



General Electric Company
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Docket No. STN 52-004

Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Richard W. Borchardt, Director
Standardization Project Directorate

**Subject: NRC Requests for Additional Information (RAIs) on the
Simplified Boiling Water Reactor (SBWR) Design**

References: Transmittal of Requests for Additional Information (RAI)s
Requesting the SBWR Design, Letter from M. Malloy to
P. W. Marriott dated February 22, 1994

The Reference letter requested additional information regarding the SBWR
Quality Assurance Program. In fulfillment of this request, GE is submitting
Attachment 1 to this letter which transmits the responses to RAIs 260.1-260.8.

Sincerely,

P. W. Marriott, Manager
Advanced Plant Technologies
M/C 781, (408) 925-6948

Attachment 1, "Responses to NRC RAIs"

cc: M. Malloy, Project Manager (w/2 copies of Attachment 1)
F. W. Hasselberg, Project Manager (w/1 copy of Attachment 1)

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RAI Number: 260.1

Question:

Describe what is meant by the term "SBWR Team Members," which is used in several places in Section 17.1 of the standard safety analysis report (SSAR). In addition, identify the Team Members.

GE Response:

SBWR Team members are those companies who agreed to support GE during the design and NRC certification of the SBWR. GE-NE document, NEDG-31836, SBWR Team Organization and Procedures Manual, identifies those team members who are nuclear system suppliers, architect-engineers, constructors, utilities and universities with extensive LWR experience and complementary experience. When the project began, the SBWR team included Bechtel, Burns and Roe, Foster Wheeler, Southern Company, MIT, UCB, Ansaldo, ENEA, ENEL, Hitachi, KEMA, NUCON and Toshiba. Many have joined the team since that time.

RAI Number: 260.2

Question:

SSAR Section 17.1.2 states that GE Nuclear Energy (GE-NE) and each of its Team Members have their own quality assurance program as described in Reference 17.1.4 ("SBWR Design and Certification Program Quality Assurance Plan," NEDG-31831). Provide a copy of NEDG-31831 and describe the method by which GE found the Team Member's QA programs to be acceptable.

Response:

As described in the attached SBWR Design and Certification Program Quality Assurance Plan, NEDG-31831, which requires that audits of GENE suppliers of Safety-related engineering services are conducted by QA representatives at least every three years, or more frequently, based on the following: (1) importance, complexity and quality requirements of the item or service; (2) the results of the previous audits; (3) history of performance of purchased service; or (4) effectiveness of the implementation of the suppliers QA Program. For those years when an audit is not planned, a formal evaluation of the supplier is performed to determine if a re-audit is required during the upcoming year. The International Technical Associates (ITAs) quality plans were surveyed for concurrence with NQA-1-1983 or an International equivalent but were not included in the GE-NE approved supplier list as were the domestic team members. The same frequency of evaluation and audit was conducted for ITAs as was conducted for domestic team members.

RAI Number: 260.3

Question:

Describe the provisions that control the design interfaces between GE-NE and the SBWR Team Members.

GE Response:

Design interfaces between GE-NE and the SBWR Team members is described in the SBWR Team Organization and Procedures Manual, NEDG-31836. NEDG-31836 addresses interfaces through the following organizational activities: (1) The Management Review Committee, which is composed of the senior management of organizations participating in the Program; (2) SBWR Working Groups, where each working group consists of GE participants as well as participants from other team member organizations, all of whom report to the GE-NE Lead engineer in accomplishing the technical work.

RAI Number: 260.4

Question:

SSAR Section 19G.2.41, "Procedures for Feedback of Operating, Design and Construction Experience," regarding compliance with 10 CFR 50.34(f)(3)(i) states that this is a combined operating license (COL) license information requirement. Describe provisions for the feedback of important industry design experience into the SBWR design.

GE Response:

GE-NE Procedure EOP 42-6.00, "Design Verification", includes the following requirements in Appendix A, design verification guidelines, Item A5, which states "Have applicable construction and operating experience been considered?" This is one of the documented requirements for considering construction and operating experience by GE-NE during its design activities. In addition employee communication documents are periodically made available to all engineering personnel which describe the benefits of reviewing and applying the recommendations of the GE-NE Services Information letters (SIL) which are issued to describe feedback from experiences with operating plants.

RAI Number: 260.5

Question:

Describe what QA provisions apply to design-phase test programs, including the software QA controls.

GE Response:

The SBWR Design and Certification Quality Assurance Plan, NEDG-31831, Section 4, NQA-1-1983 and addenda/GE implementing procedure matrix, NQA-1 criteria, Design Control, calls out GE-NE Procedure EOP 40-3.00, "Engineering Computer Programs" for implementation of the requirements to control software codes used during design activities. NQA-1 criteria, Test Control, calls out GE-NE procedure EOP 35-3.00, "Engineering Tests" for implementation of the requirements to control design phase test programs.

RAI Number: 260.6

Question:

Describe the QA provisions that apply to the appropriate items of Section 3.3.1.4 of ANSI/ANS-52.1-1983, "Nuclear Safety Criteria for the Design of Stationary Boiling Water Reactor Plants," including the safety parameter display system or its equivalent.

GE Response:

The SBWR Design and Certification Quality Assurance Plan, NEDG-31831, NQA-1-1983 and addenda/GE Implementation procedure index, criteria 4, Design Control, references the appropriate GE-NF Engineering Operating Procedures which were applied to implement the requirements for the safety parameter display system described in Section 3.3.1.4 of ANSI/ANS-52.1-1983, "Nuclear Safety Criteria for the Design of Stationary Boiling Water Reactor Plants."

RAI Number: 260.7

Question:

Provide a statement in SSAR Section 17.2 that the QA responsibilities for the operations phase is a COL responsibility.

GE Response:

See attached revision to the SBWR SSAR Section 17.2 that states the QA responsibilities for the operations phase is a COL responsibility.

17.2 Quality Assurance During the Operations Phase

Out of SBWR Standard Plant scope.

QA responsibilities during the construction and operations phases are a COL responsibility.

RAI Number: 260.8

Question:

Provide a statement that QA requirements for construction are a COL responsibility.

GE Response:

See attached revision to the SBWR SSAR Chapter 17.2 that states that the QA requirements during the construction are a COL responsibility.

17.2 Quality Assurance During the Operations Phase

Out of SBWR Standard Plant scope.

QA responsibilities during the construction and operations phases are a COL responsibility.