



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

October 14, 2015

LICENSEE: Entergy Operations, Inc.

FACILITY: Grand Gulf Nuclear Station, Unit 1

SUBJECT: SUMMARY OF TELEPHONE CONFERENCE CALL HELD ON JUNE 18, 2015, BETWEEN THE U.S. NUCLEAR REGULATORY COMMISSION AND ENTERGY OPERATIONS, INC., CONCERNING REQUEST FOR ADDITIONAL INFORMATION RESPONSES, PERTAINING TO THE GRAND GULF NUCLEAR STATION, LICENSE RENEWAL APPLICATION (TAC NO. ME7493)

The U.S. Nuclear Regulatory Commission (NRC or the staff) and representatives of Entergy Operations, Inc., (Entergy or the applicant) held a telephone conference call on June 18, 2015, to discuss Request for Additional Information (RAI) responses associated with the Fire Water System Program and the changes to various programs to address loss of coating integrity for the Grand Gulf Nuclear Station license renewal application (LRA). The telephone conference call was useful in discussing and clarifying the staff's concerns with the responses to the RAIs.

Enclosure 1 provides a listing of the participants and Enclosure 2 contains a summary of the discussion.

The applicant had an opportunity to comment on this summary.

/RA/ by Jeff Mitchell for

Rebecca Richardson, Project Manager
Projects Branch 1
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket No. 50-416

Enclosures:

1. List of Participants
2. Summary of Discussion

cc: Listserv

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DATE	10/ 8 /15	10/ 9 /15	8/ 21 /15	10/ 13 /15	10/ 14 /15

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TELEPHONE CONFERENCE CALL
GRAND GULF NUCLEAR STATION, UNIT 1
LICENSE RENEWAL APPLICATION

LIST OF PARTICIPANTS

JUNE 18, 2015

<u>Participants</u>	<u>Affiliation</u>
John Daily	U.S. Nuclear Regulatory Commission (NRC)
Giovanni Facco	NRC
William Holston	NRC
Rebecca Richardson	NRC
Alan Cox	Entergy Operations, Inc. (Entergy)
David Lach	Entergy
David Wooten	Entergy

SUMMARY OF TELEPHONE CONFERENCE CALL
 GRAND GULF NUCLEAR STATION, UNIT 1
 LICENSE RENEWAL APPLICATION

JUNE 18, 2015

The U.S. Nuclear Regulatory Commission (NRC or the staff) and representatives of Entergy Operations, Inc., (Entergy or the applicant) held a telephone conference call on June 18, 2015, to discuss the Request for Additional Information (RAI) responses associated with the Fire Water System (FWS) Program and the changes to various programs to address loss of coating integrity for the Grand Gulf Nuclear Station license renewal application (LRA). The telephone conference call was useful in discussing and clarifying the staff's concerns with the responses to the RAIs.

Discussion:

The staff and the applicant discussed the RAI responses associated with the Fire Water System Program, along with several changes to various programs as indicated in the table below, along with staff questions, comments, and resolutions for each item:

