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MEMO FOR: Hugh L. Thompson, Jr. Director  
Office of Nuclear Material Safety and Safeguards (Return to WM, 623-SS)

FROM: Robert E. Browning, Director  
Division of High-Level Waste Management  
NMSS

SUBJECT: IODINE-129 GROUNDWATER DATA AT THE HANFORD, WASHINGTON SITE

This is to inform you about the staff's position on the relevance of historical Iodine-129 groundwater data, collected at the Hanford site, to Hanford's suitability as a potential location for a high-level waste (HLW) geologic repository.

During past operations at Hanford, waste waters were discharged directly to the ground at various locations on the Hanford site, including some within several miles of the site for the proposed HLW repository. These waste waters have introduced to the groundwater system varying amounts of contaminants, including Iodine-129, Tritium, and Technicium-99.

In January 1985, the U.S. Nuclear Regulatory Commission (NRC) On-Site Licensing Representative (OR) at Hanford was made aware of historical (circa early 1970's) data on Iodine-129 and other radionuclides from water samples collected from wells in and around the Hanford Reservation. NRC staff considered that, although this monitoring was not designed to assess the adequacy of the Hanford site for a HLW repository, it could help to understand the groundwater system.

The staff's evaluation of the data, available to the OR, indicated the data were not conclusive and did not show that the site should be disqualified as a possible repository site. However, the staff considered that all of the historical monitoring data, along with other hydrochemical data that would be collected as part of the repository site characterization program, would be useful in studying the groundwater flow system at Hanford.

Accordingly, the staff's view of the potential uses of Hanford's historical monitoring data was provided to the U. S. Department of Energy (DOE) in a June 26, 1985 letter. Since that time, DOE has identified and reviewed the historical data on Iodine-129 and prepared a report entitled "Data Compilation: Iodine-129 in Hanford Groundwater" dated August, 1987. This report compiles data from past and present Iodine-129 groundwater monitoring at Hanford.

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Based on our review of DOE's August, 1987 report, the NRC staff position continues to be that none of the historical Iodine-129 groundwater data identified to date indicates the site should be disqualified as a repository site. The historical Iodine-129 data collected is from aquifers at depths of about 2,000 feet or less. The repository is located at approximately 3,000 feet (Enclosure 1). These data are therefore not sufficient to resolve the issue of the potential for upward migration from the repository horizon to shallower aquifers. The data needed to support regulatory conclusions about the adequacy of the Hanford site will be obtained by DOE through testing near the proposed site and at the proposed depth of the repository. In an April, 1987 meeting at the Hanford site the NRC staff agreed with DOE's approach for this testing. The historical groundwater monitoring data will be considered by the NRC staff along with data from the program of deep groundwater testing as part of the DOE site characterization effort.

It should be noted that there has been recent press and Congressional interest regarding the relevancy of historical Iodine-129 groundwater monitoring data to Hanford's acceptability as a location for a high-level waste repository. Newspaper articles have incorrectly implied that NRC officials have indicated that the Hanford nuclear reservation does not meet nuclear waste repository siting criteria. In order to correct the press inaccuracies, I transmitted a letter (Enclosure 2) to the editor of the Seattle Post-Intelligencer dated August 26, 1987.

