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Your ref: Docket No. 52-006
Our ref: DCP/NRC2169

June 20, 2008

Subject: AP1000 Response to Requests for Additional Information (SRP9.3.3)

Westinghouse is submitting a response to the NRC request for additional information (RAI) on SRP Section 9.3.3. This RAI response is submitted in support of the AP1000 Design Certification Amendment Application (Docket No. 52-006). The information included in the response is generic and is expected to apply to all COL applications referencing the AP1000 Design Certification and the AP1000 Design Certification Amendment Application.

A response is provided for RAI-SRP9.3.3-SBPA-01 and -02 as sent in an email from Perry Buckberg to Sam Adams dated April 29, 2008. This response completes all requests received to date for SRP Section 9.3.3.

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 Requests for Additional Information on SRP Section 9.3.3

cc: D. Jaffe - U.S. NRC 1E
E. McKenna - U.S. NRC 1E
P. Buckberg - U.S. NRC 1E
P. Ray - TVA 1E
P. Hastings - Duke Power 1E
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J. Wilkinson - Florida Power & Light 1E
C. Pierce - Southern Company 1E
E. Schmiech - Westinghouse 1E
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ENCLOSURE 1

Response to Requests for Additional Information on SRP Section 9.3.3

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-SRP9.3.3-SPBA-01
Revision: 0

Question:

In DCD Tier 2 Section 9.2.9.2.1, Westinghouse stated that the design and routing of the condenser waterbox drains will be incorporated to the site-specific circulating water system (CWS) design. The staff determined that this information needs to be considered by the COL applicant, and therefore should be included in the COL information described in DCD Tier 2 Section 10.4.12. Please revise DCD Tier 2 Section 10.4.12 to include this information.

Westinghouse Response:

A statement will be added to section 10.4.12.1 of the DCD to identify the action of routing the condenser waterbox drains with the site-specific Circulating Water System (CWS) by the COL applicant.

Design Control Document (DCD) Revision:

10.4.12.1 Circulating Water System

The Combined License applicant will address the final configuration of the plant circulating water system including piping design pressure, the cooling tower or other site-specific heat sink.

As applicable, the Combined License applicant will address the acceptable Langelier or Stability Index range, the specific chemical selected for use in the CWS water chemistry control, pH adjuster, corrosion inhibitor, scale inhibitor, dispersant, algicide and biocide applications reflecting potential variations in site water chemistry and in micro macro biological lifeforms. A biocide such as sodium hypochlorite is recommended. Toxic gases such as chlorine are not recommended. The impact of toxic gases on the main control room compatibility is addressed in Section 6.4. The Combined License applicant will also be responsible for the design, routing, and disposition requirements associated with the main condenser waterbox drains.

PRA Revision:

None

Technical Report (TR) Revision:

None

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-SRP9.3.3-SBPA-02
Revision: 0

Question:

In DCD Tier 2 Section 9.2.9.5, Westinghouse removed references to the water level instrumentation located in the waste water retention basins. In addition, Westinghouse relocated the radiation monitor from the waste water retention basin to the turbine building sump. This change is also described in DCD Tier 1 Section 2.3.29. The staff finds that this change ensures that all effluents in the waste water system (WWS) that discharge to the turbine building sump will be monitored prior to disposition. However, based on the information provided, the staff is unable to reach a conclusion regarding GDC 60, because it cannot verify that all non-radioactive effluents will be monitored prior to disposition. For example, in DCD Rev. 15, the condenser waterbox drains were routed directly to the WWS retention basin. The staff requests the applicant to: 1) identify any sources that would drain downstream of the turbine building sump, 2) verify that all non-radioactive effluents will be monitored prior to disposition, and 3) revise the applicable sections in Tier 1 and Tier 2 to reflect conformance to GDC 60.

Westinghouse Response:

- 1) Sources of waste water that will drain downstream of the Turbine Building sump to the Waste Water Retention Basins are as follows:
 - a. Diesel Fuel Area sump (upstream of the Oil Separator)
 - b. SWS/CWS Strainer Backwash
 - c. Site Specific effluent (e.g. CWS Waterbox drain)

- 2)
 - a. The diesel fuel area sump effluent does not interact with any potentially radioactive sources during operation, nor are there any recognized radioactive sources located in the vicinity of this portion of the WWS.

 - b. Service water flow is provided with a radiation monitor that will detect the presence of radionuclides via the SWS blowdown flow. Radiation monitoring for the Circulating Water System (CWS) is not required. All systems interfacing with the CWS that have plausible potential for radioactive contamination are provided with radiation monitoring.

 - c. Effluents that are site specific are under the responsibility of the Combine License applicant to ensure proper radiation monitoring is designed into the system, as noted in Combined License Information item 11.5-1 (Section 11.5.7 of the AP1000 DCD).

No further radiation monitoring is required for the applicant referencing the DCD in their Combined License application. All potentially radioactive effluents from the standard plant are properly monitored for radiation prior to disposition off site, as noted by the acceptability of these systems per GDC 60 in the AP1000 FSER.

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

- 3) As noted above, radiation monitoring of CWS is not required. All systems that interface with the CWS and are potentially radioactive are monitored for radiation and acceptable per GDC 60 as noted in the AP1000 FSER. The relocation of the radiation monitor on the WWS does not create a path for any unmonitored potentially radioactive effluent off site; therefore, there is no change required to Tier 1 or Tier 2 of the DCD.

Reference(s):

1. NUREG 1793, AP1000 FSER, September 2004.

Design Control Document (DCD) Revision:

None

PRA Revision:

None

Technical Report (TR) Revision:

None