Applicant's Text	Staff Questions/Comments
RAI FWS-2a	
<p>Attachment 1, 2/6</p> <p>"Holidays consist of defects in the coating such as thin areas, cracks, blisters, delamination, and peeling that may not be visible to the naked eye." The applicant's basis for this statement is http://www.corrosionpedia.com/definition/1200/holiday-corrosion, which includes, "An improper adhesion or bonding of the coating," as an example of a holiday.</p>	<p><i>This definition is not consistent with ASTM formally known as (American Society for Testing Materials) D 4538 which states that a discontinuity (referenced from the definition for a holiday), is a "void, crack, thin spot, foreign inclusion, or contamination in the coating film that significantly lowers the dielectric strength of the coating film (may also be identified as a holiday)." The staff believes that holidays do not include blisters, delaminations, and peeling.</i></p> <p><i>Staff call resolution – the staff does not believe that holiday detectors can consistently detect the extent of blisters, delamination, or peeling. Absent a revision to the response, the staff will document its disagreement with this definition in the SER.</i></p>
<p>Attachment 1, 3/6</p> <p>In addition to the dry film thickness measurement and wet sponge testing, other tests such as lightly tapping, scraping or cleaning of the degraded area allow a qualified inspector and design engineering the ability to determine the extent of peeling, delamination and blistering degradation to ensure that downstream flow blockage and tank integrity concerns are not an issue.</p>	<p>The staff does not agree that the extent of peeling, delamination, and blistering can be detected by dry film thickness measurement and wet sponge testing except in, potentially, some very limited cases.</p> <p><i>Staff call resolution – the staff does not believe that dry film thickness measurement and wet sponge testing can consistently detect the extent of blisters, delamination, or peeling. The staff agreed that no additional RAI would be necessary if the applicant supplemented its response to clarify these points. The applicant plans to provide a supplemented response. If not, the NRC staff will write an RAI requesting the basis for why these test techniques can consistently detect blisters, delamination, or peeling.</i></p>

Applicant's Text	Staff Questions/Comments
<p>(continued from above)</p>	<p>There are no standards cited for "scraping or cleaning." One other applicant has cited Society of Protective Coatings (SSPC) standards, including, SSPC-SP 2 Hand Tool Cleaning, SSPC-SP 3 Power Tool Cleaning, SSPC-SP 11 Power Tool Cleaning to Bare Metal, and Waterjet Cleaning SSPC-SP WJ-1,2,3, and 4.</p> <p>Staff call resolution – the applicant stated that they would cite the appropriate SSPC standard(s) for using scraping or cleaning to detect the extent of blisters, delamination, or peeling. The staff will either write an RAI or the applicant will revise its response.</p>
<p>Attachment 1, 3/6</p> <p>In the first full paragraph, the applicant lists three conditions for returning a coating exhibiting delamination or peeling to service, in short: (a) delaminated or peeling is removed; (b) exposed underlying coating is verified securely bonded by adhesion testing; and (c) outermost coating is feathered.</p> <p>The last paragraph on the page cites "one or more" methods will be used to detect cracking, peeling, blisters, delamination, rust, or flaking, in short: (a) light tapping, scraping; (b) wet sponge or dry film; (c) adhesion testing, or equivalent; and (d) wall thickness measurements</p>	<p>With the inclusion of peeling and delamination in both the first and third paragraphs, there is a conflict.</p> <p>Staff call resolution – the applicant explained how these two paragraphs do not conflict. The first paragraph is for returning the fire water storage tank to service with peeling and delaminated coatings. The third paragraph is a list of test methods that will be used if degraded coatings are detected. The staff pointed out that the updated final safety analysis report (UFSAR) supplement and Program were revised to include the third paragraph but not the first. So it appeared that the testing in the third paragraph would be used for peeling and delaminated coatings. The applicant recognized that the first paragraph should have been added to the UFSAR supplement and Program. The staff will either write an RAI or the applicant will revise its response.</p> <p>What is meant by an equivalent adhesion test – standards cited in Regulatory Guide (RG) 1.54?</p> <p>Staff call resolution – the applicant stated that its intent was to only use adhesion testing methods endorsed by RG 1.54. The staff will either write an RAI or the applicant will revise its response.</p> <p>How does wall thickness demonstrate blisters, the extent of peeling, and delamination?</p> <p>Staff call resolution – based on the above resolution, the staff no longer has a question in this regard.</p>

