

YANKEE ATOMIC ELECTRIC COMPANY



20 Turnpike Road Westborough, Massachusetts 01581

September 5, 1974

United States Atomic Energy Commission
Washington, D. C. 20545

Attention: Directorate of Regulatory Operations

Reference: License No. DPR-3 (Docket No. 50-29)

Dear Sir:

Pursuant to the requirements of Section 20.405 of 10CFR20, the Yankee Atomic Electric Company submits the following 30 day report.

On August 6, 1974 a Yankee Atomic Electric Company employee was exposed to radioactive airborne concentrations in excess of the limits as specified in 10CFR20, Appendix B, Table 1. The exposure occurred during a control rod housing venting procedure. This is a routine operation that is performed following reinstallation of the reactor vessel head. This operation had been done three weeks earlier with no increase in airborne activity.

The venting of the control rod housings commenced at 1330 on August 6, 1974. Although health physics coverage was provided, Health Physics supervision judged that respiratory protection was not necessary. This was a violation of a Health Physics procedure which states that Respiratory Protection is required when venting systems containing main coolant water.

The following is a chronology of the event:

1330 hours - Venting started

1400 hours - A bucket containing drained main coolant was measured by the H.P. man and found to be reading ~ 300 mr/hr. At this point, a continuous air sample which had been running in the general vicinity since 1130 hours was moved into the venting area.

1425 hours - Air sample was changed. At the same time, the operator donned respiratory protection. The work was completed at 1500 hours.

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1515 hours - While checking out at the control point, the operator discovered he was contaminated. An analysis of the air sample and a computation of the time/activity value indicated the possibility of an overexposure.

Nose and throat swabs were taken. The nose swabs were ~ 400 dpm. The man was then decontaminated to background levels. The man was given a body burden count and a program of urine samples was initiated.

The calculated air activity sample was:

Co ⁶⁰	2.04 x 10 ⁻⁷	µci/ml
Co ⁵⁸	3.54 x 10 ⁻⁷	µci/ml
Mn ⁵⁴	1.69 x 10 ⁻⁷	µci/ml
Fe ⁵⁹	2.20 x 10 ⁻⁷	µci/ml
Cr ⁵¹	5.04 x 10 ⁻⁷	µci/ml

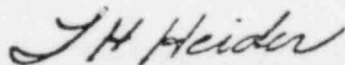
The G.I. Tract dose estimate for a single uptake by comparison with MPC was 24 mRem. The dose to the lung was determined to be 405 mRem. The results of the urine assay program were negative. The body burden analysis verified the calculated exposure results. Calculations for both the lung and G.I. tract were done for non-transportable radionuclides.

The exposure was caused by a violation of an established procedure. The individuals involved were debriefed after the incident; in addition, a general plant meeting was held for the purpose of discussing the incident with all plant employees.

The venting procedure was subsequently modified to preclude the possibility of air release to the atmosphere.

Very truly yours,

YANKEE ATOMIC ELECTRIC COMPANY



L. H. Heider
Manager of Operations

HFB/kg

Addendum to the Yankee 30-day letter of the particulate release incident of August 6, 1974.

The calculated exposure to the man involved on August 6, 1974 is tabulated and reported below as required in Section 20.405(b) of 10CFR20.