

REGION I TECHNICAL ASSISTANCE REQUEST				
Date: June 22, 2004	Package Accession No. ML040711197			
ADAMS Send to:	Dominick Orlando Division of Waste Management and Environmental Protection, NMSS			
From:	George Pangburn, Director Division of Nuclear Materials Safety			
<b>Original signed by: /RA/</b>				
Licensee: Merck & Co., Inc.				
License No. 29-00117-06	Docket No. 030-14680	Control No. 134555		
Letter Dated: February 23, 2004	ADAMS Accession No. ML040711197			
Enforcement Action being held in abeyance:		Yes	x	No
<p>Problem or Issue:</p> <p>Merck &amp; Co., Inc. has submitted a request for approval of a proposed disposal procedure pursuant to 10 CFR 20.2002. The licensee proposes to dispose of approximately 80 cubic yards (61 m<sup>3</sup>) of soil contaminated with approximately 756 <math>\mu</math>Ci of tritium (H-3) in an industrial waste landfill, Waste Management's Model City Landfill in New York. The licensee performed a dose assessment of the proposed disposal using the RESRAD code. The dose assessment considered three scenarios, on-site worker, resident, and resident-farmer. The licensee measured the concentration of H-3 and carbon-14 (C-14) in the soil, and determined that the mean and maximum concentrations of H-3 are 7.6 and 16.7 pCi/g, respectively. The concentrations of C-14 in the soil were consistent with the measured concentrations of C-14 in non-impacted areas. Therefore, C-14 was not considered in the dose assessment. The resulting doses for the on-site worker scenario are 3.45E-5 and 7.5E-5 mrem/yr for the mean and maximum concentrations of H-3, respectively. The resulting doses for the resident scenario are 0.074 mrem/yr using the mean concentration of H-3, and 0.16 mrem/yr using the maximum concentration. The resident-farmer scenario doses were 0.076 mrem/yr using the mean concentration of H-3, and 0.17 mrem/yr using the maximum concentration.</p>				
<p>Action Requested:</p> <p>Review and concur in the proposed disposal procedure and dose assessment performed by the licensee.</p>				
Recommended Action and Alternatives	X	Accept		Reject

Region I Technical Assistance Request

Licensee: Merck & Co., Inc.

Control No. 134555

<p>The licensee's dose assessment results appear reasonable for the proposed disposal procedure. Region I staff performed a confirmatory analysis of the licensee's dose assessment using the RESRAD code and the licensee's scenarios and parameters. The results for this analysis confirmed that the dose for the on-site worker scenario, using both the mean and maximum concentrations of H-3, is essentially zero. The resulting doses for the resident scenario, using the mean and maximum concentrations, are 0.0539 and 0.118 mrem/yr, respectively. The resulting doses for the resident-farmer scenario, using the mean and maximum concentrations, are 0.054 and 0.119 mrem/yr, respectively.</p>		
<p>TARs addressing similar issues (subject, date and location):</p> <p>There have been numerous TARs related to release of site for unrestricted use, but none to our knowledge that pertain to the shipment of material to an industrial waste landfill.</p>		
<p>Background Documents (Include date and ADAMS Accession Number):</p> <p>Letter dated February 23, 2004 (ADAMS Accession No. ML040711197)</p>		
<p>Remarks:</p> <p>None</p>		
Reviewer: James Kottan	(610) 337- 5214	Reviewer Code: Q0
<p>Needed By (date): September 15, 2004</p>		

DOCUMENT NAME: C:\ORPCheckout\FileNET\ML041760124.WPD

To receive a copy of this document, indicate in the box: "C" = Copy w/o attach/encl "E" = Copy w/ attach/encl "N" = No copy

OFFICE	DNMS/RI	N	DNMS/RI	DNMS/RI	DNMS/RI
NAME	D Diaz JDK for		J McGrath JDK for	J Kinneman JDK	G Pangburn GCP
DATE	6/18/04		6/18/04	6/18/04	6/21/04