

WM Record File

105.3.1

WM Project

Docket No. JUN 12 1985

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CORN

Mr. Ralph Stein, Director  
Engineering and Licensing Division  
Repository Projects Team  
NE-330  
Department of Energy  
Washington, DC 20545

Dear Mr. Stein:

As you requested, this letter documents the licensing staff's position regarding the groundwater travel time requirement in 10 CFR Part 60.

As you know, 10 CFR Part 60.113(a)(2) reads:

The geologic repository shall be located so that pre-waste emplacement groundwater travel time along the fastest path of likely radionuclide travel from the disturbed zone to the accessible environment shall be at least 1000 years or such other time as may be approved or specified by the Commission.

In applying this part of the regulation, the staff considers that there is going to be a distribution of possible groundwater travel times. This distribution will result from uncertainty in our understanding of the geologic system, considerable uncertainty in measured parameters, such as porosity, permeability, and gradient, and temporal variation in flow due to unusual storms, droughts, and the like. These phenomena are expected to cause the distribution of possible groundwater travel times to span as much as several orders of magnitude.

At the upper and lower limits of this distribution, there will be possible groundwater travel times which, although theoretically possible, are unlikely paths for radionuclide travel, and are therefore inappropriate measures for characterizing the geologic setting. The NRC therefore anticipates excluding the extremes of the distribution of possible groundwater travel times in determining whether the performance objective has been met.

The staff is currently drafting a technical position consistent with the above discussion, which I anticipate will be completed later this year.

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I also note 10 CFR Part 60.113(b) which permits the Commission to approve or specify other groundwater travel times on a case-by-case basis, providing the overall system performance objective has been met. This provision is intended, in part, to ensure that an otherwise excellent repository site does not fail to be licensed on a technicality.

Sincerely,  
Robert E. Browning

Robert E. Browning, Director  
Division of Waste Management

*MK for Miller based on conversation 5/31/85*

*ELD, ~~can~~ no legal objection per telecon with F.X. Cameron 5/31/85*

DFC :	WMGT <i>MK</i> :	WMRP <i>based on conversation 5/31/85</i> :	WM <i>RB</i> :		
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