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Your ref: Docket No. 52-006
Our ref: DCP/NRC2338

January 8, 2009

Subject: AP1000 Response to Request for Additional Information (SRP 6)

Westinghouse is submitting a response to the NRC request for additional information (RAI) on SRP Section 6. 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:

RAI-SRP6.0-SPCV-02, Rev 1

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,

A handwritten signature in black ink, appearing to read 'Robert Sisk'.

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

/Enclosure

1. Response to Request for Additional Information on SRP Section 6

cc:	D. Jaffe	- U.S. NRC	1E
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	P. Hastings	- Duke Power	1E
	R. Kitchen	- Progress Energy	1E
	A. Monroe	- SCANA	1E
	P. Jacobs	- Florida Power & Light	1E
	C. Pierce	- Southern Company	1E
	E. Schmiech	- Westinghouse	1E
	G. Zinke	- NuStart/Entergy	1E
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ENCLOSURE 1

Response to Request for Additional Information on SRP Section 6

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-SRP6.0-SPCV-02
Revision: 1

Question:

DCD Section 6.5.2.1 describes the containment spray system, "as shown in Figure 9.5.1-1, sheets 1 through 3." The 6.5.2.1 text was not altered in the DCD Amendment, but Figure 9.5.1-1 was changed as described in APP-GW-GLN-131 (TR 131) Rev. 1. As a result of this change, a) 6.5.2.1 text states that the source of containment spray water is the secondary fire protection system water tank, but Figure 9.5.1-1 shows source is "PCS TK/YARD MAIN", b) 6.5.2.1.1 text describes V701 as a normally closed remotely-operated valve, but Figure 9.5.1-1 shows it as normally open, and c) 6.5.2.1.2 text states ring header elevations are 260 ft and 275 ft and Tier 1 Table 2.3.4-2 Item 6 states containment spray nozzle elevations are at least 260 ft and 275 ft but Figure 9.5.1-1 shows 250 ft and 235 ft. For each item a) – c), explain the discrepancy.

NRC comments received after submittal of Revision 0.

In response to RAI-SRP6.0-SPCV-02, Westinghouse changed the description of the remotely-operated valve (FPS-V701) downstream of the manual isolation valve in the spray rise header from "normally closed" to "normally open". While the change to normally open is consistent with the diagram of the valve in Figure 9.5.1-1 "Fire Protection System P&ID", other inconsistencies remain. Both Section 6.5.2.1.1 (second paragraph) and Section 6.5.2.1.4 (second paragraph) state that operation of containment spray includes opening a remotely-operated valve inside containment. Are these statements still valid? Section 6.5.2.1.4 states that inadvertent actuation of the containment spray would require multiple failures of closed valves. Is this statement still valid? (I could only find one closed valve, FPS-V050, in P&IDs.) The concern with the number of closed valves has to do with 6.2.1.1.4 External Pressure Analysis. If inadvertent actuation of the containment spray system is credible, it should be considered in evaluation of worst case external pressure loads on containment.

Westinghouse Response:

Please see the following responses to a) – c).

- a) The source of containment spray water IS the secondary fire protection system water tank. The flag labeled "PCS TK/YARD MAIN" only indicates that the flow path it marks can receive flow from either the PCS tank or the Yard Water Main. This is consistent with the above statement because both the PCS Tank and the secondary fire protection water tank feed the yard main, therefore it is necessary to isolate the PCS tank from the yard main so the secondary fire protection water tank will feed the containment spray headers. As indicated in Section 6.5.2.1 the secondary fire water storage tank is the source for containment spray NOT the PCCWST. The locked closed manual valve V050 isolates the containment spray ring during normal operation.

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

- b) The valve should be normally open as shown in Figure 9.5.1-1 (Sheet 3 of 3), the text in 6.5.2.1 will be changed to reflect this.
- c) The spray ring headers are located at elevation 260 ft and 275 ft as discussed in the ITAAC and the text of 6.5.2.1.2. The Figure 9.5.1-1 (Sheet 3 of 3) will be changed to reflect this.

Revision 1 response in response to NRC comments

The position of the remotely-operated containment spray header isolation valve (FPS-V701) should indicate that the valve is normally closed in DCD Figure 9.5.1-1. The text description in DCD Section 6.5.2.1.1 should also indicate that the valve is normally closed.

With a text change to reflect the normally closed valve position, the description of containment spray operations in DCD Subsections 6.5.2.1.1 and 6.5.2.1.4 are consistent and correct.

Since inadvertent containment spray actuation would require multiple failures of closed valves (including one locked-closed containment isolation valve), The normally closed valves are FPS-V050 and FPS-V701. These closed valves and the lock on FPS-V050 prevent inadvertent actuation of containment spray from occurring. Therefore, this case does not have to be considered in the evaluation of external pressure loads on containment.

Design Control Document (DCD) Revision:

Response Revision 0 DCD Mark ups

The text in 6.5.2.1 was changed to indicate that valve V701 is a normally open valve as shown below. The mark-ups are based on DCD Revision 16 and are included in DCD Revision 17.

6.5.2.1.1 Valves

The containment spray flow path from the fire main header contains one normally open manual valve (FPS-V048), one normally closed manual valve (FPS-V101), one locked closed manual containment isolation valve outside containment (FPS-V050), a containment isolation check valve inside containment (FPS-V052), a normally open manual isolation valve in the spray riser (FPS-V700), and a normally ~~closed~~open remotely-operated valve (FPS-V701) downstream of the manual isolation valve in the spray riser.

Response Revision 1 DCD Mark ups

Revise the text in 6.5.2.1 to indicate that valve V701 is a normally open valve as shown below. The mark-ups are based on DCD Revision 17: The normal status of valve FPS-V701 that was changed from closed to open in DCD Revision 17 is changed to closed.

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

6.5.2.1.1 Valves

The containment spray flow path from the fire main header contains one normally open manual valve (FPS-V048), one normally closed manual valve (FPS-V101), one locked closed manual containment isolation valve outside containment (FPS-V050), a containment isolation check valve inside containment (FPS-V052), a normally open manual isolation valve in the spray riser (FPS-V700), and a normally ~~open~~-closed remotely-operated valve (FPS-V701) downstream of the manual isolation valve in the spray riser.

The DCD Figure 9.5.1-1 (Sheet 3 of 3) was changed in DCD Revision 17 to reflect the correct elevation of the spray rings. The mark-ups of DCD Figure 9.5.1-1 are provided below. The mark-up of the figure in Revision 1 of this response that shows a change to a normally closed, remotely operated valve uses DCD Revision 17 as the basis.

PRA Revision:

None

Technical Report (TR) Revision:

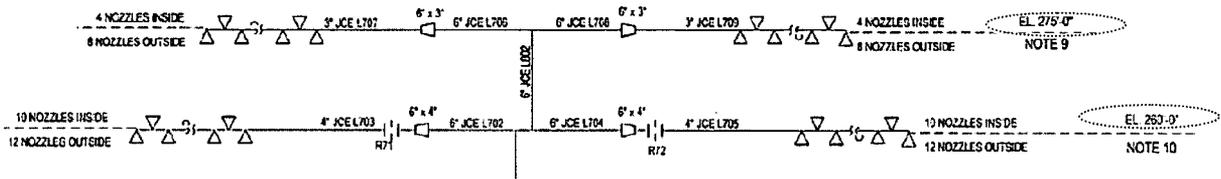
None

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

See next page for The figure below is an enlargement of affected area in Figure 9.5.1-1
(Sheet 3 of 3)

This change is incorporated into DCD Revision 17



Enlargement of markup of Figure 9.5.1-1 (Sheet 3 of 3)