

From: Peter Tam
To: Furio, Patricia S
Date: 2/28/03 4:39PM
Subject: BL2002-01 60-day response draft audit plan

Pat:

I have attached the NRC staff's draft audit plan. Please get back to Guy Vissing regarding our proposed audit date (week of 3/10) at Calvert Cliffs. Thanks.

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CC: Guy Vissing; Steven Bloom

BL 2002-01 60 Day Response Audit Plan

Two staff members from NRC Headquarters will meet with licensee staff to perform this audit. We anticipate that the audit will take two days. The following paragraphs provide background on the purpose of the audit, the information that the staff would like to have available to review at your offices and the specific questions that we would like to discuss with licensee representatives. The meeting requested by the staff to perform this audit will be publicly noticed. This audit is not an NRC inspection. The staff is not requesting to take information from the site, such as procedures or drawings.

The staff intends to document a summary of the information obtained during the audit. The summary will become publicly available.

Background/Purpose:

Licensees responded to NRC Bulletin 2002-01 and the follow up Request for Additional Information (RAI) issued by the staff in late November 2002. NRC is conducting an audit of the Boric Acid Corrosion Control (BACC) Programs of a limited number of licensees to better understand the issues related to boric acid corrosion control. The staff intends to use this information in making decisions regarding the possible need to develop additional BACC inspection requirements for improving the safety of reactor coolant pressure boundary systems, components, and potentially affected neighboring components. During the audit the staff will focus on:

- A. Discussing licensee responses to Bulletin 2002-01, the follow up RAI questions, and other specific questions related to Boric Acid Corrosion Control

(BACC) Programs. This will help NRC understand licensees' programs, positions, issues, and restrictions in implementing BACC Program.

- B. Discussing NRC's concerns related to current BACC inspection/monitoring. NRC's concerns include but are not limited to:

- Identification of leakage locations,
- Leaks that may not be detected by installed leak detection system or RCS inventory balance calculations,
- Leak reduction/monitoring programs,
- Emphasize on leaks that are smaller than allowable Technical Specification limits but which can cause degradation of a primary pressure boundary,
- Quality of inspection (qualified methods, qualified personnel),
- Insulation removal,
- Cleanliness of VT-2 inspection areas,
- Accessibility, and
- ALARA.

I. Background information the staff would like to obtain or review:

1.
Date commercial operation began.
2.
Date of last refueling outages.
3.
Effective full power years at last refueling outages.
4.
Procedures related to areas inspected, actions taken in response to leaks during plant operation, and corrective actions.
5.
Types of insulation used in a reactor coolant pressure boundary (RCPB) and insulation configurations; drawings would be useful.
6.
Drawings illustrating areas inaccessible for inspection either during refueling outages or during pressure tests.
7.
Summary of known boric acid leaks and previously performed repairs as a result of boric acid corrosion during the past 5 years (where did it happen, how did you find out, how did it happen, corrective action taken, any follow through on those areas/leaks).
8.
Record and analysis of performance of monitors for detecting leaks during the past 5 years.

9.
How do you rate the difficulties of the following aspects related to performing VT-2 inspection of the RCPB (on a scale of 1 through 5, 5 being the highest): insulation removal, ALARA, accessibility, temperature?

II. Specific questions the staff would like to discuss¹:

Question 1: Susceptibility Models (RAI Question² 7)

- Do you have susceptibility models addressing the potential for boric acid leakage? If the answer is yes, please identify plant specific areas where these models apply. How do you use the information?

Question 2: Reactor Vendor Recommendations (RAI Question 8)

- Has your reactor vendor made specific recommendations on visual inspections of class 1 pressure boundary? If the answer is yes, please identify the areas affected by these recommendations.
- What specifically do you do to address those recommendations?
- If you have difficulty in following those recommendations, please identify the difficulties and also, do you have any suggestions to address those recommendations.

1. Note that the staff has reviewed information provided in response to BL 02-01 and will discuss only those questions not specifically answered or clear to the staff in the information provided to date.

2. Question numbers apply to plants in Bin 2 for the 60-day response request for additional information.

Question 3: Specific questions on small diameter nozzles/valves/fittings (RAI Questions 2, 3, 5 & 6)

- Do you remove insulation from small diameter nozzles/valves/fittings to perform VT-2 exams during refueling outages or during partial or full pressure tests?
- How can you verify the existence of leakage during VT-2 without removing insulation?
- Identify areas that are inaccessible for VT-2 during refueling outages/during partial or full pressure tests.
- Identify areas where insulation cannot be removed (if any) for performance of a VT-2 during refueling outages/during partial or full pressure tests.

- How does your BACC program account for or address the potential for leakage from piping that may impact the leaking component or neighboring components?

Question 4: Leakage in inaccessible areas(RAI Questions 3)

- How do you define inaccessibility for VT-2 examination?
- Identify inaccessible areas for VT-2 examination during refueling outages/during partial pressure or full pressure tests and explain why are these areas are inaccessible?
- What action do you take to have confidence in the structural integrity of components located in inaccessible areas?

Question 5: Specific questions on RPV head RPV bottom areas (RAI Questions 1, 5 and 6)

- Do you VT-2 inspect the piping and surrounding areas over the upper head during each refueling outage?
- Do you VT-2 inspect the space under the lower head during each refueling outage? Do you remove any insulation to inspect ICI penetrations during each refueling outage?
- Can/do you VT-2 the upper head and lower head areas during full pressure operation prior to plant being critical?
- If you find boric acid deposit, what action do you take?

Question 6: Inspection during refueling outages (RAI Questions 1, 4, 5 and 6)

- Do you VT-2 the entire RCPB (welds, nozzles, piping components, bolted connects)?
- How do you choose locations to remove insulation for VT-2 examination; for example, if the area(s) were susceptible to leakage from a susceptibility model, or from past experience, or from your vendor's recommendations?

- What other types of inspections you do in addition to VT-2? Why and when do you do them?
- If you don't VT-2 all areas, how do you know that there was no leakage?
- If you find effects of boric acid on components, what specific action do you take (For example, do you remove insulation to try to find out the source of the leak? Do you scrape the boric acid deposits to find out the extent of any damage?)

Question 7: Leakage during plant operation (RAI Question 4, 5, 6, and 9)

- How do you find out if an RCPB component is leaking?
- How quickly you can identify such leakage?
- What specifically does your procedures require you to do if you know there is leakage (please address both accessible and non-accessible areas)?
- Do you treat the leakage differently in terms of identified and unidentified leakage (other than simple allowance in gpm)?
- What are your leakage acceptability criteria for identifying and fixing leakage?

Question 8: General category

- Do you have a leak reduction program?
- Do you have a leak tracking a program (for example, can you readily retrieve documentation on boric acid corrosion findings and repairs performed by your maintenance crew)?
- How do you follow through any leakage repaired to ensure that leakage has been stopped?
- Do you investigate if you see any bulging of insulation?
- How do you address the question of a minute leak (for example, the leak may be within allowable TS, but cannot be detected by installed monitors)?

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GSV CC (Guy Vissing)
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Options

Auto Delete: No
Expiration Date: None
Notify Recipients: Yes
Priority: Standard
Reply Requested: No
Return Notification: None

Concealed Subject:

No

Security:

Standard

To Be Delivered:

Immediate

Status Tracking:

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