

LPDR
Wm-10 (2)
Wm-11 (2)
Wm-16 (2)

4/9/87 4171

✓ 426.1/EW/87/04/09/FINA4171-7

- 1 -

Dr. Charles G. Interrante, Program Manager
Corrosion Group - Metallurgy Division
Center for Materials Science and Engineering
National Bureau of Standards
U.S. Department of Commerce
Gaithersburg, MD 20899

WM-RES
WM Record File
A4171
NBS

WM Project 10, 11, 16
Docket No.

PDR ✓
X PDR (B, A, S)

Distribution:

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Dear Dr. Interrante:

We have reviewed NBS' January 1987 and February 1987 Progress Letters and our comments are presented below.

January 1987 Progress Letter

1. Page 7 CIT. No: 0140, Review of HEDL-7556, "Test Plan for Series 2 Thermogravimetric Analyses of Spent Fuel Oxidation."

Under "General Comments" the review states, "It is difficult to imagine how oxidation of UO_2 will take place in fuel rods until defects occur in the cladding."

Our comment is that there will be defects in some of the fuel rods in the repository (some studies show that approximately 0.01 percent of spent fuel rods have cladding failures). In addition, an unknown number of cladding failures may be produced in the repository. In view of these considerations, is the above statement in the review relevant?

2. Page 22, Review of BNL-NUREG-51996, "Stress Corrosion Cracking Tests on High-Level Waste Container Materials in Simulated Tuff Repository Environments," Abraham, Jain and Soo.

Under General Comments, the second paragraph reads, "Alloys with relatively low carbon contents were used and, as a result, actual container alloys with higher carbon contents would be more susceptible to sensitization and SCC."

We suggest that the second paragraph be modified to improve the clarity, e.g., "Alloys with carbon contents at the low end of the permissible range were used, but the same alloys with higher carbon contents within the permissible range would be more susceptible to sensitization and SCC."

The fourth paragraph reads, "Because of the low carbon content of the alloys, the 'sensitized' samples tested were not sufficiently sensitized to exhibit extensive intergranular attack during metallographic etching."

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We also suggest that this paragraph be modified to improve clarity, e.g., "Because the carbon content of all of the alloys was at the low end of the permissible range, the 'sensitized' samples....."

February 1987 Progress Letter

The draft reviews included in this progress letter were also included in the NBS semi-annual report and our comments on that report (Letter, E. A. Wick to C. G. Interrante, dated April 8, 1987) included comments on these reviews.

Please call me if you have any questions or if you wish to discuss this.

Actions resulting from this letter are considered to be within the scope of FIN A-4171. No changes in costs or delivery of contracted products are authorized. Please notify me immediately if you feel this letter will result in additional costs or delay in delivery of contracted products.

Sincerely,

/s/

Everett A. Wick
Engineering Branch
Division of Waste Management, NMSS

cc: Dr. Neville Pugh, Director
Metallurgy Division

Dr. William Ruff, Section Leader
Corrosion Section - Metallurgy Division

OFFICIAL CONCURRENCE AND DISTRIBUTION RECORD

LETTER TO: Dr. Charles G. Interrante
FROM: Everett A. Wick
SUBJECT: REVIEW OF NBS' JANUARY 1987 AND FEBRUARY 1987 PROGRESS LETTERS
DATE:

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4/09/87
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(original not received in the WMDCC)
4/13/87 9:30
Date 4/13/87 Time 9:30

FROM CG Interrante, Dept of Co. ce		DATE OF DOCUMENT 3/17/87		DATE REC 3/19		NO WM87-140	
TO Everett A. Wick		LTR XX		MEMO		OTHER	
		ORIG.		CC		OTHER XX	
		ACTION NECESSARY XXX		CONCURRENCE <input type="checkbox"/>		DATE ANSWERED 4/3/87 4/10/87	
CLASSIF		POST OFFICE		NO ACTION NECESSARY <input type="checkbox"/>		COMMENT <input type="checkbox"/>	
DESCRIPTION (Must Be Unclassified)		REG. NO.		FILE CODE: 426.1			
February Monthly Status Rpt for FIN A4171		REFERRED TO		DATE		RECEIVED BY	
		J Greeves, WMEG		3/19			
		E Wick, WMEG		3/19			
ENCLOSURES							
REMARKS							

*Action closed 4/10 Wick
ltr to Interrante*

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FROM Dept. of Commerce		DATE OF DOCUMENT 2/13/87		DATE RECEIVED 2/13/87		NO WH-87039	
		LTR XX		MEMO		PORT	
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TO EWick		ORIG.		CC XX		OTHER	
		ACTION NECESSARY <input checked="" type="checkbox"/>		CONCURRENCE <input type="checkbox"/>		DATE ANSWERED	
		NO ACTION NECESSARY <input type="checkbox"/>		COMMENT <input type="checkbox"/>		BY 3/11/88	
CLASSIF		POST OFFICE		FILE CODE: 426.1 (A4171)		4/10	
		REG. NO.				3/25	
DESCRIPTION (Must Be Unclassified) Jan 87 Report for FIN A4171		REFERRED TO		DATE		RECEIVED BY	
		JGreeves		2/85			
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ENCLOSURES							
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