

U.S. NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT  
REGION I

IE Inspection Report No: <u>75-02</u>	Docket No: <u>50-29</u>
Licensee: <u>Yankee Atomic Electric Co.</u>	License No: <u>DPR-3</u>
<u>20 Turnpike Road</u>	Priority: _____
<u>Westborough, Massachusetts 01581</u>	Category: <u>C</u>
Location: <u>Yankee Rowe; Rowe, Massachusetts</u>	Safeguards Group: _____
Type of Licensee: <u>PWR, 600 MWt (W)</u>	
Type of Inspection: <u>Routine, Unannounced</u>	
Dates of Inspection: <u>February 12-14, 1975</u>	
Dates of Previous Inspection: <u>January 7-10, 1975</u>	
Reporting Inspector: <u>L. Reynolds</u>	<u>3/21/75</u> Date
<u>L. Reynolds, Radiation Specialist</u>	
Accompanying Inspectors: <u>P. J. Knapp</u>	<u>3/26/75</u> Date
<u>P. J. Knapp, Senior Radiation Specialist</u>	
_____	Date
_____	Date
_____	Date
Other Accompanying Personnel: _____	Date
Reviewed By: <u>Peter J. Knapp</u>	<u>3/26/75</u> Date
<u>Peter J. Knapp, Chief, Facilities Radiation Protection Section</u>	

## SUMMARY OF FINDINGS

### Enforcement Action

#### A. Items of Noncompliance

##### 1. Violations

None

##### 2. Infractions

###### a. Failure to adhere to procedures

Contrary to Technical Specification D.1., written, approved procedures were not followed in numerous instances. (Details 4.b. and 4.c.)

###### b. Failure to make adequate surveys

Contrary to 10 CFR 20.201(b), the licensee failed to make evaluations adequate to comply with the provisions of 10 CFR 20.101, 20.103, and 20.203. (Details 3.a, 3.b, and 4.c.)

##### 3. Deficiencies

- a. Contrary to Technical Specification D.2.g(3), there is no effluent monitor in the incinerator stack. (Details 3.c.)

#### B. Deviations

None

### Other Significant Findings

#### A. Current Findings

##### 1. Acceptable Areas

These areas were inspected on a sampling basis and firings did not involve an Item of Noncompliance, Deviation, or an unresolved item.

- a. Instrument calibration records.
- b. Dosimeter calibration and leak test records.
- c. Liquid effluent release records.
- d. Air effluent release records.
- e. Licensee activities conducted under Byproduct Material License No. 20-6216-1.

2. Unresolved Items (Details 6)

- a. Licensee procedures for the use of contractor supplied health physics personnel.
- b. Licensee evaluation of air flow rates and effluent releases.
- c. Supervisory H.P. evaluation of RWP provisions.
- d. Air sample of containment prior to vapor container entry.
- e. Training program for health physics personnel
- f. Documentation of radiation monitor removal from incinerator stack and incinerator stack sampling provisions.
- g. Licensee evaluation of personnel exposures during steam generator repair work, 1971.
- h. Licensee capability to perform neutron surveys.

3. Infractions and Deficiencies Identified by the Licensee. (Details 7)

a. Infractions

- (1) Contrary to Technical Specification D.1, the procedure for release of radioactive material from the controlled area was not followed for the month of December 1974 when an environmental monitoring device was taken from the plant with sufficient radioactive contamination to subject a film badge to an exposure of 3800 mrem for the period.
- (2) Contrary to Technical Specification D.1, the procedure for venting control rod housings was not followed on August 6, 1974. This failure resulted in an individual exposure to concentrations in excess of the limits set forth in 10 CFR 20, Appendix B, Table 1.

- (3) Contrary to 10 CFR 20.101(a), licensee permitted an individual to exceed exposure limits for the third quarter of 1974. The individual incurred a quarterly exposure of 1.290 rems prior to satisfying the requirements of Part 20.
- (4) Contrary to the provisions of 10 CFR 20.103, the licensee permitted six individuals to be exposed to airborne concentrations in excess of the provisions of 10 CFR 20.103 during the period of June 3-9, 1974. The overexposures ranged from 1.7 to 10.8 times 40 MPC hours.

