Westinghouse

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U.S. Nuclear Regulatory Commission
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Your ref: Project Number 740
Our ref: DCP/NRC1958

July 17, 2007

Subject: AP1000 COL Responses to Requests for Additional Information (TR #93)

In support of Combined License application pre-application activities, Westinghouse is submitting responses to NRC requests for additional information (RAI) on AP1000 Standard Combined License Technical Report 93, APP-GW-GLR-073, Rev. 0, Tier 1, Table 2.2.1-1 Electrical Penetration Changes. 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.

The responses are provided for Request for additional information RAI-TR93-ICE2-01 through RAI-TR93-ICE2-05, transmitted in NRC letter dated May 17, 2007 from Steven D. Bloom to Andrea Sterdis, Subject: Westinghouse AP1000 Combined License (COL) Pre-application Technical Report 93 – Request for Additional Information (TAC No. MD4624).

Pursuant to 10 CFR 50.30(b), the responses to requests for additional information on Technical Report 93 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,

D. F. Hutchings for

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

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NRO

/Attachment

1. "Oath of Affirmation," dated July 17, 2007

/Enclosure

1. Responses to Requests for Additional Information on Technical Report No. 93

cc:	D. Jaffe	-	U.S. NRC	1E	1A
	E. McKenna	-	U.S. NRC	1E	1A
	S. Adams	-	Westinghouse	1E	1A
	G. Curtis	-	TVA	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
	Da Li	-	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

B. W. Bevilacqua, being duly sworn, states that he is Vice President, New Plants Engineering, 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.

Bruce Bevilacqua

B. W. Bevilacqua
Vice President
New Plants Engineering

Subscribed and sworn to
before me this 17th day
of July 2007.

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Debra McCarthy, Notary Public
Monroeville Boro, Allegheny County
My Commission Expires Aug. 31, 2009
Member, Pennsylvania Association of Notaries

Debra McCarthy
Notary Public

ENCLOSURE 1

Responses to Requests for Additional Information on Technical Report No. 93

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-TR93-ICE2-01
Revision: 0

Question:

To ensure the containment electrical penetrations (containing Class 1E and Non-Class 1E circuits) do not fail due to electrical faults and potentially breach the containment, inspections, tests, analyses, and acceptance criteria (ITAAC) should verify that all containment electrical penetrations are protected against postulated currents greater than their continuous rating. Provide a discussion how you meet the above for non-Class 1E penetrations.

Westinghouse Response:

DCD Tier 2, Section 8.3.1.1.6 states that "The penetrations are rated to withstand the maximum short-circuit currents available either continuously without exceeding their thermal limits, or at least longer than the field cables of the circuits so that the fault or overload currents are interrupted by the protective devices prior to a potential failure of a penetration. Penetrations are protected for the full range of currents up to the maximum short circuit current available."

DCD Tier 1, Section 2, System Based Design Description and ITAAC, Table 2.2.1-3, item 8 requires that an analysis be performed to show that the as-built containment electrical penetration assemblies are protected against currents which are greater than their continuous ratings.

Procedures for periodic testing of protective devices that provide penetration overcurrent protection are part of the plant operations and maintenance programs (COL 8.3-2).

Reference:

1. APP-GW-GL-700, Revision 16, Design Control Document.

Design Control Document (DCD) Revision:
None

PRA Revision:
None

Technical Report (TR) Revision:
None

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-TR93-ICE2-02
Revision: 0

Question:

Does the electrical penetration conductor overcurrent protection meet Regulatory Guide 1.63? If not, provide a discussion how you meet the intent of Regulatory Guide 1.63.

Westinghouse Response:

Yes. See DCD Tier 2, Chapter 1, Appendix 1A, Page 22 for Westinghouse commitment to Reg Guide 1.63.

Additionally, Tier 2, Section 8.3.1.1.6 states that "The penetrations are rated to withstand the maximum short-circuit currents available either continuously without exceeding their thermal limits, or at least longer than the field cables of the circuits so that the fault or overload currents are interrupted by the protective devices prior to a potential failure of a penetration. Penetrations are protected for the full range of currents up to the maximum short circuit current available."

Reference:

1. APP-GW-GL-700, Revision 16, Design Control Document.

Design Control Document (DCD) Revision:
None

PRA Revision:
None

Technical Report (TR) Revision:
None

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-TR93-ICE2-03
Revision: 0

Question:

Provide details about ITAAC requirements for non-Class 1E penetrations.

Westinghouse Response:

DCD, Tier 1, Section 2, System Based Design Description and ITAAC, Table 2.2.1-3, item 4a) and 5 identify the penetrations (both Class 1E and non-Class 1E) as ASME code Section III and seismic Category I.

DCD, Tier 1, Table 2.2.1-3, Item 8 states that the penetrations (both Class 1E and non-Class 1E) are protected against overcurrent.

Reference:

1. APP-GW-GL-700, Revision 16, Design Control Document .

Design Control Document (DCD) Revision:
None

PRA Revision:
None

Technical Report (TR) Revision:
None

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-TR93-ICE2-04
Revision: 0

Question:

Provide a discussion regarding the separation requirements between Class 1E and non-Class 1E electrical penetration assemblies.

Westinghouse Response:

DCD Tier 2, Section 8.3.2.4.2, page 8.3-22 states that "The electrical penetrations are in accordance with IEEE 317. Class 1E and Non-Class 1E electrical penetration assemblies are maintained in a separate nozzle. The physical separation of the Class 1E electrical penetration assemblies are in accordance with regulatory Guide 1.75".

Reference:

1. APP-GW-GL-700, Revision 16, Design Control Document.

Design Control Document (DCD) Revision:
None

PRA Revision:
None

Technical Report (TR) Revision:
None

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-TR93-ICE2-05
Revision: 0

Question:

System Based design Descriptions and ITAAC, Section 2.2.1 and Table 2.2.1-3 may require modification to address non-Class 1E electrical penetrations.

Westinghouse Response:

DCD Tier 1, Section 2, System Based Design Description and ITAAC Table 2.2.1-3, item 4a and 5 identify penetrations (both Class 1E and non-Class 1E) as ASME code Section III and seismic Category I. No modifications are required to these items.

DCD, Tier 1, Table 2.2.1-3, Item 8 states that the penetrations (both Class 1E and non-Class 1E) are protected against overcurrent.

Reference:

1. APP-GW-GL-700, Revision 16, Design Control Document.

Design Control Document (DCD) Revision:
None

PRA Revision:
None

Technical Report (TR) Revision:
None