

encl. in file
See Packet I for encl.

3109/MJB/83/08/15/0

AUG 15 1983

- 1 -

w/p encl. 1
Distribution: WM-83-518
WM file: 3109 109
WMHL r/f
NMSS r/f
REBrowning
MJBell & r/f
RRBoyle
HJMiller
JOBunting
PDR

Mr. Walter E. Shepherd
Office of the Inspector General
U. S. Department of Energy
IG 331-Room 5A193
1000 Independence Avenue, SW
Washington, DC 20585

Dear Mr. Shepherd:

I am writing in response to your note to Mr. Browning and me, dated July 27, 1983, concerning alternate strategies for disposal of commercial high-level radioactive waste.

The Waste Management staff of NRC is in general agreement with the arguments of Northrup et al. The thermal disturbance cited by Northrup is one of the principal concerns of the NRC which led it to require containment within the waste packages for a period of 300 to 1000 years. The Commission recognizes that this thermal pulse could be significantly reduced by removing Cesium-137 and Strontium-90, and has written its technical criteria in 10 CFR Part 60 to allow for such alternate strategy. This is discussed in the Federal Register notice for the final technical rule (48 FR 28196, third column, last paragraph).

On the question of whether crystalline ceramic waste forms are preferable to borosilicate glass for disposal of commercial high-level waste, we consider this to be very much an open issue. DOE, as the agency with the programmatic responsibility to develop the technology for permanent isolation of high-level waste, must do the research to determine which waste form can meet regulatory performance requirements at optimum cost. This optimization should consider all aspects of the waste disposal system: solidification, transportation, packing, and emplacement. It is our understanding that alternatives that significantly reduce the number of packages to be shipped, packaged, and emplaced will reduce overall system costs. Of course, considerations of removal of radionuclides and of use of ceramic waste forms only apply in the event there is commercial reprocessing in the U. S.

OFC	:	WMHL	:	:	:	:	:	:
NAME	:	MJBell:lmc	:	:	:	:	:	:
DATE	:	8/ /83	:	:	:	:	:	:

AUG 15 1983

3109/MJB/83/08/15/0

- 2 -

Due to the earlier interest you showed in a consistent definition of high-level waste among federal agencies, I am enclosing a copy of NRC's comments to EPA on this subject. I hope this information proves useful to you.

Sincerely,

Michael J. Bell, Chief
High-Level Waste Licensing
Management Branch
Division of Waste Management

Enclosures:

1. June 21, 1983
Federal Register Notice
2. NRC comment letter dated
May 10, 1983 on EPA Standard

OFC	: WMHL <i>RB</i>	:	:	:	:	:	:
NAME	: MJBe11:1mc	:	:	:	:	:	:
DATE	: 8/15/83	:	:	:	:	:	:

FROM IAEA		DATE OF DOCUMENT Undated	DATE RECEIVED 8/1/83	NO. WM-83518
TO MJBell, WMIL		LTR	MEMO	REPORT: XX
CLASSIF.		POST OFFICE	REG. NO.	FILE CODE: 109
DESCRIPTION: (Must Be Unclassified) Review of IAEA-SM-261/34, Alternate Strategy for Commercial HL Radioactive Waste Management		ORIG.: XX	CC:	OTHER:
ENCLOSURES: <i>Closed 2/15/83 by Ltr to W.C. Shepherd from MJBell</i>		ACTION NECESSARY <input checked="" type="checkbox"/>	CONCURRENCE <input type="checkbox"/>	DATE ANSWERED: 8/15
REMARKS		NO ACTION NECESSARY <input type="checkbox"/>	COMMENT <input type="checkbox"/>	BY: 8/15
		REFERRED TO	DATE	RECEIVED BY
		MJBell	8/1	