The above listed Items of Noncompliance were identified by the licensee and corrective action has been taken or initiated by the licensee. In all cases, the licensee's action appears to be appropriate and appropriate reporting requirements were followed.

b. Deficiencies

None

B. Status of Previous Unresolved Items

None

Licensee Action on Previously Identified Enforcement Action

None

Design Changes

Not Inspected

Unusual Occurrences

None

Management Interview

A management interview was conducted at the site on February 14, 1975.

Yankee Atomic Electric Company

Mr. H. Autio, Plant Superintendent  
Mr. W. Jones, Assistant Plant Superintendent  
Mr. N. St. Laurent, Technical Assistant to Plant Superintendent  
Mr. W. Billings, Chemistry, H.P. Supervisor

Mr. D. Rice, T. A. to Chem., H.P. Supervisor  
Mr. J. Flanigan, Plant H.P.  
Mr. I. Seybold, H.P. Supervisor  
Mr. J. MacDonald, YNSD  
Mr. J. Forbes, YNSD

Items Discussed

- A. Purpose of the inspection.
- B. Items of Noncompliance.
- C. Items of Noncompliance identified during the inspection but corrected before the conclusion of the inspection.
- D. Licensee training program.
- E. Licensee audit of October, 1974.
- F. Neutron surveys.
- G. Previously reported occurrence.
- H. Emergency kit.
- I. Licensee activities conducted under Byproduct Material License 20-6216-1.
- J. The inspector stated that many of the discrepancies in the licensee's radiation protection program could be traced to failures of management control. The licensee representative asked what was meant by "Management Control" to which the inspector replied that management control, in this context, means those systems used by management to control plant operations, for example, the procedures referred to in the items of noncompliance.
- K. At the conclusion of the management interview, the plant superintendent stated that a union employee had complained about the inspector questioning him during the inspection. The inspector stated that he had not called for the union employee but that he had been called by the employee representative and plant health physicist when they could not answer questions relating to the liquid effluent system. The inspector stated that he in no way attempted to antagonize or otherwise pressure the union employee and only asked very simple, forthright questions relating to valving and discharge from the effluent pumps.

## DETAILS

### 1. Persons Contacted

Mr. H. Autio, Plant Superintendent  
Mr. W. Billings, Chemistry, H.P. Supervisor  
Mr. J. Gedutis, Chemistry Supervisor  
Mr. J. Flanigan, Plant H.P.  
Mr. D. Rice, Environmental Monitor  
Mr. R. Mellor, Chemist  
Mr. I. Seybold, H.P. Supervisor  
Mr. R. Berry, T.A. for training  
Mr. J. Gottardi, Employee representative, Tester  
Mr. H. Noga, Tester  
Mr. C. Brooks, Auxillary Operator  
Mr. B. Bouker, Chemist  
Mr. J. MacDonald, Radiation Protection Manager, YAEC  
Mr. J. Forbes, YAEC

### 2. General

The inspection consisted of a review of the licensee's radiation protection program, review of selected records, procedures, plant facilities, waste storage areas, and interviews with plant personnel. During the inspection of plant facilities, the inspector was accompanied by the employee representative and the plant health physicist.

### 3. Inspection of Plant Facilities, Equipment, and Storage Areas.

- a. The inspector made a general inspection of the plant facilities to include observation of plant components, refueling storage tanks, radioactive storage areas, waste disposal building, plant radiation areas and high radiation areas. During this inspection on February 12, 1975, the inspector observed that the licensee did not have the radioactive waste drum storage area properly marked-off and identified in that one drum reading 20 mrem/hr at 18 inches, was near enough to the barrier rope to give a reading at the rope of 20 mrem/hr. The inspector verified that the licensee had corrected this condition prior to the conclusion of the inspection. The inspector also identified two shipping casks outside of the primary auxiliary building with readings of 20-60 mrem/hr at 18 inches. These two casks were not marked or otherwise identified as having radiological significance. The inspector verified that this condition was corrected prior to the conclusion of the inspection.

