

PMBelCOL PEmails

From: Brian Anderson
Sent: Friday, May 16, 2008 11:00 AM
To: alsterdis@tva.gov; rgrumbir@gmail.com; pmray@tva.gov; pshastings@duke-energy.com; erg-xl@cox.net; PMBelCOL PEmails
Cc: Joseph Sebrosky; Brian Anderson
Subject: RAI Letter No. 021 related to SRP section 14.02 for Bellefonte Units 3 and 4.
Attachments: ML0813603050.pdf
Importance: High

All,

Attached is RAI Letter No. 021 related to SRP section 14.02 for Bellefonte Units 3 and 4.

Brian

Brian Anderson
301-415-9967
US Nuclear Regulatory Commission
Office of New Reactors
Project Manager, AP1000 Projects Branch 1

Hearing Identifier: Bellefonte_COL_Public_EX
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Subject: RAI Letter No. 021 related to SRP section 14.02 for Bellefonte Units 3 and 4.
Sent Date: 5/16/2008 11:00:12 AM
Received Date: 5/16/2008 11:00:14 AM
From: Brian Anderson

Created By: Brian.Anderson@nrc.gov

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ML0813603050.pdf	110363	

Options

Priority: High
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received:

May 15, 2008

Ms. Andrea L. Sterdis
Manager, Nuclear Licensing & Industry Affairs
Nuclear Generation Development & Construction
Tennessee Valley Authority
1101 Market Street
Chattanooga, Tennessee 37402-2801

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 021 RELATED TO
SRP SECTION 14.02 FOR THE BELLEFONTE UNITS 3 and 4 COMBINED
LICENSE APPLICATION

Dear Ms. Sterdis:

By letter dated September 30, 2007, as supplemented by letters dated November 2, 2007, January 8, 2008 and January 14, 2008, Tennessee Valley Authority (TVA) submitted its application to the U. S. Nuclear Regulatory Commission (NRC) for a combined license (COL) for two AP1000 advance passive pressurized water reactors pursuant to 10 CFR Part 52. The NRC staff is performing a detailed review of this application to enable the staff to reach a conclusion on the safety of the proposed application.

The NRC staff has identified that additional information is needed to continue portions of the review. The staff's request for additional information (RAI) is contained in the enclosure to this letter.

To support the review schedule, you are requested to respond within 45 days of the date of this letter. If changes are needed to the final safety analysis report, the staff requests that the RAI response include the proposed wording changes.

If you have any questions or comments concerning this matter, you may contact me at 301-415-9967 or you may contact Joesph Sebrosky, the lead project manager for the Bellefonte combined license at 301-415-1132.

Sincerely,

/RA/

Brian C. Anderson, Project Manager
AP1000 Projects Branch 1
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 52-014
52-015

Enclosure:
Request for Additional Information

CC: see next page

If you have any questions or comments concerning this matter, you may contact me at 301-415-9967 or you may contact Joesph Sebrosky, the lead project manager for the Bellefonte combined license at 301-415-1132.

Sincerely,

/RA/

Brian C. Anderson, Project Manager
 AP1000 Projects Branch 1
 Division of New Reactor Licensing
 Office of New Reactors

Docket Nos. 52-014
 52-015
 eRAI Tracking No. 101

Enclosure:
 Request for Additional Information

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NRO-002

OFFICE	CPIB/BC		NWE1/PM	OGC	NWE1/L-PM
NAME	JPeralta*		BAnderson*	PMoulding*	JSebrosky*
DATE	5/07/08		5/07/08	5/12/08	5/15/08

*Approval captured electronically in the electronic RAI system.

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Request for Additional Information
Bellefonte Units 3 and 4
Tennessee Valley Authority
Docket No. 52-014 and 52-015
SRP Section: 14.02 - Initial Plant Test Program - Design Certification and New License
Applicants
Application Section: 14.2

QUESTIONS from Quality and Vendor Branch 1

14.02-4

Startup Administrative Manual (SAM)

In a letter sent to Westinghouse on February 28, 2008, the NRC staff requested additional information regarding Technical Report (TR) APP-GW-GLR-038, Revision 1, "AP1000 Conduct of Test Programs," (hereafter TR-71B), currently used by Westinghouse to address combined license (COL) information item 14.4.3, "Conduct of the Test Program." The NRC staff stated in this letter that COL information item 14.4.3 requires applicants referencing the Westinghouse's AP1000 Design Certification Document (DCD) to provide administrative controls for the conduct of the initial test program. It specifically states: "The Combined License application is responsible for a startup administration manual (procedure) which contains the administration procedures and requirements that govern the activities associated with the plant initial test program, as identified in Section 14.2.3."

