

2014 AUG -5 PM 4: 24

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3WFN-06-A44M, NRC,  
Washington, DC 20555-001

August 5, 2014

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6/2/2014  
79FR 31348  
(4)

Transmitted by e-mail to: Carol.Gallagher@nrc.gov

Comments on Docket ID NRC 2014-0116,

Back in the late 1980's I was the radioactive waste manager at a nuclear power plant. At the time, I had evaluated RADMAN, a radwaste shipping program offered by WMG Inc. To the best of my knowledge, RADMAN reported the MDA concentration values for H3, C-14, TC-99, and I-129 (significant radionuclides) in  $\mu\text{Ci/gm}$ , and NOT the amount in total  $\mu\text{Ci}$ . Yet the paperwork indicated that the value shown was the amount. Obviously, this program error could have resulted in the underestimation of the amounts of the significant radionuclides by a large factor. I am not aware whether WMG ever fixed that problem. While you are evaluating reporting methods, you might want to go back and check on this problem because it could seriously impact inventory accounting. RADMAN was widely used and well vetted. There is certainly some chance I am suffering from a misconception on this point.

If the extrapolation problem as I've described it did exist in all implementations of RADMAN in the late 1980s, I have no way of telling whether or when it was corrected. To determine whether the extrapolation problem actually existed, it would be necessary to examine waste manifests produced during that time, and then to determine the estimated amounts and concentrations involved and to review the information displayed on the actual manifests. Although retrieving the old documents would be tedious, making the determination as to whether or not they are correct would be relatively easy. Likewise, it would be easy to determine whether such manifests are currently showing correct information, and then it could be determined whether and when the problem was fixed. Finally, it could be necessary to determine whether to go back and correct the record, and if so, whether to make the corrections en-mass or one manifest at a time.

Since the purpose of the RIS is related to waste burial ground dose calculation and burial ground capacity, any error in reporting of amounts of radioactive material is important. It would do no good to allow for indirect calculation methods from this point forward if capacity is predicated on waste burial site loading values that is several million times too low.

More generally, in my view, the LLD or MDA must be used to calculate the amount, and then the amount on each manifest must be summed to indicate the total amount present in the landfill unless the generator has solid evidence that the nuclide is present in lesser quantities.

In addition, I believe that ordinarily, the MDA or LLD value reported has been obtained by the licensee from its third party laboratory analysis and often, there has never been a definitive result obtained. Thus, while it is probably not a bad idea to use indirect methods, there may not be any supporting underlying data available.

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Add= Don Lowman (dble)

Further, it should be made abundantly clear at every turn that the estimated total amount of the radionuclide is to be calculated and displayed on the manifest (in parentheses if based on a <MDA concentration), and while the concentration may be shown, it does not suffice alone.

I trust the information provided in this letter is sufficient; however, if you have any questions regarding my comments, please feel free to contact me.

Sincerely,

Michael R. Fuller, Esq.  
(413) 543 6911 ext 125  
cc: file