

## C-14 Dose: Calculations, Considerations and Caveats

Jim Key

The regulatory guidance for assessment of C-14 effluent dose lacks sufficient technical detail and can result in significant over or underestimation of offsite dose. Published in the late 1970's the C-14 dose methodologies of Regulatory Guide 1.109 and NUREG 0133 are no longer considered appropriate and are subject to serious scientific challenge.

Reg. Guide 1.109 indicates other models may be utilized provided the same exposure pathways are addressed and the assumptions and methods documented. This presentation describes the details and methods used in C-14 dose assessment for the 2010 annual reports at four different nuclear power plants.