- b. During the course of the inspection, the inspector identified radioactive materials in the fan room lying about on the floor reading 20-40 mrem/hr. at 18 inches. The items were wrapped in polyethylene and labled in green with the words, "Hot Spot" at certain points. The items were placed in such a way that the words were obstructed from view. The licensee had attempted to correct this condition prior to verification by the inspector on February 13 and 14 but had failed. The inspector observed that the licensee had failed to make such surveys as may be necessary for compliance with Part 20 and that this failure resulted in a violation of 10 CFR 20.201(b).
- c. During the inspection of the waste disposal building and associated equipment the inspector observed that the radiation monitor for the incinerator stack was in fact installed at the loop seal for the gas surge drum. This change in location was not inconsistent with the intent of the monitor; however, the inspector pointed out, that the Technical Specification that requires the monitor to be in the incinerator stack should be changed. The inspector stated that this condition was an Item of Noncompliance with Technical Specification D.2.g(3), and is considered to be a deficiency. The licensee stated that this situation would be reviewed and corrected.

#### 4. Plant Records

- a. The inspector reviewed selected plant records using a sampling technique. The records inspected included instrument calibration records, dosimeter calibration and leak test records, effluent release records, RWP records, plant training and indoctrination records, survey records, and personnel dosimetry and film badge records which also included environmental monitoring film badge and TLD records. With the exception of the environmental monitoring film badge and TLD records, and RWP records, the plant records were maintained in accordance with regulatory requirements and plant procedures.
- b. The inspector's review of the environmental monitoring film badge and TLD records revealed that the film badge located at site 16 for the period 10/1/74 to 10/31/74 was reported at 1900 mrem for the period. The TLD report for site 17 during the same report period was read for an average of 1012 mrem. The licensee representative responsible for environmental monitoring stated that the contaminated film badge and the TLD were probably located at the same site and that an error had probably been made in distribution. The licensee representative also stated that an evaluation would be made. The inspector pointed out that this situation was similar to an incident that had been previously reported for the month of December, 1974 and was a violation of plant procedures as required by Technical Specification D.1, in that a contaminated film badge was released from the plant.

- c. In reviewing records of RWP's issued during selected periods of 1974 and RWP's issued in 1975, the inspector identified numerous violations of RWP procedures and examples of inadequate radiological evaluations.
- (1) The inspector identified RWP's issued in 1975 with RWP Numbers 18, 20, 23, 32, 45, and 47 that authorized work inside of primary system components, where workers could encounter primary system fluid, with no evaluation as to exposure to concentrations of airborne radioactive material. The inspector stated that this failure appeared to constitute an Item of Noncompliance with 10 CFR 20.201(b), failure to make such surveys as necessary to comply with 10 CFR 20.103, and is considered to be an infraction.
  - (2) RWP's issued in 1974 that did not comply with plant operating procedures OP 8415 or other procedures relating to RWP work as listed below:
    - (a) RWP 1652 and 1659 authorized workers to exceed 300 mrem/week (the administrative limit) without the specific, written authorization of the plant H.P. (The workers did not exceed the 300 mrem/week limit.)
    - (b) RWP 448 required the use of a breathing zone air sampler, none was used.
    - (c) RWP 585 did not provide for continuous H.P. coverage, continuous air sampling, or a breathing zone air sample for work in coolant loop No. 1. The RWP had been altered as to working conditions and work location (loop No. 4) apparently by someone other than the H.P. rendering the required signature.
    - (d) RWP 620 and 634 did not require continuous H.P. coverage, continuous air sampling, or a breathing zone air sample for work in coolant loop No. 1 as required by operating procedure 8106.
    - (e) RWP 459, 466, and 501 did not require a continuous air sample for work in the waste storage building as required by operating procedure 8106.
    - (f) RWP 448, 498, 493 and 585 (1974) had the required physics signature rendered by a contractor supplied H.P. without any documentation authorizing this action. In addition, the licensee could not produce any documentation pertaining to the training, experience, or qualifications of these contractor H.P. personnel although one licensee representative stated that he had seen resumes for these people.

