



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

October 30, 1989

*Handwritten initials/signature*

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*Cps: C Patel  
S Holahan  
S Varga  
C Files  
PDR.*

*H Smith  
11/3/89*

MEMORANDUM FOR: Robert B. A. Licciardo, Reactor Engineer (Nuclear)  
Plant Systems Branch  
Division of Systems Technology

FROM: Robert C. Jones, Acting Chief  
Reactor Systems Branch  
Division of Systems Technology

SUBJECT: DIFFERING PROFESSIONAL VIEW (DPV)

Reference: Memorandum, Murley to Licciardo, dated September 13, 1989

On September 13, 1989 (Reference), Dr. Murley concluded that several actions should be taken in response to your Differing Professional View. Enclosed is a copy of the guidance issued by me to the Reactor Systems Branch Engineers to ensure that pressure and temperature effects during a LOCA are considered in the review of new and advanced fuel designs.

Robert C. Jones, Acting Chief  
Reactor Systems Branch  
Office of Nuclear Reactor Regulation

Enclosure:  
As stated

cc: T. Murley  
F. Miraglia  
F. Gillespie  
J. Partlow  
A. Thadani  
D. Mossburg (YT #0899214)  
H. Smith

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PDA



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555  
October 25, 1989

MEMORANDUM FOR: Reactor Systems Branch Engineers  
Division of Systems Technology

FROM: Robert C. Jones, Acting Chief  
Reactor Systems Branch  
Division of Systems Technology

SUBJECT: BRANCH REVIEW GUIDANCE: REVIEW OF FUEL PIN  
PARAMETERS FOR LOCA ANALYSES

Recently a Differing Professional View (DPV) was raised concerning closure time requirements for containment isolation valves. Of concern was the possibility that cladding rupture, and therefore release of fission products, during a large break LOCA could occur prior to the containment being isolated. As part of the DPV resolution, a review of large break LOCA calculations was performed which demonstrated that cladding ruptures are not expected during the blowdown phase of the accident for current fuel designs. Thus, containment isolation would occur prior to cladding rupture.

It was also noted that studies of the timing of cladding rupture were generally only performed during the initial acceptance of the large break LOCA evaluation models in 1974-1975. However, numerous changes in fuel designs, such as extended burnup operation and its resultant increased internal fuel pin pressures, have been made. The effect of these changes on the calculated timing of cladding rupture has not always been addressed.

Since the review of the LOCA analyses performed as part of the DPV resolution concluded that cladding ruptures were unlikely during blowdown for current fuel designs, no specific action is necessary now. However, as new fuel designs are developed, you should examine the fuel parameters to ensure that cladding ruptures will not occur during the blowdown phase of a LOCA. Should your review determine that such cladding ruptures are possible, you should alert the Plant Systems Branch so they can assure that containment isolation is accomplished prior to the release of fission products from the fuel.

This guidance is immediately effective.

A handwritten signature in cursive script, appearing to read "Robert C. Jones".

Robert C. Jones, Acting Chief  
Reactor Systems Branch  
Division of Systems Technology

cc: A. Thadani

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