

October 17, 2001

Mr. Philip W. Richardson, Manager
Windsor Nuclear Licensing
Westinghouse Electric Company
2000 Day Hill Road
Windsor, CT 06095

SUBJECT: CORRECTION TO SAFETY EVALUATION ON TOPICAL REPORT
CENPD-404-P, REVISION 0, "IMPLEMENTATION OF ZIRLO MATERIAL
CLADDING IN CE NUCLEAR POWER FUEL ASSEMBLY DESIGNS"
(TAC NO. MB1035)

Dear Mr. Richardson:

The NRC staff issued its safety evaluation (SE) of the subject topical report on September 12, 2001. Unfortunately, the SE contained an error. Condition 5 on page 13 of the SE approved the burnup limit for 60 MWD/MTU when it should have approved it for 60 GWD/MTU. We have attached a corrected page 13. We apologize for any inconvenience this error may have caused.

Sincerely,

/RA/

Stuart A. Richards, Director
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Project No. 692

Enclosure: Corrected Page 13 of SE

cc w/encl: See next page

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Westinghouse Electric Company LLC Windsor Office

Project No. 692

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3.0 CONCLUSIONS

On the basis of the evaluation discussed above, the staff concludes that it is acceptable for WEC to use ZIRLO as the cladding material for CENP-designed plants subject to the following conditions to which WEC has agreed (Reference 5):

- (1) The corrosion limit, as predicted by the best-estimate model will remain below 100 microns for all locations of the fuel.
- (2) All the conditions listed in the SEs for all the CENPD methodologies used for ZIRLO fuel analysis will continue to be met, except that the use of ZIRLO cladding in addition to Zircaloy-4 cladding is now approved.
- (3) All CENP methodologies will be used only within the range for which ZIRLO data was acceptable and for which the verifications discussed in CENPD-404-P and responses to requests for additional information were performed.
- (4) Until data is available demonstrating the performance of ZIRLO cladding in CENP designed plants, the fuel duty will be limited for each CENP designed plant with some provision for adequate margin to account for variations in core design (e.g., cycle length, plant operating conditions, etc.). Details of this condition will be addressed on a plant specific basis during the approval to use ZIRLO in a specific plant.
- (5) The burnup limit for this approval is 60 GWD/MTU.

4.0 REFERENCES

1. Letter from Philip W. Richardson, CE Nuclear Power LLC to NRC Document Control Desk, January 22, 2001.
2. Letter from Philip W. Richardson, Westinghouse Electric Company LLC to NRC Document Control Desk, May 3, 2001.
3. Letter from Philip W. Richardson, Westinghouse Electric Company LLC to NRC Document Control Desk, August 10, 2001.
4. Letter from Philip W. Richardson, Westinghouse Electric Company LLC (LD-2001-0046, Revision 0) to John S. Cushing, NRC, August 10, 2001.
5. Letter from Philip W. Richardson, Westinghouse Electric Company LLC to NRC Document Control Desk, August 27, 2001.
6. WCAP-12610-P-A, "Vantage+ Fuel Assembly Reference Core Report," April 1995.
7. Nuclear Engineering and Design, Volume 147, No. 1, Page 53, Comparative Studies on High-Temperature Corrosion of ZrNb1 and Zircaloy-4.

Principal Contributor: M. Chatterton

Date: September 12, 2001