CCNPP3COLA PEmails

From: John Rycyna
Sent: Monday, October 20, 2008 12:53 PM
To: Wrobel, George
Cc: CCNPP3COL Resource; Samantha Crane; Juan Peralta; Joseph Colaccino; Michael Miernicki
Subject: Draft RAI No 28 CQVP 667.doc
Attachments: Draft RAI No 28 CQVP 667.doc

George,

Attached is DRAFT RAI No. 28. You have ten working days to review it and to decide whether you need a conference call to discuss it. After the call or after ten days the RAI will be finalized and sent to you. You then have 30 days to respond.

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From: John Rycyna

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Request for Additional Information No. 667 Revision 2
DRAFT
10/20/2008

Calvert Cliffs Unit 3
UniStar
Docket No. 52-016
SRP Section: 14.02 - Initial Plant Test Program - Design Certification and New License Applicants
Application Section: 14.2

QUESTIONS for Quality and Vendor Branch 1 (AP1000/EPR Projects) (CQVP)

14.02-14

Standard Review Plan (SRP, NUREG-0800) Section 14.2, paragraph II.3.D regarding COL applicants, “Staff Responsibilities, Authorities, and Qualifications,” states that “[t]he 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 the preoperational and startup tests and will develop testing, operating, and emergency procedures.” In addition, the SRP states that “[t]he 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 are ready to begin the test program.”

The applicant’s COL application, in Section 14.2.2, "Organization and Staffing," describes the roles and responsibilities of the start-up organization, which includes the startup manager, system engineers, startup engineers, plant personnel, architect-engineer personnel, other contract/vendor staff, and the AREVA site startup organization. Section 14.2.2 references Section 13.1, "Organizational Structure of Applicant," for further details on startup organization. Table 13.1-1 in Section 13.1 lists the projected staffing levels for the startup organization, which includes the startup manager, preoperational test engineer, and startup engineer. Table 13.1-1 also references ANS-3.1-1993 for the general description, needed education, minimum experience required, and special requirements for the preoperational test engineer and the startup engineer. No specific education and experience requirements are established for the startup manager. In addition, education and experience requirements are not established for the architect-engineer personnel, other contract/vendor staff, and the AREVA site startup organization. In addition, training requirements are not established for any of the positions mentioned in Section 14.2.2.

Please revise Section 14.2.2 to 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; and 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, or justify an alternative.

14.02-15

Regulatory Guide (RG) 1.68, Section C.1, "Criteria for Selection of Plant Features to be Tested," provides the criteria for the selection of plant features to be tested during the conduct of the initial test program. The NRC staff requests that the applicant confirm that there are no additional site-specific structures, systems and/or design features that meet the criteria of Regulatory Position C.1 of RG 1.68 and that require testing to be addressed in Section 14.2.14, “COL Applicant Site-Specific Tests,” of the COL application pursuant to 10 C.F.R. Parts 50 and 52.

14.02-16

Regulatory Guide (RG) 1.206, Section C.I.14.2.2, “Organization and Staffing,” states that “the COL applicant should implement measures to ensure that personnel formulating and conducting test activities are not the same personnel who designed or are responsible for satisfactory performance of the system(s) or design features(s) being tested.” No provisions to this effect appear in Section 14.2.2 of the applicant’s FSAR, “Organization and Staffing.” The applicant is asked to revise its FSAR to include such provisions, or to justify an alternative.

14.02-17

Regulatory Guide (RG) 1.68, Section C.8, “Milestones and Power Hold Points,” states that “[a]pplicants should establish appropriate hold points at selected milestones throughout the power-ascension test phase to ensure that relevant test results are evaluated and approved by the designated personnel or groups before proceeding with the power-ascension test phase. As a minimum, applicants should establish hold points at approximately 25%, 50%, and 75% power level test conditions for pressurized-water reactors (PWRs) . . . .”

Section 14.2.4 of the US EPR FSAR states, in part, that “[i]t is the responsibility of the COL applicant to plan, and subsequently, to conduct the plant startup test program. The initial test program is conducted by the startup test group and is controlled by administrative procedures and requirements. The administrative procedures that govern the test program receive the same level of approval as other administrative procedures. The administrative procedures describe the phases of the initial test program and establishes the requirements for progressing from one phase to the next, as well as identifies the requirements for moving beyond selected hold points or milestones within a given phase.”

The COL, in Section 14.2.5.3, “Test Expectations,” states, in part, that “[p]ower ascension tests are scheduled and conducted at pre-determined power levels.” However, the application does not specify those levels, nor does it identify hold points and the requirements for moving beyond selected hold points or milestones within a given phase. Please revise Section 14.2.5.3 to identify the hold points for power ascension tests, and the requirements for moving beyond selected hold points or milestones within a given phase, or justify an alternative.

