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U.S. Nuclear Regulatory Commission  
ATTENTION: Document Control Desk  
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Your ref: Project Number 740  
Our ref: DCP/NRC1970

July 27, 2007

Subject: AP1000 COL Response to Requests for Additional Information (TR 6)

In support of Combined License application pre-application activities, Westinghouse is submitting responses to the NRC requests for additional information (RAIs) on AP1000 Standard Combined License Technical Report 6, APP-GW-GLR-021, AP1000 As-Built COL Information Items. These RAI responses are submitted as part of the NuStart Bellefonte COL Project (NRC Project Number 740). The information included in the responses is generic and is expected to apply to all COL applications referencing the AP1000 Design Certification.

Responses are provided for RAI-TR06-RGS1-01 and RAI-TR06-RGS1-02. These responses complete all RAIs received for Technical Report 6 to date.

Pursuant to 10 CFR 50.30(b), the responses to the requests for additional information on Technical Report 6 is submitted as Enclosure 1 under the attached Oath of Affirmation.

Questions or requests for additional information related to the content and preparation of these responses 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. J. Hutchings" followed by a small flourish.

A. Sterdis, Manager  
Licensing and Customer Interface  
Regulatory Affairs and Standardization

/Attachment

1. "Oath of Affirmation," dated July 27, 2007

/Enclosure

1. Responses to Requests for Additional Information on Technical Report No. 6

cc:	D. Jaffe	- U.S. NRC	1E	1A
	E. McKenna	- U.S. NRC	1E	1A
	G. Curtis	- TVA	1E	1A
	S. Adams	- Westinghouse	1E	1A
	P. Grendys	- Westinghouse	1E	1A
	P. Hastings	- Duke Power	1E	1A
	C. Ionescu	- Progress Energy	1E	1A
	D. Lindgren	- Westinghouse	1E	1A
	A. Monroe	- SCANA	1E	1A
	M. Moran	- Florida Power & Light	1E	1A
	C. Pierce	- Southern Company	1E	1A
	E. Schmiech	- Westinghouse	1E	1A
	G. Zinke	- NuStart/Entergy	1E	1A
	D. Ekeroth	- Westinghouse	1E	1A

ATTACHMENT 1

“Oath of Affirmation”

ATTACHMENT 1

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of: )  
NuStart Bellefonte COL Project )  
NRC Project Number 740 )

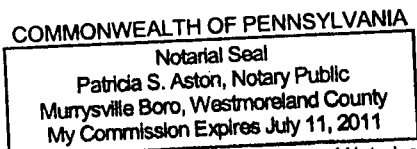
APPLICATION FOR REVIEW OF  
"AP1000 GENERAL COMBINED LICENSE INFORMATION"  
FOR COL APPLICATION PRE-APPLICATION REVIEW

W. E. Cummins, being duly sworn, states that he is Vice President, Regulatory Affairs & Standardization, for Westinghouse Electric Company; that he is authorized on the part of said company to sign and file with the Nuclear Regulatory Commission this document; that all statements made and matters set forth therein are true and correct to the best of his knowledge, information and belief.

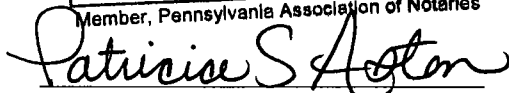


W. E. Cummins  
Vice President  
Regulatory Affairs & Standardization

Subscribed and sworn to  
before me this 27<sup>th</sup> day  
of July 2007.



Member, Pennsylvania Association of Notaries



Notary Public

ENCLOSURE 1

Responses to Requests for Additional Information on Technical Report No. 6

# AP1000 TECHNICAL REPORT REVIEW

## Response to Request For Additional Information (RAI)

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RAI Response Number: RAI-TR06-RGS1-01  
Revision: 0

### **Question:**

#### COL Information Item 3.7-4:

This COL Information Item requires the COL applicant to reconcile the seismic analyses described in DCD Subsection 3.7.2 for detail design changes at rock sites such as those due to as-procured equipment information. The proposed DCD revision to Section 3.7.5.4 (Page 7 of 33) needs clarification. The phrase "at rock sites" is no longer applicable for hard rock and soil site conditions, and should be deleted. The wording needs to be clarified, to specifically include as-built structural deviations, as-built deviations in component/equipment support locations, and as-procured deviations in component/equipment mass and center of gravity. To complete the reconciliation prior to fuel load is acceptable.