Consistent with COL information item 14.4.3, the NRC staff concluded that the Westinghouse AP1000 SAM should establish a minimum set of requirements for the implementation of the facility's initial test program. Further, the staff expects that each COL applicant will tailor its initial test program by using the Westinghouse AP1000 SAM as the basis to establish site-specific procedures or instructions for implementation. To address COL information item 14.4.3, and to provide an increased level of standardization in the design certification material that will be referenced by COL applicants, the NRC staff requested that Westinghouse provide complete, detailed information, in the form of an AP1000 SAM, describing the methodology that will be implemented by applicants referencing the AP1000 DCD in the following areas:

- (1) organizational and staffing responsibilities,
- (2) test procedure development, issuance, review, approval, distribution, control, and modifications,
- (3) conduct of the initial test program,
- (4) initial test program planning and scheduling,
- (5) review, evaluation, and approval of test results,
- (6) conformance with Regulatory Guides,
- (7) utilization of reactor operating and testing experiences in test program development, and
- (8) trial use of plant operating and emergency procedures.

This approach would subsume COL information item 14.4.1, "Organization and Staffing," and COL information item 14.4.4, "Review and Evaluation of Test Results," into the AP1000 SAM. The NRC staff also recognizes that, although Westinghouse can address the majority of these items on a generic basis, there are certain items that require site-specific or licensee-specific details. In those areas involving site-specific information, the COL applicant must provide this information in the site-specific SAM. On this basis, the NRC staff requests that TVA:

- Provide a description of the administrative controls that will be implemented during the conduct of the initial test program, consistent with Section 14.2 of the SRP, or
- Update Section 14.2 of the Bellefonte COL application to incorporate the information that will be provided by Westinghouse in the revised TR-71B as well as all relevant Bellefonte-specific details.

Organizational and Staffing Responsibilities

SRP Section 14.2, paragraph II.3.A, "Management Organizations," states that the COL applicant should provide organizational descriptions of the principal management positions responsible for the planning, executing, and documenting preoperational and startup testing activities. Additionally, the applicant should provide organizational descriptions of any augmenting organizations or other personnel who will manage or execute any phase of the test program, and the responsibilities, interfaces, and authorities of the principal participants. Section 14.2.2.1 of the Bellefonte COL application contains information regarding the organizational structure of the Plant Test and Operations (PT&O), which will be the organization responsible for the initial test program. Subsections 14.2.2.1.1 through 14.2.2.1.5 describe the functions of the Manager in charge of the PT&O, the Functional Manager in charge of PT&O support, the PT&O Engineers, the Functional Manager in charge of Startup, and the Startup Engineers, respectively. Additionally, subsection 14.2.2.1.4 includes a reference to TR-71B, which is currently under review by the NRC staff.

In a letter sent to Westinghouse on February 28, 2008, the NRC staff requested additional information regarding the organizational structure described in Section 3.0 of Appendix A to TR-71B. Specifically, the NRC staff requested that Westinghouse provide a general description of the responsibilities, authorities, and interfaces of the organizations responsible for the overall administration and technical direction of the initial test program, in addition to the organizations described in Section 3.0 of Appendix A to TR-71B. The request stated that the description should include, but not be limited to:

- Licensee's Operations Group
- Licensee's Maintenance Group
- Licensee's Corrective Action Organization
- Licensee's Health Physics/Chemistry Group
- Licensee's Quality Assurance Group
- Construction BOP Engineering
- Construction Services Group
- Construction Services Procurement Group
- Construction Services Quality Group
- Construction Services Training Group
- Westinghouse Site Engineering Group
- Westinghouse Engineering Leads
- Preoperational and Startup Test Teams (including Startup Managers/Plant Managers/Startup Engineers, as applicable)

The staff further requested that this description include considerations of staffing effects that could result from overlapping initial test programs at multi-unit sites. Consistent with Section 14.2 of the SRP, the NRC staff requests that TVA:

- Provide a description of the responsibilities, authorities, and interfaces of the organizations responsible for the overall administration and technical direction of the initial test program, in addition to the organizations described in Subsections 14.2.2.1.1 through 14.2.2.1.5 of the Bellefonte COL application, or
- Update Section 14.2 of the Bellefonte COL application to incorporate the information to be provided by Westinghouse in the revised TR-71B, including site-specific organizational responsibilities, authorities, and interfaces applicable to Bellefonte Units 3 & 4.

14.02-6

Staff Responsibilities, Authorities, and Qualifications

SRP Section 14.2, paragraph II.3.D, “Staff Responsibilities, Authorities, and Qualifications,” states that the COL applicant should describe the education, training, and experience requirements established for each management and operating staff member—including the NSSS vendor, architect-engineer, and other major contractors, subcontractors, and vendors, as appropriate—who will conduct preoperational and startup tests and will develop testing, operating, and emergency procedures. In addition, the SRP states that the applicant should develop a training program for each functional group of employees in the organization relative to the schedule for preoperational testing and initial startup testing to ensure that the necessary plant staff is ready to begin the test program. Subsection 14.2.2.2 of the Bellefonte COL application contains information regarding personnel training and qualification requirements. This subsection states that personnel in the PT&O organization are qualified and trained in accordance with the “AP1000 Startup Site Administrative Manual – Program Management Description,” which is part of TR-71B and currently under review by the NRC staff.

