



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: 43-374-6206
Direct fax: 724-940-8505
e-mail: sisk1rb@westinghouse.com

Your ref: Docket No. 52-006
Our ref: DCP_NRC_002709

December 4, 2009

Subject: AP1000 Response to Proposed Open Item (Chapter 16)

Westinghouse is submitting the following responses to the NRC open item (OI) on Chapter 16. These proposed open item response are submitted in support of the AP1000 Design Certification Amendment Application (Docket No. 52-006). The information included in these responses 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 proposed Open Item(s):

OI-SRP16-CTSB-33 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,

A handwritten signature in black ink that reads "D. O. Lindgren / FOR".

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

/Enclosure

1. Response to Proposed Open Item (Chapter 16)

D063
NR0

cc:	D. Jaffe	- U.S. NRC	1E
	E. McKenna	- U.S. NRC	1E
	S. Mitra	- 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
	T. Ray	- Westinghouse	1E

ENCLOSURE 1

AP1000 Response to Proposed Open Item (Chapter 16)

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: OI-SRP16-CTSB-33
Revision: 1

Question:

Provide the minimum trisodium phosphate (TSP) manufactured density, including a discussion of how this minimum value is determined given that different levels of impurity exist in commercial products. In RAI-SRP16-CTSB-33, the staff asked Westinghouse to provide the value of the minimum TSP manufactured density that is used to convert the required TSP amount from a mass number to a volume number. In the December 12, 2008, response letter, Westinghouse did not provide the requested information so that the staff can verify the accuracy and completeness of supporting information provided in the TS Bases B 3.6.9. The NRC staff identified this as Open Item OI-SRP16-CTSB-33.

Additional Question based on 10/28/09 phone call: (Revision 1)

NRC Staff requested further detail be provided in the TS Bases 3.6.9 on the minimum TSP manufactured density.

Westinghouse Response:

The minimum density used for the trisodium phosphate is 54 lbm/ft³. This value is determined by using the density listed on Occidental Chemical Corporation, Data Sheet No. 909A, April 1985 that lists a value of 57 +/- 3 lbm/ft³ for the density.

Design Control Document (DCD) Revision:

B 3.6 CONTAINMENT SYSTEMS

B 3.6.9 pH Adjustment

SR 3.6.9.1

The minimum amount of TSP is 560 ft³. A volume is specified since it is not feasible to weigh the TSP contained in the pH adjustment baskets. This volume is based on providing sufficient TSP to buffer the post accident containment water to a minimum pH of 7.0. Additionally, the TSP volume is based on treating the maximum volume of post accident water (908,000 gallons) containing the maximum amount of boron (2990 ppm) as well as other sources of acid. The minimum required mass of TSP is 26,460 pounds at an assumed assay of 100%.

The minimum required volume of TSP is based on this minimum required mass of TSP, the minimum density of TSP plus margin to account for degradation of TSP during plant

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

operation. The minimum TSP density is based on the manufactured density (54 lbm/ft³), since the density may increase and the volume decrease, during plant operation, due to agglomeration from humidity inside the containment. The minimum required TSP volume also has about 10% margin to account for degradation of TSP during plant operation.

PRA Revision:

None

Technical Report (TR) Revision:

None