Westinghouse Electric Corporation Energy Systems

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DCP/NRC1320
NSD-NRC-98-5641
Docket No.: 52-003

March 31, 1998

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: T. R. QUAY

SUBJECT: RESPONSES TO STAFF REQUESTS REGARDING THE AP600 INSPECTIONS, TESTS, ANALYSES, AND ACCEPTANCE CRITERIA (ITAAC) - SCOPE AND STRUCTURES

Dear Mr. Quay:

Enclosed are three copies of Westinghouse's response to RAI 640.187 related to comments on the AP600 design scope in Revision 3 of the AP600 Certified Design Material (CDM) as requested in a letter from the staff dated March 6, 1998. Changes to the AP600 CDM, as a result of this RAI, have been incorporated into Section 3.3, "Buildings," Revision 4, dated April 6, 1998, and transmitted in Westinghouse's letter DCP/NRC1319, dated March 30, 1998.

This submittal closes, from Westinghouse's perspective, open item 6641. As a result, the Westinghouse status column will be changed to "Confirm W" in the Open Item Tracking System (OITS). The NRC should review this response and inform Westinghouse of the status of the open item to be designated in the "NRC Status" column of the OITS.

Please contact Mr. Eugene J. Piplica at (412) 374-5310 if you have any questions concerning this transmittal.

D. C. Lindgren/FOR
Brian A. McIntyre, Manager
Advanced Plant Safety and Licensing

jml

Enclosure

cc: J. N. Wilson, NRC (w/Enclosure)
N. J. Liparulo, Westinghouse (w/o Enclosure)

E004

AP600

Question 640.187

Your response to RAI 640.53 is not sufficient. Your Tier 1 information must include all structures and systems that are in the AP600 design scope and this information must be extracted from the AP600 SSAR. For example, the Turbine Building is described in SSAR Section 1.2.8 but is not currently in Tier 1; whereas the Hydrogen Seal Oil System is item # 2.4.15 of Tier 1 but is not described in the SSAR.

Response:

In response to this RAI, the AP600 Tier 1 information now includes all pertinent structures and systems in the AP600 design scope which are important to public health and safety. The Tier 1 information is extracted from the AP600 SSAR. For example, SSAR Figure 1.2-2 is a site plan which shows the significant AP600 structures. The CDM sections which address these structures are identified in Table 640.187-1 below:

Table 640.187-1 Cross Reference from SSAR Site Plan to AP600 Tier 1 Material

AP600 Structure	CDM Section	Notes
Containment / Shield Building	3.3 Buildings	
Turbine Building	3.3 Buildings	Turbine Building description is added per this RAI response.
Annex Building	3.3 Buildings	
Auxiliary Building	3.3 Buildings	
SWS Cooling Towers	2.3.8 Service Water	
Administration Building	-	The administration building will be site specific. Tier 1 material not required.
Radwaste Building	3.3 Buildings	
Plant Entrance	-	The plant entrance arrangement will be site specific. Tier 1 material not required.
CWS Water Intake Structure	-	The CWS water intake structure arrangement will be site specific. Tier 1 material not required.
Diesel Generator Building	3.3 Buildings	Diesel Generator Building description is added per this RAI response.

AP600

Table 640.187-1 Cross Reference from SSAR Site Plan to AP600 Tier 1 Material

AP600 Structure	CDM Section	Notes
CWS Cooling Tower	-	The CWS may or may not require a cooling tower, depending upon the site. Tier 1 material not required.
CWS Intake Canal	-	The CWS water intake canal structure arrangement will be site specific. Tier 1 material not required.
Fire Water / Clearwell Storage Tank	2.3.4 Fire Protection	
Fire Protection Water Storage Tank	2.3.4 Fire Protection	
Transformer Area	2.6.1 Main ac Power	
Switchyard	-	The switchyard will be site specific. Tier 1 material not required.
Condensate Storage Tank	2.4.6 Condensate	
Diesel Generator Fuel Oil Storage Tank	2.3.3 Standby Diesel	
Demineralized Water Storage Tank	2.3.14 Demineralized Water	
Boric Acid Storage Tank	2.3.2 Chemical &Volume Control	
Hydrogen Storage Tank Area	2.3.18 Plant Gas System	Included in design description of Section 3.3, Buildings.
Turbine Building Laydown Area	-	Tier 1 material not required.
Circulating Water Pipe	-	The CWS water piping arrangement will be site specific. Tier 1 material not required.
Waste Water Retention Basin	-	The WWS water retention basin location and arrangement will be site specific. Tier 1 material not required.

Table 640.187-1 Cross Reference from SSAR Site Plan to AP600 Tier 1 Material		
AP600 Structure	**CDM Section**	**Notes**
PCS Ancillary Water Storage Tank	2.2.2 Passive Containment Cooling	

Existence of the Hydrogen Seal Oil System is stated in SSAR Section 10.2.2.1 and while listed as a system in the AP600 CDM, Revision 3, has no design description nor ITAAC entries.

SSAR Revision:

None

ITAAC Revision:

1) The following two paragraphs are added to the narrative design description in the AP600 Certified Design Material, Section 3.3, "Buildings" :

The Turbine Building is a non-safety related structure that houses the main turbine generator and the power conversion cycle equipment and auxiliaries. There is no safety-related equipment in the Turbine Building. The Turbine Building is located on a separate foundation. The Turbine Building structure is adjacent to the Nuclear Island (NI) structures.

The Diesel Generator Building is a non-safety related structure that houses the two standby diesel engine powered generators and the power conversion cycle equipment and auxiliaries. There is no safety-related equipment in the Diesel Generator Building. The Diesel Generator Building is located on a separate foundation at a distance from the Nuclear Island (NI) structures.

2) The following two items are added to the design commitment list in the AP600 CDM, Section 3.3, "Buildings"

11. The extended turbine generator axis intersects the shield building.

12. Separation is provided between the structural elements of the turbine building and the NI structure.

3) The following two ITAAC are added to Table 3.3-6 in the AP600 CDM, Section 3.3, "Buildings" :

Table 3.3-6
Inspections, Tests, Analyses, and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
11) The extended turbine generator axis intersects the shield building.	*An inspection of the as-built turbine generator will be performed.*	*The extended axis of the turbine generator intersects the shield building.*
12) Separation is provided between the structural elements of the turbine building and the NI structure.	*An inspection of the as-built NI and turbine building structures will be performed.*	*The minimum horizontal clearance between the structural elements of the turbine building and the NI that are above grade is 12 inches.*