May 21, 2003

Mr. W. E. Cummins, Director
AP600 & AP1000 Projects
Westinghouse Electric Company
P.O. Box 355
Pittsburgh, PA 15230-0355

Dear Mr. Cummins:

As you are aware, the U. S. Nuclear Regulatory Commission (NRC) staff is preparing the draft safety evaluation report (DSER) for the AP1000 design certification application submitted by Westinghouse Electric Company on March 28, 2002. The staff expects to issue the DSER in June, 2003. As of this date, the staff has identified three potential open items for DSER Chapter 4, "Reactor," which are enclosed for your information. Please note that the staff's review of the application will continue during preparation of the DSER, which may result in changes to the potential open items identified in the enclosure, or the addition of other open items.

The three potential open items in the enclosure have the original request for additional information (RAI) number included for reference. If the staff cannot resolve the potential open items before the issuance of the DSER, these items will be issued as DSER open items and be tracked with a corresponding open item number.

Previously, Westinghouse committed to provide responses to all identified open items within 9 weeks after the issuance of the DSER. The staff will be prepared to review your responses to the open items and have conference calls and meetings with your staff, as appropriate, after the DSER is issued. If Westinghouse chooses to address some or all of these open items before the issuance of the DSER, the staff may not have sufficient time to evaluate every response to the potential open items that Westinghouse submits to the NRC and make changes to the DSER before the scheduled DSER issuance in June, 2003.

Please contact one of the following members of the AP1000 project management team if you have any questions or comments concerning this matter: Mr. John Segala (Lead Project Manager) at (301) 415-1858 or jps1@nrc.gov, Mr. Joseph Colaccino at (301) 415-2752 or jxc1@nrc.gov, or Ms. Joelle Starefos at (301) 415-8488 or jls1@nrc.gov.

Sincerely,

/RA/

James E. Lyons, Director
New Reactor Licensing Project Office
Office of Nuclear Reactor Regulation

Docket No. 52-006

Enclosure: As stated

cc: See next page

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*see previous concurrence
ADAMS ACCESSION NUMBER: ML031410047

OFFICE	PM:NRLPO	DD:NRLPO	D:NRLPO
NAME	JSegala	MGamberoni	JLyons
DATE	5/21/2003	5/21/2003	5/21/2003

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Westinghouse AP1000
Draft Safety Evaluation Report
Potential Open Items
Chapter 4
Reactor

Open Item Number: 4.4-1

Original RAI(s): 440.022

Summary of Issue: In its response to RAI 440.022, the applicant stated that based on experience, the instrumentation uncertainties are expected to be typical values that bound both the specified and delivered uncertainties for the plant instrumentation. In the unlikely event that the assumed uncertainty values are exceeded when the plant is built, the calculated COLR limits could be adjusted to accommodate any additional uncertainties for the installed instrumentation beyond the original assumed uncertainty values. In addition, the safety analyses are performed with safety analysis limit DNBRs higher than the design limit DNBR values. The difference between the safety analysis limit DNBRs and the design limit DNBRs is the DNBR margin, which can be used to offset DNB penalties such as rod bow penalty and unanticipated DNBR penalties. Therefore, the staff believes that even with the revised design limit DNBR values, the conclusion that the minimum DNBR limits are not violated during the AOOs will remain valid. However, the staff requires that upon installation of the actual instrumentation in the plant, the COL applicant calculate the design limit DNBR values using the RTDP with the instrumentation uncertainties of the plant operating parameters based on the actual instrumentation of the plant, and confirm that either the design limit DNBR values as described in DCD Tier 2 Section 4.4, "Thermal and Hydraulic Design," and the response to RAI 440.022, Revision 1 remains valid, or the safety analysis minimum DNBR bounds the new design limit DNBR values plus DNBR penalties, such as rod bow penalty. DCD Tier 2 Section 4.4.7, "Combined License Information," does not address this issue. Therefore, this is Open Item 4.4-1 and COL Action Item 4.4-1.

Open Item Number: 4.5.1-1

Original RAI(s): 252.001

Summary of Issue: The recent experience with VHP nozzle cracking has identified the need for baseline inspection data to determine if an indication is service-induced cracking, or an artifact from fabrication. The staff requested information on what preservice examinations will be performed on the VHP nozzles. In a letter dated April 7, 2003, the applicant responded that preservice examinations for the closure head will include a baseline top-

of-the head visual examination, ultrasonic examinations of the inside diameter surface of each vessel head penetration, eddy current examination of the surface of the head penetration welds and the inside diameter surface of the penetrations, and post-hydro liquid penetrant examinations of accessible surfaces that have undergone preservice inspection eddy current examinations. Any indications exceeding the ASME Code Section III requirements would be removed. The information in the RAI response has been provided in DCD Tier 2 Section 5.3.4.7. The information on preservice examinations also needs to be addressed as a COL commitment in DCD Tier 2 Section 5.3.6, "Combined License Information." This is identified as Open Item 4.5.1-1 and COL Action Item 4.5.1-1.

Open Item Number: 4.5.1-2

Original RAI(s): 252.001

Summary of Issue: In addition, the COL applicant will be required to perform inservice inspections equivalent to those contained in NRC Order EA-03-009, "Interim Inspection Requirements for Reactor Pressure Vessel Heads at PWRs." This is identified as Open Item 4.5.1-2 and COL Action Item 4.5.1-2.

AP 1000

cc:

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