

PWR Airborne Tritium & Review of RG 1.21 Data

Steve Sandike
EnvoNuTek, LLC

ABSTRACT

The variability of Airborne H-3 reported via Reg Guide 1.21 struck me as something that needed trending and a closer look. While generally a function of the surface area of the Spent Fuel Pool and the pool's tritium activity, some personal experiences and observations are discussed as to other parameters that may explain a curiously wide variation in reported airborne H-3 in PWRs. These include the confusing LLD requirement in NUREG-1301, the various approved sampling methods, and the consistency of efforts to comply with the GDC & 10CFR20 with regard to operation of the Fuel Storage Building ventilation system. To evaluate this issue, airborne H-3 releases from 71 PWRs for 2012 were evaluated. Two suggestions for the future are 1) to ensure ability to explain values (especially if you are an outlier), and 2) periodically validate airborne H-3 quantification with a SFP loss rate mass balance.

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