

PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE PN1-9422

This preliminary notification constitutes EARLY notice of events of POSSIBLE safety or public interest significance. The information is as initially received without verification or evaluation, and is basically all that is known by the Region I staff on this date.

Facility:

Yankee Atomic Electric Co.
Yankee Rowe Unit 1

Licensee Emergency Classification:

Notification of Unusual Event
 Alert
 Site Area Emergency
 General Emergency
 Not Applicable

Docket No.: 50-029

License No.: PWR/W-4-LP

Event No.: N/A

Event Location Code: POW

Subject: CORE INTERNALS CUTTING

YAEC has been disassembling, cutting, and disposing of reactor vessel (RV) internals since December 1993. The cutting activities are performed underwater using a plasma cutting torch in the shield water cavity tank (SWCT) within the containment building. These cutting activities cause elevated radiation levels due to increased radioactive particles in the water. Typical radiation fields within the work area were 20-40 mr/hr, with short peaks up to 75 mr/hr during cutting. Ventilation systems minimize personnel radiation exposure to airborne radioactive materials.

On March 24, 1994, work was stopped when radiation fields approached 150 mr/hr after completing a vertical cut on the RV baffle (Morning Report No. 1-94-0039). The increased radiation field was caused by a higher than anticipated accumulation of radioactive particles in the water and local ventilation equipment. The onshift radiation protection technician stopped work when local radiation alarms sounded. All personnel exited the area. YAEC suspended further cutting activities to assess the event and implement corrective actions.

On March 30, NRC inspectors were sent to Yankee Rowe to review this event. The inspectors concluded that the personnel radiation exposures had been minimal, and that adequate corrective actions were identified and implemented to assure the safe resumption of RV baffle segmentation. NRC management was briefed on inspection observations prior to recommencement of work.

On March 31, the inspectors observed the recommencement of the cutting activities. The licensee intended to conduct preplanned test cuts to assess the radioactive material production and removal rates. However, following the first cut, an airborne radiation condition occurred due to partial clogging of a HEPA ventilation system, which was used to collect radioactive airborne materials. Work was again halted, and personnel exited the containment. Confirmatory air samples showed approximately 2 E-7 uCi/ml, corresponding to 7-10 mr/hr or 3-4 DAC (derived air concentration) per inhalation hour. Minor personnel contaminations occurred and one person inhaled approximately one DAC-hour (equivalent to approximately 2.5 mrem whole body dose). Whole body assays were performed on all personnel involved.

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Date: April 1, 1994

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On April 1, the inspectors briefed NRC management on causes and corrective actions. The licensee preliminarily determined that a plastic bag had blocked the exhaust system from the hood installed at the surface of the pool to capture gases and particulates emitted during the cutting operation. In addition, surveillance testing did not detect inadequate ventilation flow prior to work commencement. A conference call at 10 a.m. and 11 a.m., between YAEC and NRC management, was held to review the licensee's corrective actions to preclude recurrence and to provide assurance of worker health and safety. The events will be reviewed by the YAEC Nuclear Safety Assessment and Review Committee. Underwater cutting activities are expected to be resumed later today.

The licensee does not plan a press release. The Commonwealth of Massachusetts and the State of Vermont were informed. The Region I Office of Public Affairs is prepared to respond to media inquiries.

This information is current as of 1:30 p.m., April 1, 1994

Contact: Gene Kelly
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