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Subject: AP1000 OI 14.2-1.aa and 14.2-1.bb Followup Questions
Creation Date: 08/28/2003 2:48PM
From: Joelle Starefos

Created By: JLS1@nrc.gov

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OI 14.2-1aa-bb.wpd	6386	08/28/03 02:33PM
MESSAGE	1379	08/28/03 02:48PM

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From: Joelle Starefos
To: Corletti, Mike
Date: 08/28/2003 2:48PM
Subject: AP1000 OI 14.2-1.aa and 14.2-1.bb Followup Questions

Mike,

Please see the attached followup questions that were identified during our review associated with open item 14.2-1. I expect that these will be the last followup questions associated with Open Item 14.2-1. If you need any further information or would like to have a discussion with the reviewer, please contact me. Thanks, Joelle

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Open Item 14.2-1.aa

Refer to Ref. 1, Section 14.2.9.1.7, Expansion, Vibration, and Dynamic Effects Testing:

The test abstract describes preoperational testing for safety-related, high energy piping systems and components. The tests are required to verify that these systems and components are properly installed and supported consistent with the analytical basis for their design. These tests are designed to provide additional assurance that these safety-related systems have been adequately designed and constructed, and to verify that appropriate assumptions have been used in the analytical models for predicting system responses to anticipated transients and postulated design basis accidents.

Although the test abstract description included in the design control document (DCD) Tier 2 Material is adequate, there is no reference to any applicable Tier 1 Material (i.e., Inspections, Tests, Analyses and Acceptance Criteria (ITAAC)), nor does it appear that any ITAAC have been written to provide documentation of the test measurements for thermal expansion and for vibration amplitudes, and their comparison to allowable values.

Because of the safety significance of these systems, the corresponding tests of the as-built facility, and the comparison of test results to applicable acceptance criteria, should be included in the DCD Tier 1 Material to preclude potential departures from these requirements without appropriate NRC staff review. Please update the AP1000 DCD Tier 1 Material by providing appropriate ITAAC information for those systems, or portions thereof, described in Reference 1, Section 14.2.9.1.7, that will be subject to preoperational, hot functional testing prior to fuel load.

Reference 1: AP1000 DCD, APP-GW-GL-701 Rev.3, Tier 2 Material, dated January 2003.

Open Item No.14.2-1.bb

Refer to Ref. 1, Section 14.2.9.1.8, Control Rod Drive System

The test abstract describes preoperational testing for control rod drive mechanisms and associated motor-generator sets and control circuitry. These tests are required to provide assurance that construction and installation of essential, safety-related reactivity control components have been completed in accordance with the design.

Although the test abstract description included in the DCD Tier 2 Material is adequate, there is no reference to any applicable Tier 1 Material (i.e., ITAAC), nor does it appear that any ITAAC have been written to provide documentation of these tests including comparisons to specified acceptance criteria.

Because of the safety significance of these components, the corresponding tests of the as-built configuration and the comparison of test results to applicable acceptance criteria, should be included in the DCD Tier 1 Material to preclude potential departures from these requirements without appropriate NRC staff review. Please update the AP1000 DCD Tier 1 Material by providing appropriate ITAAC information for those components described in Reference 1, Section 14.2.9.1.8, that will be subject to preoperational, hot functional testing prior to fuel load.

Reference 1: AP1000 DCD, APP-GW-GL-701 Rev.3, Tier 2 Material, dated January 2003.