

412.1/DGALSON/86/12/19 ✓

DEC 23 1986

Mr. L. V. Konstantinov, Deputy Director General
Head of the Department of Nuclear Energy
and Safety
International Atomic Energy Agency
Wagramerstrasse 5
P.O. Box 100
A-1400 Vienna
Austria

SUBJECT: INTERNATIONAL APPROACHES TO PROBLEMS OF HIGH-LEVEL RADIOACTIVE WASTE MANAGEMENT AND DISPOSAL (REPLY TO REFERENCE 642.T2.0)

Dear Mr. Konstantinov:

I should like to respond to your letter of October 17, 1986 (reference 642.T2.0) concerning possible International Atomic Energy Agency (IAEA) initiatives in the area of high-level radioactive waste management and disposal. Because many of the questions listed on your questionnaire are more appropriately answered by the U.S. Department of Energy (DOE), I am limiting my response to areas of direct interest to the U.S. Nuclear Regulatory Commission (NRC). It is my understanding that the DOE is also preparing a reply to your letter.

First, I want to agree with your recommendation that the IAEA's activities be coordinated with those of the Nuclear Energy Agency (NEA) of the Organization for Economic Cooperation and Development (OECD). The NEA's Radioactive Waste Management Committee (RWMC) is currently studying whether to pursue further initiatives in the area of international approaches to the use of high-level radioactive waste disposal facilities. Indeed, it appears that a RWMC draft report dated May 19, 1986 addresses many of the questions posed in your letter; in addition, this report proposes certain follow-up activities of which the IAEA should maintain cognizance. It is important that all international activities in the area of radioactive waste management - including those activities of both the IAEA and the NEA - be well-coordinated in order to avoid unnecessary duplication of work.

I believe that international cooperation in the area of radioactive waste management and disposal is feasible and potentially valuable, and should be pursued in an organized fashion. Generally, the IAEA will serve a useful purpose if it is able to promote an international exchange of information, improve international cooperation and collaboration, and give technical assistance or guidance where appropriate. In my view, IAEA efforts would be particularly helpful in five areas:

- (1) the development of internationally accepted safety or regulatory

8906140219 861223
PDR WASTE
WM-1 PDR

87020077/5 H

standards, criteria and quality assurance guidance for high-level waste disposal,

(2) the establishment of a mechanism to ensure the timely international exchange of information on national research and development efforts in all areas of high-level radioactive waste management and disposal,

(3) the development of internationally accepted guidance on the treatment of generic technical issues associated with high-level waste repositories, in particular, guidance on the treatment of uncertainties, such as those related to the long time frame over which it is necessary to conduct system performance assessments for high-level waste repositories,

(4) the development or endorsement of a more precise definition of "high-level waste", that is, a definition based on risk associated with the waste, rather than on the source of the waste (in this regard, the NRC is currently considering proposing a definition in terms of concentration limits of both "highly radioactive" radionuclides and very long-lived radionuclides requiring "permanent isolation" from man's environment; this definition will be sent to the IAEA for comment as soon as it is available), and

(5) the development of international arrangements for the exchange of information about transportation accidents involving radioactive materials, the development of international guidelines covering route safety, the sponsoring of studies that relate expected performance standards of waste-transport systems to real-world accidents, and, more generally, the fostering of public understanding of waste-transport issues.

As you are aware, the U.S. has a sufficiently large nuclear program to support the development of one or more national repositories for high-level waste, and U.S. law mandates the development of a first such repository by the end of this century. I recognize that an international repository may have greater appeal to other nations - particularly those nations with nuclear power programs too small to support national repositories economically. The IAEA may be able to assist those nations in developing international waste disposal concepts; I would however, urge the IAEA to devote the largest share of its resources in the area of radioactive waste management and disposal to development of the types of standards and guidance discussed above. Such standards and guidance would not

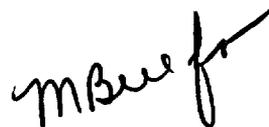
only be useful for developers of national repositories, but would also be a prerequisite for serious consideration of international repository concepts.

To conclude, I should like to stress the principal NRC position that the focus of the IAEA's high-level waste management program should be on establishing effective mechanisms for the international exchange of information and, through the development of standards and guidance documents, on obtaining international consensus on the resolution of key safety, technical, regulatory and quality assurance issues associated with the creation and use of national (or multinational) repository systems. It may at this time be premature for the IAEA, having only limited resources, to devote substantial resources to the study of organizational, financial, or other aspects specific to multinational repositories. Because several countries, including the U.S., are currently moving forward with repository programs, the IAEA should lose no time in planning and initiating activities, in cooperation with the NEA and any other interested international organizations, in the areas of high-level radioactive waste management and disposal outlined in this letter.

If you have any further questions on this subject, please write or telephone me (301-427-4069) or Daniel A. Galson (301-427-4623) of my staff.

Sincerely,

Original Signed By:



Robert E. Browning, Director
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

FROM International Atomic Energy Agency IAEA		DATE OF DOCUMENT 10/17/86	DATE RECEIVED 10/23/86	NO 1436878
		MEMO		REPORT
				OTHER
TO R. E. Browning		ORIG.	CC X	OTHER
		ACTION NECESSARY <input checked="" type="checkbox"/>	CONCURRENCE <input type="checkbox"/>	DATE ANSWERED 12/23/86
		NO ACTION NECESSARY <input type="checkbox"/>	COMMENT <input type="checkbox"/>	BY [Signature]
CLASSIF	POST OFFICE	FILE CODE 412.1		
REG. NO.				
Questionnaire on issues regarding radioactive waste management		REFERRED TO	DATE	RECEIVED BY
		[Signature]		[Signature]
		[Signature]		[Signature]
		[Signature]		[Signature]
		C. GLENN	10/24	
		D.A. GARSON	10/27	
REMARKS Closed 12/23/86 by letter to L. Konstantinov from R. Browning				