

January 29, 2004

MEMORANDUM TO: M. Wayne Hodges, Deputy Director
Technical Review Directorate
Spent Fuel Project Office, NMSS

THRU: Jack Guttman, Section Chief
Technical Review Section B
Technical Review Directorate
Spent Fuel Project Office, NMSS

FROM: Christopher L. Brown, Materials Engineer
Technical Review Section B
Technical Review Directorate /RA/
Spent Fuel Project Office, NMSS

SUBJECT: SCOPING CALCULATIONS FOR CLADDING HOOP
STRESSES IN LOW BURNUP FUEL

Attached is a white paper from Pacific Northwest National Laboratory (PNNL) entitled, "ESTIMATED MAXIMUM CLADDING STRESSES FOR BOUNDING PWR FUEL RODS DURING SHORT-TERM OPERATIONS FOR DRY CASK STORAGE." This white paper analyzes and concludes that hydride-reorientation in low-burnup fuel is not a safety concern, when operated in accordance with our current guidance. The paper also reviewed the use of high-burnup fuel (Vantage 5) operated up to 45 GWd/MTU. The analyses concludes that the intent of ISG-11, rev.3 was maintained (i.e., hydride-reorientation is not a safety concern).

In summary, hydride-reorientation is not a safety concern when handled in accordance with existing staff guidance.

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