

## **Request for Additional Information (non-proprietary)**

By letter dated September 10, 2021, TN Americas LLC (TN) submitted to the U.S. Nuclear Regulatory Commission (NRC) a request for NRC to approve an alternative to the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (B&PV) Code Section III, Division 1, Article NG, Subsection NG-4000 for Visual Examination (VT) requirements of tack welds of the NUHOMS® 61BTH Type 2 Dry Shielded Canister (DSC), R45 transition rails, for each of the following amendments for Renewed Certificate of Compliance No. 1004: Renewed Amendment 13, Revision 1, as corrected; Renewed Amendment 14; Renewed Amendment 15; Renewed Amendment 16; and Renewed Amendment 17.

This request for additional information (RAI) identifies additional information needed by the NRC staff in connection with its review of this approval request. Each RAI below describes information needed by the staff to complete its review of the subject request.

### **Materials RAIs**

#### **RAI – 1**

Provide additional information on how the mockup coupons will adequately represent the production welding set-up and how the applicant will account for variation in tack weld profiles, root opening, and defect orientation.

The applicant states that tack welds are used during fit-up and alignment of the welded components of the R45 transition rails and use of tack welds is standard practice for keeping parts closely together while completing the first pass or the root pass of a production weld. The NRC staff is unclear how the length of the Procedure Qualification Record (PQR) mockup coupons with respect to length of the actual transition rail component will adequately represent production welding (i.e., number of tack welds, size of tack welds, and gap between the tack welds.)

The applicant states that three coupons will be produced for each joint geometry to account for variations in joint design and a tack will be broken to prepare the coupon for PQR. Since the tacks weld are made manually, there will be variation in the tack welds from welder to welder. In addition, there will be variations in the defect orientations. The staff is unclear how the applicant will account for these variations in their mockup coupons.

The applicant states that an additional PQR shall be prepared in accordance with ASME Section IX with coupons that were produced with three broken tack welds per coupon at fit-up. The staff is unclear about the intent of this PQR and its applicability.

This information is needed to determine if it meets the requirements of Part 72 of Title 10 of the *Code of Federal Regulations* (10 CFR) 72.236(b) and 72.158.

#### **RAI – 2**

Please provide additional information on the process of addressing defective tack welds for removal or repair.

The applicant states that defective tack welds shall either be removed or repaired in the process of fit-up and alignment. The staff is unclear if repairs are done by manual tack welding independent of the automated welding or mechanized welding process.

Enclosure

In addition, the staff is unclear how the defective tack welds are tracked for removal or repair, and the process that is followed to address the defective tack welds before the component is deemed ready for the root/first pass using an automated/mechanized welding process. A defect found by a qualified visual inspector is generally tracked and reexamined post removal and/or repair. Such repairs may be documented, and that area of the weld should be scrutinized with additional nondestructive examination (NDE) after the final weld is completed.

This information is needed to determine if it meets the requirements of 10 CFR 72.236(b) and 72.158.

### **RAI – 3**

Please provide additional details for the acceptance criteria for the visual examination to be performed by the welder and or welding supervisor. In addition, please provide additional details on how the visual inspection of the welds will be documented.

The applicant proposed alternative allows a non-qualified inspector (welder or weld supervisor) to check the tack welds for defects. However, it is unclear what acceptance criteria will be used for this visual examination. In addition, it is unclear if inspection of the welds will be documented to verify quality.

This information is needed to determine if it meets the requirements of 10 CFR 72.236(b), 72.158, and 72.168.

### **RAI – 4**

Please provide additional information to add clarity for the applicability for NB-4123 and NB-4423.

Applicant's request for a code alternative pertains to subsection NG. In Subsection NG, NG-4123 and NG-4423 are similar to NB-4123 and NB-4423 respectively. The staff is unclear the applicability of the reference to NB-4123 and NB-4423.

This information is needed to determine if it meets the requirements of 10 CFR 72.236(b).