

September 16, 1999

Janet A. Grappin
Radiation Safety Officer
The Dow Chemical Company
1803 Building
Midland, MI 48674

SUBJECT: NRC REVIEW OF RADIOLOGICAL ANALYTICAL, HISTORICAL USE, AND SURVEY DATA SUBMITTED FOR FORMER DOW 10 CFR 20.304 BURIAL SITE

Dear Ms. Grappin:

We have completed the review of information attached to your letters dated March 11, 1999, and May 10, 1999, to Mr. Mike McCann and Dr. Peter Lee, respectively, regarding Dow Chemical Company's former 10 CFR 20.304 burial site. Based upon our review of the information, we have determined that additional or revised information is necessary, in order to proceed with our review. Specifically, additional information is needed as specified below:

1. The groundwater pathway is the dominant factor in dose assessment of this burial site. Due to the age of the site, carbon 14 will not be a dose significant factor because of leaching out of the contaminated soil, thus leaving uranium and thorium as the radiological material of interest for the dose model.
2. Concentrations established for the uranium and thorium should not be averaged over the entire site. Instead, for each area, the location, cover thickness, and waste zone thickness and concentration should be determined and dose consequence determined.
3. Correct the calculations for activity used in your dose calculations. One millicurie is 1×10^9 picocuries, not 1×10^{-3} picocuries. Therefore, to correct Dow's final dose calculation based on the information provided, it would be necessary to multiply the dose by 1×10^{12} .

We would appreciate receiving your response to the above requests within 60 days from the date of this letter. Should you have any questions, regarding the above, please do not hesitate to contact Dr. Lee at (630) 829-9870 or myself at (630) 829-9856.

Sincerely,

Original signed by
George M. McCann
Senior Radiation Specialist

Handwritten initials: 1/0

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B. Jorgensen, DNMS

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DATE	09/16/99		<i>mlm</i>				

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