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Your ref: Docket No. 52-006
Our ref: DCP_NRC_002558

July 15, 2009

Subject: AP1000 Response to Request for Additional Information (SRP 5)

Westinghouse is submitting a response to the NRC request for additional information (RAI) on SRP Section 5. 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 SRP5.2.1-EMB-01 R2

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,


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

/Enclosure

1. Response to Request for Additional Information on SRP Section 5


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KIRO

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ENCLOSURE 1

Response to Request for Additional Information on SRP Section 5

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI SRP5.2.1-EMB-01
Revision: 2

Question:

DCD Tier 2 Section 5.2.1.2 was revised to reference subsection 5.2.6.1 which contains a commitment that the Combined License applicant will address consistency of the design with the construction practices (including inspection and examination methods) of the later ASME Code edition and addenda as well as code cases approved subsequent to design certification. To ensure appropriate Code Cases are applied for inspection and examination, Westinghouse is requested to provide Code Cases similar to those in DCD Table 5.2-3, which are applicable to RG 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1," and RG 1.192, "Operation and Maintenance Code Case Acceptability, ASME OM Code."

Westinghouse Response:

DCD Subsection 5.2.1.2 discusses the use of Code Cases for the design and fabrication of components in the reactor coolant pressure boundary and other ASME Code, Section III components. ASME Code, Section XI and the ASME OM Code and associated code cases are not directly used in the design of the reactor coolant pressure boundary. The ASME Code, Section XI and OM Code requirements are used to consider accessibility and testing requirements. These considerations do not require the formal use of Section XI and OM Code Cases. We have not identified any design features that rely on or require the use of specific Section XI and OM Code Cases.

The Code Cases to be used for inservice inspection and testing should be included in the programs developed for these activities. These programs are described in COLA FSARs. DCD Subsection 5.2.1.2 is not an appropriate place to identify the Code Cases expected to be used for inservice inspection and inservice testing. It is not practical to identify Code Cases to be used for inservice inspection and inservice testing over the expected term of the Design Certification.

Additional Westinghouse Response based on NRC comments at 3/18/09 meeting:

ASME Code Cases required for Section XI inspections will be identified in the Plant Owner provided Inspection Plan. See the DCD markup of Section 5.2.1.2 below.

Section 6.6.3, "Examination Techniques and Procedures", refers to Regulatory Guide 1.147 Code Cases for use in preservice/inservice inspections. This section is modified to clarify that only approved Code Cases are applied. Section 5.2.4.3 is modified as shown to be consistent with Section 6.6.3. RG 1.192, "Operation and Maintenance Code Case Acceptability, ASME OM Code," is not applicable to AP1000 Design Certification.

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

DCD Tier 2 Table 1.9-1 (Sheet 12 of 15) is modified to include the RG 1.147 cross-references.

Revision 2

Based on discussion with the NRC on June 26, 2009 reference to code cases will be added to the COL information items for inservice inspection and inservice testing programs. These additions are identified in the DCD revisions shown below. The ASME Code Cases used in the inservice inspection and inservice testing programs are determined by the COL holder based on regulatory guidance and regulations. The code cases used in these programs are not determined or controlled by Westinghouse or the Design Certification.

Design Control Document (DCD) Revision:

Revise DCD Subsection 3.9.8.4 as follows:

Combined License applicants referencing the AP1000 design will develop an inservice test program in conformance with the valve inservice test requirements outlined in subsection 3.9.6 and Table 3.9-16. The inservice test program will identify the ASME OM Code Cases used. For power-actuated valves, the requirements for operability testing shall be based on subsection 3.9.6.2.2. This program will include provisions for nonintrusive check valve testing methods and the program for valve disassembly and inspection outlined in subsection 3.9.6.2.3. The Combined License applicant will complete an evaluation as identified in subsection 3.9.6.2.2 to determine the frequency of power-operated valve operability testing.

