

Visual Examination of Containment Surfaces Covered by Insulation

January 19, 2023

Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission

Meeting Agenda

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| • Introduction / Opening Remarks | NRC / NEI |
| • NRC Position | NRC |
| • NEI / Industry Position | NEI / Industry |
| • General Discussion / Questions | All |
| • Closing | NRC |

IWE General Visual Exams - Background

- ASME Section XI, Subsection IWE requires general visual examination of 100% of accessible surface areas
 - Surfaces are considered inaccessible if visual access “is obstructed by permanent plant structures, equipment, or components ...” [IWE-1232(c)]
- Previous revisions (Rev. 4) of IWE Commentary stated, “... an area which should not be considered inaccessible is one which is covered by insulation, unless the insulated area is sealed to prevent the intrusion of moisture ...”
- In March 2014, ASME issued Interpretation XI-1-13-25 saying that insulation does not need to be removed for general visual exams but should be removed for augmented exams.

IWE General Visual Exams – Staff Position

- NRC staff does not agree with Interpretation XI-1-13-25
 - In general, areas are identified for augmented examinations based on findings during the required general visual exams.
 - The interpretation provides no guidance on how surfaces covered by insulation would be identified for augmented examination if they never receive a general visual exam
- NRC is not bound by ASME interpretations
 - ASME Interpretations are not a part of the regulation
 - If a licensee wants to use the guidance in an interpretation that doesn't align with the endorsed ASME Code wording, they should submit a relief request
- Staff Position: Insulation should be removed for general visual examinations unless the insulated area is sealed to prevent moisture intrusion

Recent Inspection Finding

- In November 2022, Quad Cities received a non-cited violation (NCV) related to a missed visual exam of a penetration covered by **removable** insulation (ML22307A161)
 - The insulation is held on with tie wire or Velcro
 - Staff does not consider insulation designed to be removed a permanent plant structure, equipment or component; therefore, it should be removed for inspection
- A similar item was identified at Fitzpatrick and a similar NCV is being considered

Additional Information

- In October NEI submitted a white paper on this topic (ML22305A525)
 - References public comment responses from the 1996 10 CFR 50.55a rulemaking
 - The responses note that 50.55a(g)(4) provides a provision for situations where code requirements cannot be met due to the original design of the plant; however, this response was provided in the context of plants with permanent insulation on their containment per the original design.
 - Not applicable to the NCVs which address removable insulation
 - The responses further note that the insulation should be adequately sealed to prevent moisture from being trapped against the containment

Additional Information

- In 2022 ASME incorporated interpretation wording into the upcoming 2023 Edition of the ASME Code
 - NRC representatives voted yes on the change because it incorporated the existing ASME interpretation into the Code; however, the NRC representatives noted that the NRC would consider conditioning the change because guidance is not provided on how areas covered by insulation will be identified for augmented examination without receiving a general visual examination.

Path Forward

- Engage the industry and the public as necessary (this meeting and possible future public meetings)
- Consider a 50.55a condition on the wording change in the 2023 Edition
- Consider a generic communication to clarify the NRC's position prior to the 2023 rulemaking

Questions?