Westinghouse Electric Company
Nuclear Power Plants
P.O. Box 355
Pittsburgh, Pennsylvania 15230-0355
USA

U.S. Nuclear Regulatory Commission
ATTENTION: Document Control Desk
Washington, D.C. 20555

Direct tel: 412-374-6206
Direct fax: 724-940-8505
e-mail: sisk1rb@westinghouse.com

Your ref: Docket No. 52-006
Our ref: DCP_NRC_002694

November 18, 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-SRP9.1.3-SBPA-08 R1

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,

John J. DeBlasio

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

/Enclosure

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

DO63
NRO

cc:	D. Jaffe	-	U.S. NRC	1E
	E. McKenna	-	U.S. NRC	1E
	P. Buckberg	-	U.S. NRC	1E
	T. Spink	-	TVA	1E
	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
	R. Grumbir	-	NuStart	1E
	P. Loza	-	Westinghouse	1E

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-SRP9.1.3-SBPA-08
Revision: 1

Question:

AP1000 DCD, Revision 17, makes a change to the description of the location of the connection point between the SFP and the main suction line for the spent fuel pool (SFP) cooling system.. Where previously the description read, "main suction line connects to the SFP at an elevation 2 feet below the normal water level in the pool," the description was changed to read, "main suction line connects to the SFP at an elevation 6 feet below the operating deck."

The staff requests that the applicant:

a) Clarify in the DCD whether there has been a change in the elevation of the main suction line relative to the elevation of the operating deck. State in the DCD the elevation of both the operating deck and the elevation of the main suction line.

b) During the audit performed on June 25, 2009, Westinghouse clarified to the staff that the specified elevation of the main suction line described in the AP1000 DCD is the centerline elevation of the pipe. This elevation is used as initial water level in Revision 1 of APP-SFS-M3C-012, September 2007 "AP1000 Spent Fuel Pool Heatup, Boil off, and Emergency Makeup on Loss of Cooling." After a postulated seismic event, this section of piping is assumed to fail and drain the SFP. The staff considers it conservative to assume that the SFP will drain down to the bottom of the (10" diameter) main suction line for the SFP cooling system and not merely to the center line elevation of the pipe.

The staff requests that the applicant either re-evaluate the SFP thermal analysis (APP-SFS-M3C-012) assuming the SFP initial water level following a seismic event is the bottom of the main suction line for the SFP cooling system instead of the center line elevation of the pipe and update the DCD to reflect the results of the new evaluation or justify the use of this less conservative assumption.

Westinghouse Response:

a) The elevation of the main suction line for the spent fuel pool (SFP) cooling system has not changed in elevation. Westinghouse determined that a normal operation band should be established so that continual makeup to the pool would not be needed to compensate for evaporation. Implementing this change required items that reference the normal water elevation of the pool be changed. The AP1000 spent fuel pool operating deck is at elevation 135.25'.

b) It has been concluded the main suction line elevation which was used for the initial water level in Rev.1 of the boiloff calculation (APP-SFS-M3C-012 Rev.1), was the centerline and did not accurately represent the conditions following a double ended guillotine break

of the spent fuel pool suction line. Westinghouse is revising calculation APP-SFS-M3C-012 at this time. We expect that the results can be available for review by the end of September, 2009. At that time, a revised version of this RAI response will be submitted to the NRC with required DCD changes.

Westinghouse Response: (Revision 1)

The revision of calculation APP-SFS-M3C-012 has been completed and is available for review. The results from the revised calculation are shown in the DCD markup below.

Reference(s): None

Design Control Document (DCD) Revision: ~~None~~

Modify DCD Tier 2 Table 9.1-4 as shown:

Table 9.1-4

STATION BLACKOUT/SEISMIC EVENT TIMES[1]

Event	Time to Saturation[1] (hours)	Height of Water Above Fuel at 72 Hours[4] (feet)	Height of Water Above Fuel at 7 Days[4] (feet)
Seismic Event[2] – Power Operation Immediately Following a Refueling[7]	~~6.50~~7.76	~~1.6~~1.1[6]	~~1.6~~1.1[6]
Seismic Event[8] – Refueling, Immediately Following Spent Fuel Region Offload[3][7]	~~4.68~~ 5.64	~~8.3~~9.7[5]	~~8.3~~9.7[5]
Seismic Event[8] – Refueling, Emergency Full Core Off-Load[3] Immediately Following Refueling[7]	~~1.37~~ 1.76	~~8.3~~9.7[5]	~~8.3~~9.7[6]

PRA Revision: None

Technical Report (TR) Revision: None