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U.S. Nuclear Regulatory Commission
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Your ref: Docket No. 52-006
Our ref: DCP_NRC_002678

November 2, 2009

Subject: AP1000 Response to Request for Additional Information (SRP 7)

Westinghouse is submitting a response to the NRC request for additional information (RAI) on SRP Section 7. This RAI response is submitted in support of the AP1000 Design Certification Amendment Application (Docket No. 52-006). The information included in this response is generic and is expected to apply to all COL applications referencing the AP1000 Design Certification and the AP1000 Design Certification Amendment Application.

Enclosure 1 provides the response for the following RAI(s):

RAI-SRP7.1-FMEA-04

Questions or requests for additional information related to the content and preparation of this response should be directed to Westinghouse. Please send copies of such questions or requests to the prospective applicants for combined licenses referencing the AP1000 Design Certification. A representative for each applicant is included on the cc: list of this letter.

Very truly yours,

Robert Sisk, Manager
Licensing and Customer Interface
Regulatory Affairs and Standardization

/Enclosure

1. Response to Request for Additional Information on SRP Section 7

D063
NRO

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ENCLOSURE 1

Response to Request for Additional Information on SRP Section 7

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-SRP7.1-FMEA-04
Revision: 0

Question:

What analysis demonstrates that surveillance testing need only be tested during outage periods.

On page 2-13 (Section 2.8) of WCAP-16438, Revision 2 of the "Failure Modes and Effects Analysis (FMEA) of the AP1000 Protection and Safety Monitoring System" (PMS) it states: "The MTP process station is located in the same cabinet as the ITP and ICP process stations. It provides local display of the division status, and provides the means to conduct surveillance testing of the division (typically done during plant shutdown) as well as software maintenance of the various processors within the division." This leads the reader to believe that the licensee can perform surveillance testing only during shutdown periods which would be approximately every 18 months. The staff previously understood that surveillance testing would take place on a quarterly basis. What analysis or operating experience (OE) demonstrates this to be an acceptable periodicity and in accordance with the requirements of Clauses 5.3 Quality and 5.7, Capability for Test and Calibration of IEEE Std. 603-1991, which is endorsed by 10 CFR 50.55a(h) Protection and Safety Systems concerning the safe and reliable operation of the PMS? Provide an analysis demonstrating the acceptability of testing the system only during shutdown periods or provide a reference to docketed information revealing how often the safety system will be tested.

Westinghouse Response:

It is not the objective of the FMEA to provide a basis for establishing the surveillance test interval; rather its objective is to determine that failures of system components will be detectable, either by the periodic surveillance testing or by the self-diagnostic features of the system. The capability to perform testing of the PMS during plant operations is provided consistent with the requirements of IEEE Std. 603-1991. While it is a desire at some future time to reduce the impact of surveillance testing by lengthening the test interval, this will not be the case for the initial operation of the first AP1000 units. Surveillance testing of the PMS will be conducted on a quarterly basis or at another agreed upon frequency. Justification for the PMS surveillance frequency is provided in WCAP-16787 (APP-GW-GSC-020). The parenthetical phrase "(typically done during plant shutdown)" will be removed from the FMEA report.

Design Control Document (DCD) Revision:

None.

PRA Revision:

None.

Technical Report (TR) Revision:

Revise Section 2.8 of WCAP-16438, Revision 2 as shown:

2.8 MTP PROCESS STATION

The MTP process station is located in the same cabinet as the ITP and ICP process stations. It provides local display of the division status, and provides the means to conduct surveillance testing of the division as well as software maintenance of the various processors within the division. It is through the MTP that the software is loaded into the division processors under control of a software load enable key lock switch.