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Your ref: Docket No. 52-006
Our ref: DCP_NRC_002617

September 17, 2009

Subject: AP1000 Response to Request for Additional Information (SRP 9)

Westinghouse is submitting a response to the NRC request for additional information (RAI) on SRP Section 9. 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-SRP9.1.1-SRSB-07
RAI-SRP9.3.5-SBPA-01

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
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/Enclosure

1. Response to Request for Additional Information on SRP Section 9

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ENCLOSURE 1

Response to Request for Additional Information on SRP Section 9

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-SRP9.1.1-SRSB-07
Revision: 0

Question:

APP-GW-GLR-029 Revision 1 does not mention borosilicate glass burnable absorbers in the analysis. The AP1000 DCD Revision 17 lists borosilicate glass as the main burnable absorber. How would the use of borosilicate glass burnable absorbers affect the analysis?

Westinghouse Response:

The use of borosilicate glass burnable absorbers has been evaluated, and the analysis has been updated to address their use in the AP1000. These have no effect on the results, as they are bounded by other burnable absorbers already identified in the analysis.

Design Control Document (DCD) Revision:

None.

PRA Revision:

None.

Technical Report (TR) Revision:

APP-GW-GLR-029 was revised to include the results of use of borosilicate glass burnable absorbers. The revised report shows that they are bounded by other combinations of inserts and therefore have no impact on the results.

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-SRP9.3.5-SBPA-01
Revision: 0

Question:

In Standard Review Plan (SRP) Section 9.3.3, "Equipment and Floor Drainage System," (EFDS) acceptance criteria, the EFDS must meet general design criteria (GDC) 4 as to capability to withstand the effects of and to be compatible with the environmental conditions (flooding) of normal operation, maintenance, testing, and postulated accidents (pipe break, tank ruptures). Information that addresses these requirements of GDC 4 will be considered acceptable if the EFDS is designed to prevent flooding that could affect SSCs important to safety adversely. EFDS drainage lines should be capable, during normal operation, maintenance, testing, and postulated floods, of providing free drain flow away from the drain location and prevent water backups.

In DCD Section 9.3.5.1.2, the applicant proposed an exception to the minimum slope of 10.42 mm per meter (1/8 inch per foot) for drain lines in area 2 of the auxiliary building at elevation 20.27 meters (66'-6"). The exception specifies a minimum slope of 5.21 mm per meter (1/16 inch per foot) for embedded drain piping. The staff is unable to locate any justification or assessment of this exception and the possible impact on surrounding area and components.

For this proposed exception, provide in the DCD the justification and/or associated flooding evaluation in this potentially affected location of the auxiliary building and its impact to adjacent SSCs important to safety.

Westinghouse Response:

The flooding evaluation in this location of the auxiliary building is presented in DCD R17, Section 3.4.1.2.2.2, "Auxiliary Building Flooding Events," beginning on page 3.4-14. The potential flooding discussion below is summarized from subsection "Auxiliary Building Level 1 (Elevation 66'-6") - Nonradiologically Controlled Area".

The only SSCs in this area are the Class 1E batteries. The primary line of defense for [Auxiliary Building] Level 1 is to exclude fluid systems and their associated piping from this area. The fire protection system is the only credited fluid source (having line sizes greater than 1 inch diameter) in this area. A limited supply of water is initially provided to the fire protection system standpipe fire hose stations. Without credit for the drain lines, the maximum water depth using available water cannot reach a level sufficient to impact the function of the Class 1E batteries adversely, precluding the need for floor drains to prevent flooding. Dual sump pumps and water level sensors are provided in the drain sump on Level 1, and while sized to handle the maximum flow from the fire protection system, are not required to maintain safe shutdown capability.

The DCD currently provides the flooding evaluation, and its impact, in this potentially affected location of the auxiliary building. The SSCs in this area can accommodate all expected environmental conditions without adverse effect, satisfying the requirements of GDC 4 without crediting the floor drains. Therefore, the exception requested on the embedded drain piping slope in this area is justified.

Design Control Document (DCD) Revision:
None

PRA Revision:
None

Technical Report (TR) Revision:
None