14.02-18

Raw Water Supply System – Desalinization Plant:
The applicant's COL, Section 9.2.9.5, "Inspection and Testing Requirements," states in part that "[p]ressure testing and functional testing are conducted during post-construction pre-commissioning and startup, as necessary to confirm system integrity and proper operation of individual components and the total system. Portions of the system are demonstrated with in-service leak testing where such method does not jeopardize other systems/equipment and is sufficient to demonstrate proper operation." Section 14.2.14.1 of the COL, "Desalinization Plant," does not identify the need for pressure testing, and leak testing in subsection 14.2.14.1.(3), "Test Method." The staff requests that the applicant address this discrepancy, or justify an alternative.

Additionally, Section 14.2.14.1(5)(a), concerning acceptance criteria, states that "[t]he desalinization plant operates as described in Section 9.2.11 [of the applicant's COL FSAR]." However, the FSAR does not contain a section 9.2.11. The desalinization plant appears to be described in Section 9.2.9 of the FSAR. Please revise Section 14.2.14.1(5)(a) accordingly.

14.02-19

Section 14.2.14.3(5)(a) of the applicant's FSAR, "Essential Service Water [ESW] Blowdown Systems, states that "[t]he ESW blowdown system operates per design and as described in Section 9.2.1 [of the applicant's FSAR]." The ESW Blowdown Systems appear to be described in the applicant's FSAR in Section 9.2.5. The NRC staff requests that the applicant correct this discrepancy.

14.02-20

Section 14.2.14.4 of the applicant's FSAR describes the Essential Service Water (ESW) Chemical Treatment System. Section 14.2.14.4(5)(a) states that "[t]he ESW chemical treatment system operates per design and as described in Section 9.2.1 [of the applicant's FSAR]." The ESW Chemical Treatment Systems appears to be described in Section 9.2.5. The NRC staff requests that the applicant correct this discrepancy.

14.02-21

Section 14.2.14.8(5) of the applicant's FSAR, "UHS [Ultimate Heat Sink] Makeup Water Intake Structure Ventilation System," concerning acceptance criteria, states that "[t]he UHS Makeup Water Intake Structure Ventilation System operates per design requirements and as described in Section 9.4.11 [of the applicant's FSAR]." Section 9.4.11.4, "Inspection and Testing Requirements," incorporates by reference Section 9.4.11.4 of the US EPR FSAR. Section 9.4.11.4 of the US EPR FSAR states that "[i]nitial in place acceptance testing of ESWPBVS [essential service water pump building ventilation system] components is performed in accordance with [ASME AG-1-2003] and ASME N510-1989 (R1995)." The test abstract for the UHS Makeup Water Intake Structure Ventilation System in Section 14.2.14.8 of the applicant's FSAR does not include ASME AG-1-2003 and ASME N510-1989 (R1995). Please revise Section

14.2.14.8 to include the requisite acceptance criteria that correspond with the specified test objectives, or justify an alternative.

14.02-22

Section 14.2.14.9(5) of the applicant's FSAR, "UHS Electrical Building Ventilation System," concerning acceptance criteria, states that "[t]he UHS Makeup Water Intake Structure Ventilation System operates per design requirements and as described in Section 9.4.11 [of the applicant's FSAR]." Section 9.4.11.4, "Inspection and Testing Requirements," incorporates by reference Section 9.4.11.4 of the US EPR FSAR. Section 9.4.11.4 of the US EPR FSAR states that "[i]nitial in place acceptance testing of ESWPBVS [essential service water pump building ventilation system] components is performed in accordance with [ASME AG-1-2003] and ASME N510-1989 (R1995)." The test abstract for the UHS Makeup Water Intake Structure Ventilation System in Section 14.2.14.9 does not include ASME AG-1-2003 and ASME N510-1989 (R1995). Please revise Section 14.2.14.9 to include the requisite acceptance criteria that correspond with the specified test objectives, or justify an alternative.

14.02-23

Section 14.2.14.6(5) of the applicant's FSAR, "Fire Water Supply," concerning acceptance criteria, states that "[t]he Fire Water Supply system operates per design requirements and as described in Section 9.5.1." Section 9.5.1.4 of the applicant's FSAR states that "[a]ll fire protection features and systems will be surveilled, inspected, tested, and maintained in accordance with applicable codes and standards of the NFPA [National Fire Protection Association] including start-up and acceptance tests."

Please revise Section 14.2.14.6 to include those requisite acceptance criteria that correspond with specified test objectives.

14.02-24

Regulatory Guide 1.68, Appendix A discusses the five phases of the initial test program: (1) preoperational testing, (2) initial fuel loading and pre-criticality testing, (3) initial criticality testing, (4) low-power testing, and (5) power ascension testing. Each phase has distinct objectives and prerequisites. The test abstracts provided in Section 14.2.14 of the applicant's FSAR do not indicate in which phase they will be performed. The NRC staff requests that the applicant revise the test abstracts in Section 14.2.14 to identify the phase in which each test will be performed, or to justify an alternative.