The inspector observed that most of the failures to follow the RWP procedures could probably be attributed to the fact that the RWP's were signed by personnel who were not familiar with plant procedures (contractor H.P.) and failure of management controls. This failure constitutes an item of non-compliance that is considered to be an infraction.

5. Licensee activities conducted under Byproduct Material License No. 20-6216-1

- a. The inspector reviewed the records of activities conducted under Byproduct Material License No. 20-6216-1 to include handling of sources, leak testing and inventory of sources, storage and security of sources.
- b. The inspector noted that some liquid sources were stored in glass containers on unstable surfaces in the chemistry lab. The plant chemist initiated corrective action to correct the condition.
- c. In reviewing the records of the source leak test and inventory, the inspector noted that those records maintained since June 28, 1973 appear to be complete and well maintained. The leak test and inventory records prior to the above mentioned date are not well maintained and are of questionable value. For example, the leak test records for May 6, 1972; November 10, 1971; and March 24, 1971 all appear to be reproduced from the same record. This is substantiated by the fact that a prior date appears on one of the records and Mn<sup>54</sup> source that was disposed of in August, 1970 was carried forward on these records. As previously mentioned, more recent records appear to be accurate and meaningful.

6. Unresolved Items

The following items were discussed with the licensee during the inspection but are considered unresolved until more information is available.

- a. The licensee does not have procedures for training, other than indoctrinations, and for assignment of responsibilities to the contractor supplied H.P. personnel.
- b. The licensee does not have evaluations of air flow rates for the plant vent and other air flow rates in the plant including the chemistry "hot" hood.

- c. There is some indication that supervisory H.P. personnel are not fully cognizant of plant radiological conditions, particularly RWP work.
- d. There is no method for sampling containment air prior to entry.
- e. The training program for H.P. personnel has been submitted for review and approval and will be examined during future inspections.
- f. The licensee's safety evaluation for moving the loop seal radiation monitor, and sampling provisions for the incinerator stack will be reviewed during a future inspection.
- g. Further details of the licensee evaluation of personnel exposures and corrective action following steam generator repair work in 1971 will be examined at a future inspection.
- h. During discussions with the plant health physicist, the inspector learned that the licensee does not have a neutron survey instrument for plant surveys. The licensee's representatives from YAEC (Westborough) and the plant H.P. stated that a neutron survey instrument would be procured in the near future for use at the plant.

7. Licensee Reports

The following items were reviewed by the inspector with the plant health physicist and environmental monitor, as appropriate, and are considered closed.

- a. Licensee report of January 10, 1975 and February 4, 1975 regarding apparent overexposure of environmental monitoring devices.
- b. Licensee report of January 29, 1975 regarding exposure to airborne concentrations in excess of the provisions of 10 CFR 20.103.
- c. Licensee report (WYR 75-3) of January 9, 1975; exceeding exposure limits of 10 CFR 20.101(a).
- d. Licensee report of September 5, 1974; exceeding airborne concentrations limits.

Licensee's corrective and preventive measures for the above mentioned items appear to be appropriate and complete.

8. Licensee Indoctrination and Training for New Employees and Non-Plant Personnel

- a. The inspector reviewed the H.P. indoctrination and training records for 10 new employees in 1974 and found two instances of records not completely filled out.
- b. The inspector reviewed the indoctrination and training records for the plant shut-down of June, 1974. The records revealed that these personnel were exposed to the same plant training that new employees receive. There was no record to show that these contractor H.P. personnel were trained in plant procedures and there was no record, file or other document to indicate that these contractor H.P. personnel were adequately trained or experienced to function as H.P. for the licensee. The inspector asked repeatedly for some documentation that might show otherwise, none was produced. The plant superintendent indicated that he had seen resumes for those personnel.

9. Licensee Emergency Kit

The inspector visited the site of the emergency kit and inspected the kit for maintenance and care. The inspector observed that the kit appeared to be well maintained and showed signs of adequate care.