information in the tapes as she had never been a radiation worker and had not entered a radiologically controlled area. The presence of inaccurate worker instructions in the training program was identified in an INPO evaluation report, dated February 1982.

Section C.1 of Regulatory Guide 8.27, recommends, in part, that the radiation worker training program should be maintained under the cognizance of radiation protection manager and updated, as necessary, under the manager's direction. Section C.1 also states that training instructors should have knowledge which exceeds that expected of worker's completing the training.

After reviewing the inspector's findings, the licensee made the following commitments. The commitments were reviewed at the exit interview:

- 1) The radiation worker training instructor referred to above will be reassigned to other duties, pending the completion of appropriate instructor training and qualification.
- 2) The radiation worker training course will be reviewed by plant health physics personnel for consistency with current plant practices prior to the September 1982 refueling and at six month intervals thereafter. Inaccurate or outdated segments of the training tapes will be identified so that workers will be given the most up to date information.

The implementation of the above commitments will be reviewed during a future inspection (50-029/82-11-01).

The capacity of the radiation worker training course appeared sufficient to train the numbers of workers expected in the September outage.

No violations were identified in this area.

4. Advance Planning and Preparation

The licensee is planning to use approximately 39 additional contractor health physics technicians, including 18 senior technicians, to supplement its staff of 8 technicians during the September refueling outage. In addition, the licensee plans to have personnel TLD services available onsite for the outage. The licensee stated that three jobs with particular

health physics significance were planned: 1) steam generator tube inspection and plugging, 2) removing and servicing a reactor coolant pump, and 3) replacing in-core instrumentation detector tubes and cables. The licensee has conducted ALARA planning and estimated radiation exposures for all major jobs. The inspector reviewed license preparations, available radiation monitoring equipment, and health physics supplies. Licensee actions in the above areas appeared adequate.

The inspector gave a copy of the May 30, 1982 Eberline customer letter, discussing PIC-6A sticking meter movements, to the licensee Radiation Protection Manager.

5. Exposure Control

5.1 Exposure Records and Personnel Dosimetry

The inspector reviewed a sampling of licensee external exposure records for 1982 and verified that the requirements of 10 CFR 20.101, 20.102, and 20.401 had been met. The inspector observed personnel dosimeter placement during licensee radiation work and reviewed licensee plans for personnel dosimetry placement during upcoming steam generator work. The licensee dosimetry program appeared to meet the requirements of 10 CFR 20.202.

No violations were identified in this area.

5.2 Respiratory Protection

The inspector reviewed licensee respiratory protection procedures against the requirements of 10 CFR 20.103(c)(2). The minimum procedural requirements appeared to be fulfilled.

All airline equipment was out of service at the time of the inspection. The licensee stated that the air supply for airline respirators had not been tested for quality since the last outage. At the exit meeting, the licensee stated the air would be tested to ensure Grade D quality, prior to use (50-029/82-11-02).

The inspector reviewed maintenance records for self-contained breathing apparatus (SCBA) and found the records consistent with procedural requirements for periodic maintenance. The inspector gave the licensee radiation protection manager a copy of the February 1982 Scott notice on Air-Pak II regulators relating to defects in the device.

The inspector did not observe the cleaning, maintenance, testing, or use of respirators, due to limited licensee respirator use during the inspection. The licensee does not plan to use respirator protection factors during the upcoming outage, however, the licensee stated that protection factors may be used, if needed. The licensee stated

that no individuals were exposed to airborne radioactive material levels in excess of 40 MPC hours during or since the last refueling outage.

No violations were identified in this area.

5.3 Area Posting

During plant tours, the inspector observed that radiation area boundary ropes around two areas beneath containment were placed in 5 mr/hr radiation fields. While no individuals were seen to spend extended periods of time near the roped-off areas during the inspection, the licensee stated that, on occasion, jobs were conducted near the radiation areas. This posting practice is not consistent with 10 CFR 20.202(b)(2), which requires radiation areas to be posted if an individual can receive a whole body dose of 100 millirems in 5 consecutive days. In response to the finding, the licensee adjusted the boundary ropes to be consistent with the requirements of 10 CFR 20.202.

Licensee posting was otherwise found consistent with the requirements of 10 CFR 20.203, "Caution Signs, Labels, Signals and Controls."

No violations were identified in this area.

4.4 Radiation Work Permits

The inspector reviewed radiation survey data for a sampling of 1982 radiation work permits (RWP's) requiring respiratory protection against the requirements of 10 CFR 20.201, "Surveys".

The inspector reviewed ongoing work to install fuel sipping equipment (radiation permit number 501) in the licensee spent fuel pool. The radiation surveys conducted prior to and during this work appeared to comply with 10 CFR 20.201. The inspector interviewed a sampling of workers on RWP 501 and found that they were informed of radiation hazards to the extent required by 10 CFR 19.12, "Instructions to Workers".

No violations were identified in this area.

6. Exit Meeting

The inspector met with licensee representatives denoted in paragraph 1 at the conclusion of the inspection on August 27, 1982. The purpose, scope, and findings of the inspection were summarized at that time.

Licensee representatives stated that breathing air would be tested prior to use to ensure it meets Grade D quality. (Details Paragraph 5.2)