

U.S. Nuclear Regulatory Commission Public Meeting Summary

Title: Discussion between South Texas Project (STP), Units 1 and 2, and NRC staff regarding STP's Response to Request for Additional Information the revised Aluminum Bronze Selective Leaching Aging Management Program for All Potentially Susceptible Welds throughout the Facility

Meeting Identifier: 20161619

Date of Meeting: Wednesday, January 4, 2017

Location: Teleconference

Type of Meeting: Category 1

Purpose of the Meeting(s):

To discuss STP's Proposed Response to the Request for Additional Information (RAI) Regarding of Aluminum Bronze Selective Leaching Aging Management Program of the STP License Renewal Application (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16340A102).

General Details:

The U.S. Nuclear Regulatory Commission (NRC) held a meeting on January 4, 2017, from 1:00 p.m. – 2:30 p.m. EST. The meeting began with an introduction, a review of meeting ground rules, and introductions of all in attendance. The NRC staff began the discussion by asking questions based on the slides provided by STP prior to the meeting. The meeting was a detailed technical discussion about the AMP.

Approximately 21 people participated in the meeting. Meeting participants included representatives from STP Nuclear Operating Company, STP contractor support, and a member of the public.

Summary of Discussion:

The NRC staff led the discussion by making observations and comments on the slides provided by STP prior to the meeting (initial slides – ADAMS Accession No. ML16356A061, updated slides - ADAMS Accession No. ML17004A029). A summary of the key points of the discussion is provided below. The only slides listed below are those on which the staff made observations.

The staff began the meeting by defining the term “loss of structural integrity.” When using this term, the staff does not mean to imply that pipes are on the verge of collapse. The basis of structural integrity is the safety margin built in to the calculated structural integrity defined by the American Society of Mechanical Engineers (ASME) code. In the context of the STP license

renewal review of the selective leaching of aluminum bronze AMP, a “loss of structural integrity” means that there may be less engineering margin than required by the ASME code.

Slide 3, “Requested Clarification Information”

The NRC staff asked if the number of above ground susceptible welds (1494) was the number of susceptible welds before the replacement of the cast components. In other words, would the 1494 above ground susceptible welds be reduced by approximately 700 welds when all of the cast components are replaced?

STP staff responded that the 1494 above ground susceptible welds is an estimation of the number of welds that would remain after the replacement of the cast components.

Slide 4, “Requested Clarification Information”

The NRC staff expressed caution regarding the use of Low Rigor level qualification in accordance with Section V, Article 14 of the 2004 Edition of the ASME, Boiler and Pressure Vessel Code. The NRC staff will review STP’s justification regarding the use of “Low Rigor.”

The NRC staff also indicated that it would review STP’s depth accuracy analysis, which found an accuracy between 0.2 mm to 1.0 mm, and how STP applies this tolerance in its calculations.

The NRC staff requested that STP explain its nondestructive examination (NDE) personnel qualifications in terms commonly used in ASME Section XI.

Slide 6, “Requested Clarification Information (cont)”

The staff noted Slide 6 states that, when a structural integrity analysis fails, “TOFD [Time of Flight Diffraction Technique] UT [Ultrasonic Testing] Examination on the remaining above ground weld population using a sample with a 95/95 confidence until no additional weld indication not meeting the acceptance criteria and within structural integrity is found.” The staff stated that the GALL Report uses 90/90 and 95/95 sampling confidence thresholds in sampling-based programs where there is not expected to be a potential loss of intended function. As such, the staff questions the use of 95/95 confidence thresholds where structural integrity requirements have not been met. The NRC staff will review STP’s justification for the use of a 95/95 confidence interval determination. STP staff asked if the NRC staff had concerns about the number of welds tested which STP calculated to be about 265 additional welds tested. The NRC staff noted that this number of additional welds was different from the number the staff calculated and requested STP provide their equations and input parameters to determine the number of additional welds tested for a 95/95 confidence interval determination.

The NRC staff requested that STP provide a clear description of the timeframe for completing the additional TOFD UT examinations considering that the unit may be out of a limiting condition for operation when the additional examinations will begin.

Slide 7, "Requested Clarification Information (cont)"

The NRC staff asked why STP is using the word "random" since there are defined criteria for selecting additional welds to be tested.

Slide 8, "Requested Clarification Information (cont)"

The NRC staff requested STP provide its criteria for determining when buried pipe inspections will be conducted subsequent to finding a weld that did not meet structural integrity requirements.

Slide 9, "Requested Clarification Information (cont)"

The NRC staff noted that STP will perform "periodic TOFD examinations of an additional 10% sample of the remaining above ground weld types every 5 years. (Periodic examination and Tracking and Trending)." The NRC staff further noted that the Generic Aging Lessons Learned Report consistency uses a 20 percent sample size for testing and recommended that STP consider using a confidence interval determination rather than a percent-based sample size.

Slides 10 and 11, "Requested Clarification Information (cont)"

The NRC staff expressed concerns that these slides imply that destructive examinations would not be done. STP staff stated that they are still committed to performing 50 destructive examinations (25 on welds with backing rings and 25 on welds without backing rings). Further, STP staff stated that they have already completed at least 50 tests with multiple vendors to validate the TOFD methodology and recommended that the staff audit the complete technical basis of the TOFD technique.

Summary of Conclusion

STP staff summarized their takeaways:

1. Justification of the 95/95 confidence interval determination
2. Clarification of timeframe for the extent of condition testing
3. Clarification on when below-ground weld testing would be done
4. Justification of TOFD Low Rigor level qualification

STP staff concluded by explaining that the EPRI report is not specific to the STP TOFD NDE methodology, rather STP provided data and analysis to support the EPRI effort.

Public Comments

The member of the public in attendance indicated that a lot of activity was forth coming. The staff agreed to send hard copies of its documents to this member of the public as requested.

Next Step:

STP will submit its response to the staff's RAI regarding the Selective Leaching of Aluminum Bronze AMP.

Attachments:

- Meeting description and agenda – ML17005A232
- Attendance List – ML17005A102
- STP presentations – Initial - ML16356A061
Updated - - ML17004A029

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ADAMS Accession No.:

Package: ML17005A104

Meeting Summary: ML17005A100

Meeting description and agenda: ML17005A232

Attendance List: ML17005A102

STP presentations – Initial - ML16356A061

Updated - ML17004A029

***concurred via email**

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|---------------|------------|-------------|------------|--------------|
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| NAME | YEdmonds* | LJames | BHolston* | RChazell (a) |
| DATE | 01/12/2017 | 1/17/2017 | 01/09/2017 | 1/18/2017 |

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