

BNL ALARA CENTER

Processes and Practices Related to Occupational Dose

ID: 71

CONDENSER LEAK DETECTION**Keywords:** LEAK DETECTION; CONDENSERS; HELIUM**Description:**

Condenser leak detection and repair in BWR plants are frequently performed with the plant at a reduced power level; however, maintenance crews are exposed to radiation from N16 and O15. The helium leak sniffer method applies helium to a group of condenser tubes while monitoring for helium at the steam jet air ejector. If no helium is detected, a different group of tubes are tested. Once helium is detected the number of tubes tested are reduced until the leaking tube has been identified. This leak detection method has saved about 6 person-rem per year, or as much as a 50% dose reduction. Analyses have shown the improvement to be highly cost-effective.

References and Selected Abstracts:

1. Johnson C.P., et. al., "Collective Radiation Exposure Task Force Report: Hope Creek Generating Station." April 1989, p. 49.
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