

May 12, 2016

MEMORANDUM TO: Yong Li, Acting Branch Chief  
Mechanical and Civil Engineering Branch  
Division of Engineering  
Office of Nuclear Reactor Regulation

FROM: Bryce C. Lehman, Structural Engineer **/RA/**  
Mechanical and Civil Engineering Branch  
Division of Engineering  
Office of Nuclear Reactor Regulation

SUBJECT: RESPONSE TO PUBLIC COMMENTS ON DRAFT  
REGULATORY ISSUE SUMMARY 20YY-##, "CONTAINMENT  
SHELL OR LINER MOISTURE BARRIER INSPECTION"

A notice of opportunity for public comment on the subject regulatory issue summary was published in the *Federal Register* (80 FR 80401) on December 24, 2015. Comments were received from Steven Brown (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16033A265), James Staffiera (ADAMS Accession No. ML16035A276), Southern Nuclear Operating Company (ADAMS Accession No. ML16035A299), and Exelon Generation Company, LLC (ADAMS Accession No. ML16043A352). Enclosed are the U.S. Nuclear Regulatory Commission's responses to all public comments.

Enclosure:  
U.S. Nuclear Regulatory Commission  
Responses to Public Comment

CONTACT: Bryce Lehman, NRR/DE  
301-415-1626

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**ADAMS Accession No.: ML16060A450**

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DATE	03/03/2016	03/04/2016	03/11/2016	03/14/2016	03/31/2016	5/12/2016

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**ANALYSIS OF PUBLIC COMMENTS ON  
DRAFT U.S. NUCLEAR REGULATORY COMMISSION  
REGULATORY ISSUE SUMMARY 20YY-XX  
“CONTAINMENT SHELL OR LINER MOISTURE BARRIER INSPECTION”**

Comments on the subject draft regulatory issue summary (RIS) (Agencywide Documents Access and Management System (ADAMS) Accession No. ML15208A522) are available electronically at the U.S. Nuclear Regulatory Commission’s (NRC’s) electronic Reading Room at <http://www.nrc.gov/reading-rm/adams.html>. From this page, the public can gain entry into ADAMS, which provides text and image files of NRC's public documents. Comments were received from the following individuals or groups:

<b>Letter No.</b>	<b>ADAMS Accession No.</b>	<b>Commenter Affiliation</b>	<b>Commenter Name</b>
1	ML16033A265	Self	Steven Brown
2	ML16035A276	Self	James Staffiera
3	ML16035A299	Southern Nuclear Operating Company (SNC)	Charles Pierce
4	ML16043A352	Exelon Generation Co, LLC	David Helker

The NRC assigned each of the four submittals a number. Each submittal contains comments. For each comment, the NRC has provided a summary of the comment followed by the NRC’s response. Each comment is referred to below by its associated number and its own sequential number.

**Comments**

Comment No. 1-1: The commenter believes that the following wording (page 4 of 5, first full paragraph, fourth sentence) in the draft RIS could be interpreted too broadly: “If a material prevents moisture from contacting inaccessible areas of the containment shell or liner, especially if the material is used as a basis for not performing augmented examinations of a susceptible location per IWE-1241, the material shall be inspected as a moisture barrier.” Taken to an extreme, the words could include anything preventing moisture from contacting inaccessible areas of the containment shell or liner, including the concrete floor within containment or caulking on the roof of buildings connecting to containment. The commenter believes the following wording, or something similar, would resolve the issue: “At a minimum, if a material is intended to prevent moisture from contacting inaccessible areas of the containment shell or liner, and is used as a basis for not performing augmented examinations of a susceptible location per IWE-1241, the material shall be inspected as a moisture barrier. Other locations required to be inspected under ASME IWE, Item E1.30 shall also be examined as moisture barriers.”

