Westinghouse

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Your ref: Docket No. 52-006
Our ref: DCP/NRC1638

October 15, 2003

SUBJECT: Transmittal of Revised Responses to AP1000 DSER Open Items

This letter transmits Westinghouse revised responses to Open Items in the AP1000 Design Safety Evaluation Report (DSER). A list of the revised DSER Open Item responses transmitted with this letter is Attachment 1. The non-proprietary responses are transmitted as Attachment 2.

Please contact me at 412-374-4728 if you have any questions concerning this submittal.

Very truly yours,

R. P. Vijuk, Manager
Passive Plant Engineering
AP600 & AP1000 Projects

/Attachments

1. List of the AP1000 Design Certification Review, Draft Safety Evaluation Report Open Item Responses transmitted with letter DCP/NRC1638
2. Non-Proprietary AP1000 Design Certification Review, Draft Safety Evaluation Report Open Item Responses dated October 15, 2003

D063

DCP/NRC1638
Docket No. 52-006

October 15, 2003

Attachment 1

List of

Non-Proprietary Responses

Table 1 **"List of Westinghouse's Responses to DSER Open Items Transmitted in DCP/NRC1638"**	
19.2.3.3-1 Rev. 1	

DCP/NRC1638
Docket No. 52-006

October 15, 2003

Attachment 2

AP1000 Design Certification Review
Draft Safety Evaluation Report Open Item Non-Proprietary Responses

AP1000 DESIGN CERTIFICATION REVIEW

Draft Safety Evaluation Report Open Item Response

DSER Open Item Number: 19.2.3.3-1 Revision 1

Original RAI Number(s): None

Summary of Issue:

The AP1000 insulation design was refined based on insights from the Configuration IV tests, and a prototypical insulation design for AP1000 was evaluated as part of the ULPU Configuration V test program. The applicant has indicated that the Configuration V test results show a further improvement in coolability performance relative to Configuration IV, and also include information on transient pressure loads needed by the COL-applicant to establish the pressure loads for the structural analysis of the final insulation design. The applicant has not provided documentation of: the RPV insulation design evaluated in Configuration V, the results of the Configuration V testing, or the functional requirements for the AP1000 RPV insulation system. Such information is needed in order for the staff to conclude on the margins to lower head failure for AP1000, and the viability of Westinghouse's proposal that the COL applicant complete the RPV insulation design. This is Open Item 19.2.3.3-1.

Westinghouse Response:

Attachment 3 to Westinghouse letter DCP/NRC1603 dated July 8, 2003 provides the ULPU V test report that can be used by the COL applicant to complete the RPV insulation design. **The in-vessel retention functional requirements for the RPV insulation design are given in the AP1000 PRA Section 39.10.2. The pressure data from the ULPU V testing will be used by the COL applicant to determine loads on the insulation and its supporting structure. The ULPU V test results indicate that the pressure variations in the flow channel between the vessel and the insulation are on the order of plus/minus 0.5 meters of water. Fast Fourier Transform analysis of the ULPU V pressure data is also included in the ULPU V test report. This analysis shows that the dominant frequency of the pressure variations is less than about 2 Hz. The natural frequency of the insulation structure is expected to be well above 2 Hz, so the observed pressure variations will most likely be treated as static pressure loads in the design of the insulation structure.**

Design Control Document (DCD) Revision:

None

PRA Revision:

None