

# **Carbon-14 and the Waste Gas Radiation Monitor**

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## **ABSTRACT**

McGuire's Waste Gas Radiation Monitor is a beta sensitive noble gas gross detection channel. During waste gas releases the high level setpoint, determined from gamma spectral analysis, was exceeded resulting in termination of several waste gas releases. Efforts were concentrated on repairing the "over"-response of the radiation monitor. No equipment problems were discovered contributing to the increased sensitivity. Efforts were under taken to evaluate the beta spectrum within the waste gas system. This effort determined that Carbon-14, a pure beta emitter, was contained within the waste gas system. The Carbon-14 beta spectrum was within the gross beta discrimination window for the radiation monitor calibration. McGuire elected to de-sensitize the radiation monitor to attenuate the Carbon-14 beta spectrum while maintaining required noble gaseous activity detection.