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Your ref: Project Number 740  
Our ref: DCP/NRC1984

August 31, 2007

Subject: AP1000 COL Responses to Requests for Additional Information (TR #11e)

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 11e, APP-GW-GLR-052, Rev. 0, Reactor Coolant Pump Design Specification and Reports Summary. 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 requests for additional information RAI-TR11e-CIB2-01 through RAI TR11e-CIB2-03. These responses complete all requests received to date for Technical Report 11e.

Pursuant to 10 CFR 50.30(b), the responses to requests for additional information on Technical Report 11e 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 cursive script, appearing to read 'A. Sterdis'.

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

/Attachment

1. "Oath of Affirmation," dated August 31, 2007

/Enclosure

1. Responses to Requests for Additional Information on Technical Report No. 11e

|     |             |                         |    |    |
|-----|-------------|-------------------------|----|----|
| 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 |
|     | D. Wiseman  | - 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 )

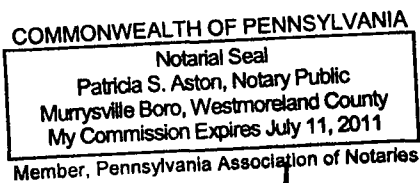
APPLICATION FOR REVIEW OF  
"AP1000 GENERAL COMBINED LICENSE INFORMATION"  
FOR COL APPLICATION PRE-APPLICATION REVIEW

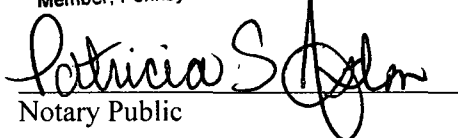
W. E. Cummins, being duly sworn, states that he is Vice President, Regulatory Affairs & Standardization, for Westinghouse Electric Company; that he is authorized on the part of said company to sign and file with the Nuclear Regulatory Commission this document; that all statements made and matters set 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 31<sup>st</sup> day  
of August 2007.



  
Notary Public

ENCLOSURE 1

Responses to Requests for Additional Information on Technical Report No. 11e

# AP1000 TECHNICAL REPORT REVIEW

## Response to Request For Additional Information (RAI)

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RAI Response Number: RAI-TR11e-CIB2-01  
Revision: 0

### **Question:**

AP1000 COL Standard Technical Report APP-GW-GLR-052 (Revision 0), "Reactor Coolant Pump Design Specification and Design Report Summary," proposes to revise the AP1000 Design Control Document (DCD) Tier 2, Subsection 3.9.8.2, to state that the design specification and design report for ASME Section III components are available for NRC audit. APP-GW-GLR-052 also proposes to add Table 3.9-19 to the DCD that is said to list "Technical Reports Summarizing Design Specification and Design Reports for ASME Section III Components and Piping" with APP-GW-GLR-052 listed as one of those reports. However, APP-GW-GLR-052 does not summarize the design specification and design reports for the reactor coolant pump. Is the intent of APP-GW-GLR-052 to indicate that the reactor coolant pump design specification and report are available for audit, to provide a summary of the reactor coolant pump design, or both? Please revise the technical report to clarify your intent.

### **Westinghouse Response:**

APP-GW-GLR-052 is one of a series of reports that identify and reference design specifications and reports, analyses, and calculations for major ASME Code Components for the AP1000. These reports are prepared in response to the COL Information Item 3.9-2 that requires the availability of design specifications and reports for NRC audit. Therefore, it is the intent of APP-GW-GLR-052 to indicate that the reactor coolant pump design specification and reports are available for audit by the NRC.

**Design Control Document (DCD) Revision:**  
None

**PRA Revision:**  
None

**Technical Report (TR) Revision:**  
With the clarification provided above no change to the technical report is required.

# AP1000 TECHNICAL REPORT REVIEW

## Response to Request For Additional Information (RAI)

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RAI Response Number: RAI-TR11e-CIB2-02  
Revision: 0

### **Question:**

APP-GW-GLR-052 proposes to revise AP1000 DCD Tier 2 to indicate that the design specification and design report for the reactor coolant pump are available for NRC audit. Discuss the method for the NRC staff to obtain access to the design specification and design report for the reactor coolant pump. Can those documents be submitted or placed on a secure website with NRC access?

### **Westinghouse Response:**

NRC review of this type of information for ASME Code components and piping has typically been done in the Westinghouse offices. Having the review in the Westinghouse offices assures that personnel are available to answer questions and assist the reviewers in understanding the report.

It is important to have the initial review by the NRC staff in the Pittsburgh area Westinghouse offices. For NRC staff review and reference subsequent to the initial review Westinghouse will place documents in our Rockville office.

**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)

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RAI Response Number: RAI-TR11e-CIB2-03  
Revision: 0

### **Question:**

On page 1, APP-GW-GLR-052 states under Technical Background that the AP1000 reactor coolant pump is designed to meet the applicable criteria of the ASME Boiler and Pressure Vessel Code, Section III, 1998 Edition with 2000 Addenda. Discuss compliance of the reactor coolant pump design with Section 50.55a of Title 10 of the Code of Federal Regulations (10 CFR 50.55a), including any applicable regulatory positions in 10 CFR 50.55a.

### **Westinghouse Response:**

In Subsection 5.2.1.1 of the AP1000 Design Control Document (DCD) the applicability of the ASME Code is defined as follows:

*The baseline used for the evaluations done to support this safety analysis report and the Design Certification is the 1998 Edition, 2000 Addenda, except as follows:*

*The 1989 Edition, 1989 Addenda is used for Articles NB-3200, NB-3600, NC-3600, and ND-3600 in lieu of later editions and addenda.*

This language is included in the design specification for the reactor coolant pumps. This language is consistent with the language in 10 CFR 50.55a current during the review of the AP1000 Design Certification. This DCD information is designated as Tier 2 \* information that requires NRC approval to change.

In practice this requirement to consider multiple years of the ASME Code is not straight forward. Because of ASME Code requirements that the review of a design against Code requirements use only one version of the Code the way this requirement is implemented for ASME Code, Section III components and piping is to evaluate the analyses against the entire 1998 Edition, 2000 Addenda and also evaluate the analyses against the requirements in the four 1989 Articles. This approach satisfies both ASME Code requirements to get an N-Stamp and NRC requirement in 10 CFR 50.55a.

It is understood that the concerns the NRC has with the post 1989 versions of Articles NB-3200, NB-3600, NC-3600, and ND-3600 of the ASME Code, Section III are related to criteria for piping seismic analyses. The analysis for most of the reactor coolant pump and other ASME Code, Section III components do not need to consider these criteria for piping seismic analyses. The loads on nozzles and the piping connecting the pump to the heat exchanger must consider the piping seismic criteria. The use of only the 2000 Addenda for the component, not piping, should be technically acceptable to the NRC staff. Use of the articles of the 1998 Edition, 2000 Addenda for requirements and criteria for the component analyses not involving piping would provide an acceptable level of quality and safety. Acceptance by the NRC of this approach will facilitate the finalization and review of the component design reports.



# **AP1000 TECHNICAL REPORT REVIEW**

## **Response to Request For Additional Information (RAI)**

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

None beyond the changes included in Revision 16 of the DCD.

**PRA Revision:**

None

**Technical Report (TR) Revision:**

None