

March 15, 2001

MEMORANDUM TO: Stuart A. Richards, Director
Project Directorate IV & Decommissioning
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

FROM: Girija S. Shukla, Project Manager, Section 2
Project Directorate IV & Decommissioning /RA/
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF FEBRUARY 26, 2001, MEETING WITH
WESTINGHOUSE ON FUEL CLADDING DUCTILITY

Reference: Nuclear Engineering and Design, Volume 147, No. 1, Page 53, Comparative
Studies on High-Temperature Corrosion of ZrNb1 and Zircoloy-4

On February 26, 2001, the U.S. Nuclear Regulatory Commission (NRC) met with Westinghouse to discuss the validity of the 17 percent oxidation criterion for loss-of-coolant (LOCA) conditions for Zirlo cladding. The meeting was scheduled in response to a January 26, 2001, letter in which the NRC staff requested a meeting on this subject after the staff became aware of a paper by J. Bohmert entitled "Embrittlement of ZrNb1 at Room Temperature After High-Temperature Oxidation in Steam Atmosphere" (Reference).

The meeting began with a non-proprietary presentation which covered a brief history of the criteria, a summary of the results from the Reference, the differences between Zirlo and the material tested by J. Bohmert, and a discussion of the information supplied during the licensing of Zirlo cladding.

The proprietary section of the meeting covered preliminary results of ring compression tests being performed by Westinghouse and a discussion of the remainder of the testing program. Since the data presented was preliminary, no proprietary material was submitted. Westinghouse committed to present the final results of the test program at the May 2001 fuel performance update meeting. After the Westinghouse presentations, the staff stated that based on the preliminary test results presented and the analyses of Zirlo cladding, the loss-of-coolant accident (LOCA) oxidation limit of 17 percent as approved for Zirlo fuel cladding material continues to be the appropriate value. In order to complete reevaluation of this issue, we look forward to the Westinghouse presentation of the final results. At the conclusion of the meeting, the staff expressed their appreciation to Westinghouse for the prompt and thorough response to the issue.

A list of those attending the meeting is provided in the attachment. The non-proprietary slides used by Westinghouse during the meeting are available under ADAMS accession number ML010610275.

Project No. 700

Attachment: Meeting Attendees

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Division of Licensing Project Management
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DISTRIBUTION: See next page Meeting Notice: ML010380062
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Westinghouse

Project No. 700

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**MEETING WITH WESTINGHOUSE
CLAD DUCTILITY
FEBRUARY 26, 2001**

ATTENDANCE LIST

WESTINGHOUSE

M. Nissley
D. Colburn
S. Ray
B. Leech

NRC

R. Wharton
R. Caruso
R. Meyer
J. Vermiel
M. Chatterton
E. Kendrick
H. Scott
S. Basu
S. Wu
N. Lauben
J. Rosenthal
S. Frattali

OTHER

E. Lyman, Nuclear Control Institute
H. Chung, Argonne National Laboratory

MEETING SUMMARY WITH WESTINGHOUSE ON FEBRUARY 26, 2001, TO DISCUSS
FUEL CLADDING DUCTILITY ISSUES

Dated: March 15, 2001

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MChatterton

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RMeyer

JRosenthal

HScott

JWermiel

SWu

SDembek

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