

September 27, 2001

Mr. Michael M. Corletti
Advanced Plant Safety & Licensing
Westinghouse Electric Company
P.O. Box 355
Pittsburgh, Pennsylvania 15230-0355

SUBJECT: AP1000 PRE-APPLICATION REVIEW - REQUESTS FOR ADDITIONAL
INFORMATION

Dear Mr. Corletti:

Enclosed are further Requests for Information (RAIs) which have arisen from our continued work on the AP1000 Pre-application review.

If you have any questions please contact me at 301-415-1102.

Sincerely

/RA/

Alan C Rae, AP1000 Project Manager
New Reactors Licensing Project Office
Office of Nuclear Reactor Regulation.

Project 711

Enclosure: Request for Additional Information

cc w/encl: See next page.

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DATE	9/24/2001	9/25/2001	9/26/2001

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Distribution for Request for Additional Information dated September 27, 2001

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REQUEST FOR ADDITIONAL INFORMATION

- P68. The NRC staff has completed a preliminary analysis of small break LOCA at AP1000 using RELAP5. For a postulated 2-inch cold leg break we calculate core void fractions at the top of the core to be in excess of 90%. These results will be compared to the analysis of the same break size by Westinghouse in WCAP-15612 using the NOTRUMP code. One ADS4 valve was assumed to fail closed as in the NOTRUMP analysis. Decay heat at 1.2 times the 1973 ANS standard was assumed. The containment pressure was set to atmospheric. So that we may continue to compare the results between the two computer codes, please provide the NOTRUMP prediction of core voiding for the 2-inch cold leg break size including the top of the core and intermediate locations. Provide the calculated reactor vessel steam plus water mass as a function of time. Provide the calculated core void fractions and reactor vessel steam plus water mass for the inadvertent ADS opening and double ended DVI line break analyzed using NOTRUMP in WCAP-15612.
- P69. Provide justification that the noding detail in NOTRUMP is adequate to predict core uncover at elevated voided conditions and at low pressures such as might occur during small break LOCA at AP1000. Provide justifications that heat transfer and critical heat flux correlations within NOTRUMP are adequate to conservatively calculate core cooling at these conditions both for the average core and for the hottest fuel pin in the core. Provide comparisons with the void fractions and core heat fluxes for the ACHILLES and G-2 tests that were evaluated using NOTRUMP as described in WCAP-14807. Justify that the conditions for these tests encompass those calculated for AP1000.

Enclosure

AP 1000

cc:

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