Modify DCD Section 5.2.1.2 as shown: (This revision included in Response Revision 1)

5.2.1.2 Applicable Code Cases

[ASME Code Cases used in the AP1000 are listed in Table 5.2-3.]* In addition, other ASME Code Cases found in Regulatory Guides 1.84 and 1.85, as discussed in Section 1.9, in effect at the time of the Design Certification may be used for pressure boundary components. Use of Code Cases approved in revisions of the Regulatory Guides issued subsequent to the Design

Certification may be used as discussed in subsection 5.2.6.1 by using the process outlined above for updating the ASME Code edition and addenda. Use of any Code Case not approved in Regulatory Guides 1.84 and 1.85 on Class 1 components is authorized as provided in 50.55a(a)(3) and the requirements of the Design Certification.

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

The use of any Code Case conditionally approved in Regulatory Guides 1.84 and 1.85 used on Class 1 components meets the conditions established in the Regulatory Guide.

ASME Code Cases required for Section XI inspections will be identified in Plant Owner provided Inspection Plans as referenced in Section 5.2.6.2. See Section 5.2.4, "Inservice Inspection and Testing of Class 1 Components," and Section 6.6, "Inservice Inspection of Class 2, 3, and MC Components," for discussion of inservice examinations and procedures.

Also modify DCD Tier 2 Table 1.9-1 (Sheet 12 of 15), "Regulatory Guide / DCD Section Cross-References" as shown: (This revision included in Response Revision 1)

Division 1 Regulatory Guide		DCD Chapter, Section or Subsection
1.147	Inservice Inspection Code Case Acceptability ASME Section XI Division 1 (Rev. 12, May 1999)	5.2.4.3 6.6.3

Also modify the first paragraph of DCD Section 5.2.4.3 as shown: (This revision included in Response Revision 1)

5.2.4.3 Examination Techniques and Procedures

The visual, surface, and volumetric examination techniques and procedures agree with the requirements of Subarticle IWA-2200 and Table IWB-2500-1 of the ASME Code, Section XI. Qualification of the ultrasonic inspection equipment, personnel and procedures is in compliance with Appendix VII of the ASME Code, Section XI. Approved Code Cases listed in Regulatory Guide 1.147 are applied as the need arises during the pre-service inspection. Approved Code Cases determined as necessary to accomplish pre-service inspection activities are used. The liquid penetrant method or the magnetic particle method is used for surface examinations. Radiography, ultrasonic, or eddy current techniques (manual or remote) are used for volumetric examinations.

Revise the first paragraph of DCD Subsection 5.2.6.2

The Combined License applicant will provide a plant-specific preservice inspection and inservice inspection program. The program will address reference to the edition and addenda of the ASME Code Section XI used for selecting components subject to examination, ASME Section XI Code Cases used, a description of the components exempt from examination by the applicable code, and drawings or other descriptive information used for the examination.

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

Modify DCD Section 6.6.3 as shown: (This revision included in Response Revision 1)

6.6.3 Examination Techniques and Procedures

The visual, surface, and volumetric examination techniques and procedures are in accordance with the requirements of ASME Code, Section XI, Article IWA-2000. Approved Code Cases listed in Regulatory Guide 1.147 are applied as the need arises during the pre-service inspection. Approved Code Cases determined as necessary to accomplish pre-service inspection activities are used.

The liquid penetrant or magnetic particle methods are used for surface examinations. Ultrasonic or eddy current methods (whether manual or remote) are used for volumetric examinations.

The report format for reportable indications and data compilation provide for comparison of data from subsequent examinations.

Revise DCD Subsection 6.6.9.1 as follows

Combined License applicants referencing the AP1000 certified design will prepare a pre-service inspection program (nondestructive examination) and an inservice inspection program for ASME Code, Section III Class 2 and 3 systems, components, and supports. The pre-service and inservice inspection programs will address the ASME Section XI Code Cases used. The pre-service inspection program will address the equipment and techniques used.

PRA Revision:

None

Technical Report (TR) Revision:

None