NRC Response: The NRC staff disagrees with portions of the comment because the staff does not believe a reasonable interpretation of the RIS would lead to the broad interpretation as discussed above, especially when the statement is taken in context with the entire RIS and the scope of American Society of Mechanical Engineers (ASME) code Section XI, Subsection IWE. Furthermore, as discussed in the “Summary of Issue” section of the RIS, one purpose of the

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RIS was to clarify that a material should be inspected as a moisture barrier if it is performing the function of a moisture barrier, regardless of its intended purpose in design documents. Revising the RIS as suggested by the commenters would reduce the clarity of this point. However, the staff's intention was not to expand the scope of ASME Section XI, Subsection IWE inspections, but to reiterate the staff's expectations for identifying moisture barriers within the existing scope of the ASME Code. Therefore, the staff revised the draft RIS to clarify that the inspections should address materials that are protecting the containment liner at concrete-to-metal or metal-to-metal interfaces. The noted wording was revised as follows:

If a material prevents intrusion of moisture against inaccessible areas of the pressure retaining metal containment shell or liner at concrete-to-metal interfaces or at metal-to-metal interfaces that are not seal-welded, the material shall be inspected as a moisture barrier. If the material is used as a basis for not performing augmented examinations of a shell or liner interface location per IWE-1241, the material is serving the purpose as described above and shall be inspected as a moisture barrier.

Comment No. 1-2: The commenter believes that unless the scope of the RIS is clarified as discussed in item one of the comment, the backfit analysis portion of the RIS is inaccurate. The commenter notes that there is no indication the NRC interpreted moisture barriers significantly more broadly than the remainder of the ASME consensus body during the original adoption of IWE into 10 CFR 50.55a or the subsequent rulemakings. Numerous limitations and conditions have been placed on the use of IWE, an expanded definition of moisture barrier was never one of the conditions. Without the clarification requested in item 1, the RIS appears to represent a new NRC position and should be considered a backfit.

NRC Response: The NRC staff disagrees that the position in the RIS needs to be considered as a backfit. As discussed in response to Comment No. 1-1, the NRC did not intend to expand the scope of ASME Section XI, Subsection IWE, and the RIS does not represent a new NRC position. The RIS is intended to clarify the NRC's existing position on inspections of moisture barriers within the existing scope of Subsection IWE. The RIS was not revised as a result of this comment.

Comment No. 2: This comment repeated the concerns noted in Comment No. 1-1. Please refer to Comment No. 1-1 for a summary of the comment and to the NRC's response to that comment.

Comment No. 3-1: On page 2 of 5 of the draft RIS, the second sentence of the 2<sup>nd</sup> paragraph refers to the second column of Table IWE-2500-1 as titled "Examination Requirements/Fig. No." It appears that the sentence should state that the "Examination Requirements/Fig. No." is in the third column.

NRC Response: The NRC staff agrees with this editorial comment and changed the RIS accordingly.

Comment No. 3-2: On page 2 of 5 of the draft RIS, a sentence should be added to the 2<sup>nd</sup> paragraph after the existing fourth sentence: "There are other configurations in which a sealant has been applied to prevent moisture from making contact with inaccessible areas of the liner plate which would also be considered as a moisture barrier under item E1.30."

Rationale: The added general statement would reinforce the need to consider the function and intent of the materials and inspections without attempting to define every configuration. For example, locations such as concrete expansion joints may be sealed to prevent moisture intrusion and should be inspected.

NRC Response: The NRC staff agrees that there are configurations outside of those depicted in Figure IWE-2500-1 which may require inspection, and that inspections should be determined based on the function of the material, regardless of the configuration. To reinforce that point, the following wording was added to the RIS after the existing fifth sentence:

There may be other configurations in which a material has been applied to prevent moisture from making contact with inaccessible areas of the metal containment shell or liner. These materials should be inspected as a moisture barrier under item E1.30.

Comment No. 4-1: This comment repeated the concerns noted in Comment No. 1-1. Please refer to Comment No. 1-1 for a summary of the comment and to the NRC's response to that comment.

Comment No. 4-2: The second portion of Comment No. 4 recommended the NRC describe what is not a moisture barrier, such as leak channeling devices or containment structural materials that do not prevent moisture intrusion directly into an interface of material between the containment liner and the subject material.

NRC Response: The NRC staff disagrees that the RIS should describe what is not a moisture barrier. The ASME Code defines moisture barriers based on their function, and the RIS reiterates the NRC staff's expectations based on that definition. It would not be productive for the staff to provide (beyond the specific operating experience already included within the RIS) hypothetical examples of what is not a moisture barrier. The IWE Responsible Individual is responsible for deciding what materials are, or are not, moisture barriers, based on the existing definitions in the ASME Code, and to provide appropriate technical justification for that decision. No changes were made to the RIS as a result of this comment.