# Comparison of Tritium Sampling Methods in a Gaseous Ventilation Release Pathway at Vermont Yankee Nuclear Power Station

Tritium release rate at Vermont Yankee Nuclear Power Station was performed on a monthly basis since startup in 1972. This analytical method utilized a cold-trap collection apparatus and concurrent measurement of ventilation moisture content. Possible errors in this method for estimating tritium releases from the plant were noted and efforts were focused to develop a continuous sampling method that could be set up and utilized in the instrument room at the main plant ventilation stack base.

A method and apparatus utilizing color-changing silica gel was developed and installed approximately three years ago. For the last two years, data has been collected both via the old, grab-sample cold trap method and from the new, continuously-operating silica gel method.

This presentation will compare and contrast the old and new methodologies. Equipment utilized and the concurrent results of tritium sampling methods from the ventilation flow at the Vermont Yankee main plant vent stack will also be described.

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