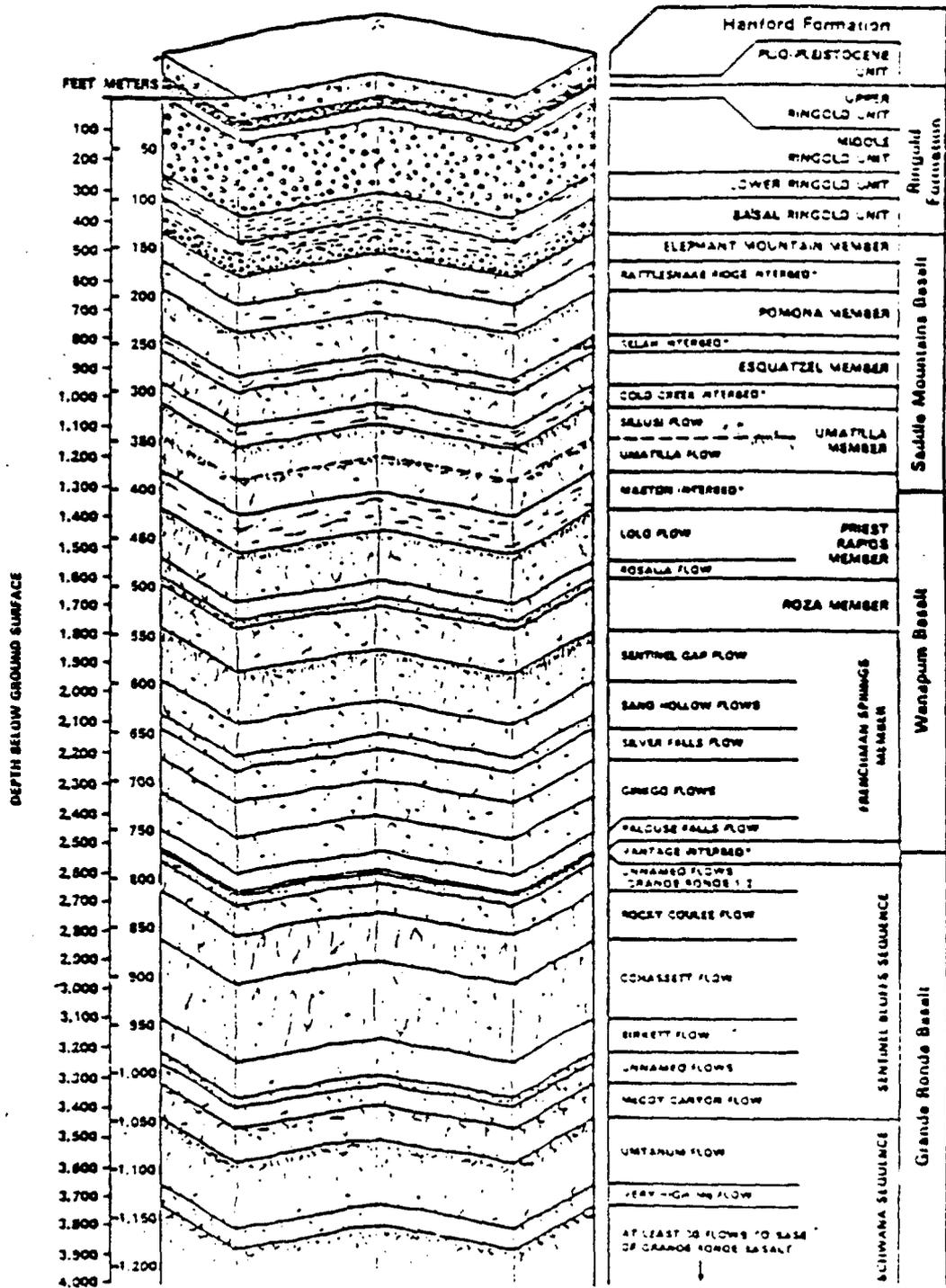
Another aspect of the press interest involves an allegation that DOE deliberately withheld the historical Iodine-129 data. This allegation was referred by DOE's Hanford Operations Office to DOE's Inspector General for investigation in 1985. The NRC's Office of Investigation (OI) was informed. They in turn informed each Commissioner. DOE's Inspector General has investigated the allegation and furnished a copy of their report to OI. In August, 1987, Representatives Wyden (Oregon) and Swift (Washington) requested this matter be further investigated by DOE's Inspector General and independently investigated by GAO.

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Robert E. Browning, Director  
Division of High-Level Waste Management  
NMSS

Enclosures:

1. Geologic Section
2. Letter to Seattle Post Intelligencer  
from R. E. Browning dated 8/26/87

ENCLOSURE 1



Repository  
Horizon

\*INTERBEDS ARE STRATIGRAPHICALLY CONTAINED IN THE ELLENSBURG FORMATION

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Enclosure 1

ENCLOSURE 2



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

AUG 26 1987

The Editor  
Seattle Post-Intelligencer  
P.O. Box 1909  
Seattle, Washington 98111

Dear Sir:

A report in your August 8 edition (page D1) suggests that the Nuclear Regulatory Commission staff has reached certain conclusions regarding the suitability--or lack thereof--of the Hanford site in Washington for a repository for the disposal of high-level radioactive waste. This is not the case.

The NRC staff has taken no position regarding the suitability of the Hanford site and will not be in a position to do so until the Department of Energy has completed a site characterization program. The suggestions to the contrary in your August 8 edition reflect the personal views of one member of the NRC staff and one NRC contractor regarding certain specific technical matters. These personal views are part of the public record and were available in our Public Document Room.

Further, contrary to your report, the NRC staff does not expect to receive an application from the Department of Energy for construction authorization for a high-level radioactive waste repository until the mid-1990's, not the end of 1988.

Sincerely,

*RE Browning*  
Robert E. Browning, Director  
Division of High-Level Waste Management  
Office of Nuclear Material Safety  
and Safeguards

Enclosure 2

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FROM <b>REAlexander</b>		DATE OF DOCUMENT <b>8/28/87</b>	DATE RECEIVED <b>8/28/87</b>	NO. <b>WM-87383</b>
TO <b>REBrowning</b>		LTR	MEMO <b>XX</b>	REPORT <b>XX</b>
CLASSIF		ORIG.	CC <b>XX</b>	OTHER
POST OFFICE		ACTION NECESSARY <input checked="" type="checkbox"/>	CONCURRENCE <input type="checkbox"/>	DATE ANSWERED
REG. NO.		NO ACTION NECESSARY <input type="checkbox"/>	COMMENT <input type="checkbox"/>	BY <b>9/30</b>
DESCRIPTION (Must Be Unclassified)		FILE CODE: <b>414.2</b>		
<b>Notification of Federal Agencies of Inconsistencies between New Federal Guidance and Existing Part 20</b>		REFERRED TO	DATE	RECEIVED BY
		<b>JOBunting</b>	<b>8/28</b>	
		<b>DFehringer</b>		
ENCLOSURES				
<i>Classified by memo to REAlexander R/S by RB 9/30/87</i>				
REMARKS				