

Gallagher, Carol

Subject: FW: Comments On NUCLEAR REGULATORY COMMISSION [NRC-2014-0116] Reporting of H-3, C-14, Tc-99, and I-129 on the Uniform Waste Manifest
Attachments: Comments on Draft RIS.docx

From: Jim Harris [mailto:jharris@wmginc.com]
Sent: Wednesday, July 02, 2014 2:47 PM
To: Gallagher, Carol
Cc: Lowman, Donald
Subject: Comments On NUCLEAR REGULATORY COMMISSION [NRC-2014-0116] Reporting of H-3, C-14, Tc-99, and I-129 on the Uniform Waste Manifest

Please find attached comments on the referenced Regulatory Issue Summary (RIS). Thank you.

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D. Lowman (dbl)



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Comments on:

NRC REGULATORY ISSUE SUMMARY (2014-0116) REPORTING OF H-3, C-14, Tc-99, and I-129 ON THE UNIFORM WASTE MANIFEST

Docket ID NRC-2014-0116

The draft Regulatory Issue Summary (RIS) was issued and public comments requested on reporting of H-3, C-14, TC-99 and I-129 on the NRC Uniform Manifest as required by Appendix G of 10 CFR 20. NRC forms 540, 541, and 542 as applicable require that activities of these four radionuclides be reported and if they are present in concentrations less than the Lower Level of Detection (LLD) that they be reported at the LLD value.

Two of the nuclides, TC-99 and I-129 are generally not present in light water reactor waste streams in sufficient concentrations to be detected by normal counting techniques. Therefore, in the great majority of instances these two nuclides have been reported at the LLD values. This has caused gross overestimations of the activity of these nuclides in the operating burial facilities in the US.

To get actual values non-standard analytical methods are required. However, the different analytical methods are more costly and require longer count times. In today's economic climate this is not likely to be justified by most licensees. One potential answer to the issue is using generic scaling factors to more precisely estimate the amount of these two hard-to-detect nuclides.

The Electric Power Research Institute (EPRI) has amassed a large amount of data from the operating nuclear facilities in the US and has been able to make some correlations that will provide some basis for potential generic scaling factors for TC-99 and I-129. This data was presented at the recent International Low-Level Waste Conference and Exhibit Show with American Society of Mechanical Engineers/EPRI Radwaste Workshop held in June, 2014 in Orlando, Florida.

The nuclear industry should adopt methods to allow more precise estimation of the nuclides. As stated in the RIS, careful consideration should be exercised when correlating these nuclides to nuclides with differing production mechanisms. Further, each licensee will have to review and justify any use of an indirect method such as scaling factors

I was pleased to be chosen to serve on the EPRI sponsored panel at the recent conference that discussed this issue. There were two members from the NRC on the panel as well and it was decided that EPRI, on behalf of the US nuclear industry would submit their data to the NRC as a public comment on the Draft RIS.



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I have reviewed the information provided at the EPRI Conference and believe it is a potential resolution to the issue of overestimation. While the data can be correlated to most normal operating conditions for light water reactor sites, each licensee must review the data as presented and determine what operating conditions it could apply to and under what conditions the correlations would not be justified. It is anticipated that each site would formally document this review.

Thank you for your consideration.

Sincerely,

A handwritten signature in black ink, appearing to read 'James E. Harris', written in a cursive style.

James E. Harris
Principal Health Physicist
Senior Manager of Business Development

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