

**Request for Additional Information**  
**NAC International**  
**Docket No. 71-9235**  
**Certificate of Compliance No. 9235**  
**Model No. NAC-STC Transportation Package**

1. Provide the ultrasonic testing (UT) code and standard used to examine (1) the package outer closure lid and (2) the package outer bottom plate as well as the acceptance criteria for the UT examination of these components that demonstrate the adequacy of the package outer closure lid and the package outer bottom plate as gamma shield materials.

Section 8.1.5.1 of the safety analysis report (SAR) was revised to state that the package outer closure lid the outer bottom plate will be UT to demonstrate their soundness as gamma shielding. By letter dated March 16, 2017, NAC International states that even though this item is not an American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (B&PV) Section III, Division I, Subsection NB component, UT will be conducted to show these components are acceptable as a gamma shield materials per NUREG/CR-3854, "Fabrication Criteria for Shipping Containers," Section 3.2.1. However, the code and standard used to conduct the UT examination and the acceptance criteria for the UT examination that will be used to demonstrate soundness as gamma shielding are not stated.

This information is necessary to demonstrate compliance with Title 10 of the *Code of Federal Regulations* (10 CFR) 71.31(c).

2. Provide the UT code and standard used to examine the package outer bottom forging as well as the acceptance criteria for the UT examination that demonstrate the adequacy of the package outer bottom forging as a gamma shield material.

The NAC-STC package outer bottom plate and inner bottom forging are welded to the package outer bottom forging. Gamma scanning or ultrasonic testing of the outer bottom forging is not described in the NAC-STC amendment. The outer bottom forging does not contain lead so as described in the amendment it would (apparently) not be subjected to gamma scanning. Provide additional information that describes how the package outer bottom forging will be tested to demonstrate its soundness as gamma shielding.

This information is necessary to demonstrate compliance with 10 CFR 71.31(c).

3. Justify that the weld acceptance criteria per ASME B&PV Code Section VIII Division 1 Appendix 12 is appropriate for demonstrating gamma shielding performance for the package outer bottom forging welds.

The NAC-STC package outer bottom plate and inner bottom forging are welded to a cask outer bottom forging. The welds are ultrasonically examined per ASME Section V Article 5 with acceptance per Section VIII Division 1, Article UW-53, which in turn references Section VIII Appendix 12. Gamma scanning or ultrasonic testing of the package outer bottom forging welds to the package outer bottom plate and package inner bottom forging are not described in the NAC-STC amendment. Provide additional information that describes how the package outer bottom forging welds to the package

outer bottom plate and package inner bottom forging will be tested to demonstrate their soundness as gamma shielding to ensure that dose rates due to potential radiation streaming will meet the criteria in 10 CFR 71.47 for normal condition of transport

This information is necessary to demonstrate compliance with 10 CFR 71.31(c) and 10 CFR 71.47.