### **Westinghouse Response:**

As part of the effort to extend the effort to extend the design certification of the AP1000 to site parameters beyond hard rock sites (Reference 1), Subsection 3.7.5.4 was updated to remove the reference to rock sites and to provide examples of deviations. The revised write-up was included in DCD Revision 16 as shown below. No additional change to the DCD is required to address this request.

#### **3.7.5.4 Reconciliation of Seismic Analyses of Nuclear Island Structures**

The Combined License holder will reconcile the seismic analyses described in subsection 3.7.2 for detail design changes, such as those due to as-procured or as-built changes in component mass, center of gravity, and support configuration based on as-procured equipment information. Deviations are acceptable based on an evaluation consistent with the methods and procedure of Section 3.7 provided the amplitude of the seismic floor response spectra, including the effect due to these deviations, does not exceed the design basis floor response spectra by more than 10 percent. The Combined License holder will complete this reconciliation prior to fuel load.

#### Reference:

1. APP-GW-S2R-010, Extension of Nuclear Island Seismic Analyses to Soil Sites.

# AP1000 TECHNICAL REPORT REVIEW

## Response to Request For Additional Information (RAI)

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**Design Control Document (DCD) Revision:**

No changes beyond those included in DCD Revision 16

**PRA Revision:**

None

**Technical Report (TR) Revision:**

None

# AP1000 TECHNICAL REPORT REVIEW

## Response to Request For Additional Information (RAI)

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RAI Response Number: RAI-TR06-RGS1-02  
Revision: 0

### **Question:**

#### COL Information Item 3.8-4:

This COL information item requires the COL applicant to perform in-service inspection of the steel containment vessel according to ASME Code Section XI, Subsection IWE, as described in DCD Subsection 3.8.2.7. The proposed DCD revision to Section 3.8.6.4 (Page 11 of 33) is to completely delete this item, on the basis that it is redundant with NRC Regulations for ISI of the containment structure. The issue of ISI commitments goes beyond ASME Subsection IWE (as augmented by 10 CFR 50.55a) for the steel containment vessel. 10 CFR 50.65, as clarified by RG 1.160, requires periodic monitoring of all structures important to safety for evidence of degradation. ISI commitments in accordance with all applicable NRC Regulations should be included in DCD Tier 2 Sections 3.8.2.7, 3.8.3.7, 3.8.4.7, and 3.8.5.7. This information should be designated Tier 2\* for which NRC staff approval is required prior to implementing a change in this information. If this is done, then the original COL Information Item may be deleted. If not, then this COL Information Item needs to be expanded, rather than deleted.

### **Westinghouse Response:**

In-service inspection requirements for steel containment vessels beyond those required for ASME Code Section XI have been established to address conditions and design configurations that are susceptible to corrosion. The requirements include provisions in 10 CFR 50.55a that require evaluation of inaccessible areas when accessible areas indicate the presence of degradation that could be present in inaccessible areas. These 10 CFR 50.55a requirements are applicable to the AP1000.

The AP1000 containment is designed to avoid configurations or design conditions that are susceptible to corrosion. The containment vessel is not in contact with water or corrosive material during normal operations or refueling. The containment vessel design includes seals to exclude water from the concrete to containment vessel interface at the top surface of the concrete. Based on these provisions to limit corrosion, evaluations and inspections beyond the ASME requirement in Section XI are not expected to be needed for the AP1000 containment design.

10 CFR 50.65 is the Maintenance Rule and Regulatory Guide 1.160 provides guidance for monitoring the effectiveness of the maintenance rule. Neither document includes requirements specifically related to in-service inspection of the containment vessel. DCD Section 17.4 addresses the activities related to the maintenance rule for the AP1000. Monitoring



# AP1000 TECHNICAL REPORT REVIEW

## Response to Request For Additional Information (RAI)

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requirements for containment integrity beyond those established to address the maintenance rule as described in DCD Section 17.4 are not anticipated.

Subsection 3.8.2.7 commits to in-service inspection of the containment vessel. The containment vessel is an ASME Code, Section III, Class MC vessel and therefore is subject to inspection requirements of Section XI as modified in 10 CFR 50.55a. Inspection requirements in 10 CFR 50.55 are not required to be identified in the DCD.

Subsection 3.8.3.7 addresses testing and inspection requirements for structures inside containment. Subsection 3.8.4.7 addressed testing and inspection requirements for the passive containment cooling water storage tank contained in the containment shield building. Subsection 3.8.5.7 addressed testing and inspection requirements for the nuclear island foundation. These subsections do not and should not contain testing and inspection requirements for containment vessel and need not be altered.

**Design Control Document (DCD) Revision:**

None

**PRA Revision:**

None

**Technical Report (TR) Revision:**

None