Applicant's Text	Staff Questions/Comments
<p>LRA Section A.1.21, Attachment 2 page 2/10, and LRA Section B.1.21, pages 3 & 4 of 10, "detection of aging effects" enhancement states: Revise Fire Water System Program procedures for inspecting the interior of the fire water tanks to include the following testing to determine the condition of the coating on the interior of the fire water tanks when conditions such as cracking, peeling, blisters, delamination, rust or flaking are identified during the visual examination in accordance with National Fire Protection Association 25 (2011 Edition), Section 9.2.6.4.</p>	<p>This wording appears to state that:</p> <ul style="list-style-type: none"> (a) All four tests/inspections will be conducted, or (b) This is a list of four tests/inspections (page 4/10) as options to be chosen from when evaluating degraded coatings. <p>Staff call resolution – based on the above resolution, the staff no longer has a question in this regard.</p>
<p>Enhancement shown on Attachment 2, page 3/10</p>	<p>The enhancement shown on Attachment 2, page 3/10 appears to not have had consistent changes between letters dated 5/13/14, 11/16/14, and 5/20/15. Wording on voids and vortex appear to be missing.</p> <p>Staff call resolution – the applicant stated that it did not intend to remove the text that was not included in the 5/20/15 response. The staff will either write an RAI or the applicant will revise its response.</p>
<p>Commitment No. 12 shown on Attachment 2, page 5 & 6/10</p>	<p>The crossed-out wording shown on pages 5 and 6 affect an enhancement shown on Attachment 7 page 17/22 and yet no change to the enhancement is shown.</p> <p>Staff call resolution – the staff pointed out that the revised wording is not reflective of the testing cited in NFPA 25; whereas the crossed out wording was reflective of the testing. Both wet-sponge and dry film thickness testing are supposed to be performed. Where there is evidence of pitting or corrosion, wall thickness and bottom thickness measures are supposed to be performed. The new wording for adhesion testing is acceptable as long as the "or equivalent" reflects the reference to RG 1.54. As a side note, although not discussed during the call, ASTM references should specify the edition (year) consistent with RG 1.54. The staff will either write an RAI or the applicant will revise its response.</p>

Applicant's Text	Staff Questions/Comments
RAI 3.0.3-2b	
<p>Attachment 1, 6/6</p> <p>An alternative to adhesion testing is used only in the case of a coating with a few blisters that are completely surrounded by sound coating bonded to the substrate. In this limited case, a visual inspection performed by a qualified coating inspector is performed.</p>	<p>Why are the words, "intact small" not included? Staff call resolution – the applicant stated that it was its intent that blisters be limited to "intact and small." The staff will either write an RAI or the applicant will revise its response.</p> <p>To confirm a staff assumption – this wording, absent the above, meets the "blister" acceptance criteria. The staff assumed that the applicant meant: if the blistering meets acceptance criteria we can use alternatives to adhesion testing. If not we will conduct adhesion testing. Is that correct?</p> <p>Further – if the blistering does not meet acceptance criteria, the provisions of AMP XI.M42, "corrective actions," third paragraph will be met. Is that correct? Staff call resolution – the applicant confirmed that the staff's interpretation is correct. No further action.</p>
<p>Attachment 1, 6/6</p> <p>Paragraph (a) cites three conditions for returning a coating exhibiting peeling or delamination to service, in short: (a) delaminated or peeling is removed; (b) exposed underlying coating is verified securely bonded by adhesion testing; and (c) outermost coating is feathered.</p>	<p>Why are these provisions restricted to tanks? Staff call resolution – the applicant stated that it did not intend to restrict the response to tanks.</p> <p>How many points of adhesion will be tested? Staff call resolution – the applicant stated that it would conduct the testing consistent with AMP XI.M42.</p> <p>When will follow-up visual inspections be conducted? Staff call resolution – the applicant stated that it would conduct follow-up visual examinations consistent with AMP XI.M42.</p> <p>The staff will either write an RAI or the applicant will revise its response for all three of the above topics.</p>
<p>Attachment 2</p>	<p>The staff does not see any changes to the FWS (flow blockage only), Service Water Integrity (SWRI), and Periodic Surveillance and Preventive Maintenance (PSPM) Programs to address the RAI response shown on Attachment 1 page 6/6</p> <p>Staff call resolution – the applicant stated that it would revise the FWS (flow blockage only), SWRI, and PSPM Programs to address the RAI responses. The staff will either write an RAI or the applicant will revise its response.</p>