In a letter sent to Westinghouse on February 28, 2008, the NRC staff requested additional information regarding the education, training, qualification, and experience requirements for organizations responsible for the conduct of preoperational and startup tests, and for organizations that will develop testing, operating, and emergency procedures. Consistent with Section 14.2 of the SRP, the NRC staff requests that TVA:

- Describe the education, training, qualification, and experience requirements for organizations responsible for the conduct of preoperational and startup tests, and for organizations that will develop testing, operating, and emergency procedures; include a general description regarding the development of a training program for each functional group of employees in the organization relative to the schedule for preoperational testing and initial startup testing to ensure that the necessary plant staff is ready to begin the test program; include provisions for the development of a training program that will serve as supplemental training to plant operators, consistent with Three Mile Island (TMI) Action Plan Item I.G.1 of NUREG-0660, NUREG-0694, and NUREG-0737, or
- Update Section 14.2 of the Bellefonte COL application to incorporate the information to be provided by Westinghouse in the revised TR-71B, including site-specific information applicable to Bellefonte Units 3 & 4.

14.02-7

Review of Test Results

SRP Section 14.2, paragraph II.3.F, “Review, Evaluation, and Approval of Test Results,” states that

- i. the COL applicant should develop procedures to control the review, evaluation, and approval of test results for each phase of the test program. Specific procedures should be implemented to ensure notification of responsible organizations, such as design organizations, when test acceptance criteria are not met and specific controls have been established to resolve such problems;
- ii. Before proceeding with testing, the applicant should provide controls relating to (1) the methods and schedules for approval of test data for each major phase, and (2) the methods used for initial review of individual parts of multiple tests (e.g., hot functional testing);
- iii. The controls that will govern the review, evaluation, and approval of test results should provide a technical evaluation of test results by qualified personnel and approval of such results by personnel in designated management positions in the applicant’s organization;
- iv. The applicant should include provisions to allow design organizations to participate in the resolution of design-related problems that result in, or contribute to, a failure to meet test acceptance criteria;

v. Provisions should be in place to retain test reports, including test procedures and results, as part of the plant historical records.”

Related to item v. in the SRP section, startup test reports should be prepared in accordance with RG 1.16, or the applicant should provide adequate justification for any exception(s). Subsection 14.2.3.2 of the Bellefonte COL application contains information regarding the review of test results. This subsection incorporates by reference subsection 14.2.3.2 of the Westinghouse DCD and includes additional supplemental information. Consistent with Section 14.2 of the SRP, please clarify what provisions in the application ensure the involvement of design organizations in the resolution of design-related problems that result in, or contribute to, a failure to meet test acceptance criteria, and please revise Subsection 14.2.3.2 accordingly.

14.02-8

Test Specifications and Test Procedures

Standard Review Plan (SRP) Section 14.2, paragraph II.3.E, “Development, Review, and Approval of Test Procedures,” states that the COL applicant should provide a description of the methodology used for the generation, review, and approval of preoperational and startup test procedures, and that this description should include provisions to ensure the availability of approved test procedures for review by NRC inspectors at least 60 days before their intended use, and provide timely notification to NRC of changes in approved test procedures that have been made available for NRC review.

In a letter sent to Westinghouse on August 26, 2007, the NRC staff rejected APP-GW-GLR-037, Revision 0, “AP1000 Test Specifications and Test Procedures,” (TR-71A), used by Westinghouse to address combined license (COL) information item 14.4.2, “Test Specifications and Test Procedures.” The NRC staff stated in this letter that COL information item 14.4.2 calls for the actual submittal of test specifications and test procedures by a COL holder to NRC onsite inspectors for review and approval before as-built systems and plant features are tested in the field. Further, the NRC staff stated in the letter that a COL applicant could propose to subsume COL information item 14.4-2 under the license condition that will be in place to authorize low-power and power ascension testing. Section 14.4 of the Bellefonte COL application incorporates by reference the requirements of Westinghouse’s DCD subsection 14.2.3, “Test Specifications and Test Procedures.” In addition, Part 10 of the Bellefonte COL application contains information regarding COL information item 14.4-2, and further refers to proposed License Condition #6. Consistent with Section 14.2 of the SRP, please explain what provisions in the application ensure the availability of approved test procedures for review by NRC inspectors at least 60 days before their intended use and ensure timely notification to NRC of changes in approved test procedures that have been made available for NRC review. If appropriate, please modify proposed License Condition #6 accordingly.