



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

September 20, 2024

Ahmad M. Al-Daouk, Director
Office of Packaging and Transportation
U.S. Department of Energy
National Nuclear Security Administration
P.O. Box 5400
Albuquerque, NM 87185

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR REVIEW OF THE
CERTIFICATE OF COMPLIANCE NO. 9355, REVISION 4, FOR THE MODEL
NO. 435-B PACKAGING - COST ACTIVITY CODE/ENTERPRISE PROJECT
IDENTIFICATION NUMBER 001029/L-2023-LLA-0102

Dear Ahmad Al-Daouk:

By letter dated March 5, 2024 [Agencywide Documents Access and Management System (ADAMS) Package Accession No. ML24072A001], the U.S. Department of Energy, National Nuclear Security Administration (NNSA or the applicant), requested a revision to the Certificate of Compliance (CoC) for the Model No. 435-B packaging. In summary, the March 5th letter states that the applicant is requesting approval of the changes depicted in the July 2023 submittal (ML23220A071).

In connection with our review, we need the information identified in the enclosure to this letter. To assist us in scheduling the NRC staff's review of your response, we request that you provide this information 60 calendar days from the date of this letter. Inform us at your earliest convenience, but no later than 30 calendar days from the date of this letter, if you are not able to provide the information by that time frame. If you are unable to provide a response by then, our review may be delayed.

Please reference Docket No. 71-9355 and CAC/EPID Nos. 001029/L-2023-LLA-0102 in future correspondence related to this request. The NRC staff is available to clarify these questions, and, if necessary, to meet and discuss your proposed responses.

In accordance with Title 10 of the *Code of Federal Regulations*, Part 2 "Agency Rules of Practice and Procedure," a copy of this communication will be available electronically available for public inspection in the NRC Public Document Room (PDR) or from the Publicly Available Records component of the NRC's ADAMS. ADAMS is accessible from the NRC website at <http://www.nrc.gov/reading-rm/adams.html>. The PDR is open by appointment. To make an appointment to visit the PDR, please send an email to PDR.Resource@nrc.gov or call 1-800-397-4209 or 301-415-4737, between 8 a.m. and 4 p.m. eastern time (ET), Monday through Friday, except Federal holidays.

If you have any questions regarding this matter, you can contact me at
Norma.GarciaSantos@nrc.gov.

Sincerely,



Signed by Garcia Santos, Norma
on 09/20/24

Norma Garcia Santos, Project Manager
Storage and Transportation
Licensing Branch
Division of Fuel Management
Office of Nuclear Material Safety
and Safeguards

Docket No. 71-9355
Certificate No. 9355

Enclosure:
Request for Additional Information

cc:
71bn9355all@listmgr.nrc.gov

Request for Additional Information
U.S. Department of Energy
National Nuclear Security Administration
Docket No. 71-9355
Certificate of Compliance No. 9355
Revision 4
Model No. 435-B

By letter dated March 5, 2024 [Agencywide Documents Access and Management System (ADAMS) Package Accession No. ML24072A001], the U.S. Department of Energy, National Nuclear Security Administration (NNSA or the applicant), requested a revision to the Certificate of Compliance (CoC) for the Model No. 435-B packaging.

This request for additional information (RAI) identifies information needed by the U.S. Nuclear Regulatory Commission staff (the staff) in connection with its review of the application. NUREG-2216, "Standard Review Plan for Transportation Packages for Spent Fuel and Radioactive Material," was used by the staff in its review of the application.

This RAI describes information needed by the staff for it to complete its review of the application and to determine whether the applicant has demonstrated compliance with the regulatory requirements of 10 CFR Part 71.

OPERATING PROCEDURES AND CONTAINMENT EVALUATION

RAI-7-1 Clarify Section 7.1.3.1 step 10 of the application, related to:

1. the shipment of Type B contents that has been preceded in shipment by Special Form, Type A contents, Low Specific Activity (LSA) material, or Surface Contaminated Objects (SCO) contents, specifically when the vent port plug cannot be verified as being closed for the Type B contents, and
2. the performance of an ANSI N14.5 pre-shipment leakage rate test on seals that have been opened.

Section 7.1.3.1, step 10 of the application states the following:

10. Pre-shipment leakage rate testing of the main containment O-ring seal and vent port sealing washer shall be performed according to the following criteria:
 - a. If all of the radioactive material in the 435-B package is contained in sealed sources that have been qualified as special form according to the requirements of Section 7.1.6, Recognition of Special Form, no leakage rate test is required. NOTE: If this criterion is not met, a leakage rate test must be performed according to (b) or (c) of this step.

Enclosure

- b. If the main containment (upper) O-ring seal has been replaced or the corresponding sealing surface repaired, or if the vent port plug or sealing washer has been replaced or the mating sealing surface repaired, the leakage rate tests shall be performed according to Section 8.2.2, "Maintenance/Periodic Leakage Rate Tests."
- c. If the criteria of step (b) above do not apply, as an option, pre-shipment leakage rate testing may be performed according to Section 7.4, "Pre-shipment Leakage Rate Test."

For part 1 of the clarification, package users should consider the following (with underlining for emphasis) from NRC Information Notice (IN) 2016-04, "ANSI N14.5-2014 Revision and Leakage Rate Testing Considerations" (ML16063A287), which would also apply to special form material as well as Type A contents, LSA material, or SCO. The staff acknowledges that the circumstances described below could be unlikely.

Pre-shipment leakage rate test on Type B package containment boundary components that have been opened: Section 7.6 and Table 1 of ANSI N14.5-2014 address the pre-shipment leakage rate test on Type B package containment boundary components that have been opened. The pre-shipment leakage rate test is necessary to confirm that the containment system is properly assembled for each shipment. Type B packages containing a Type B quantity of material could have been used to transport Type A, LSA material, or SCO in a previous shipment. Containment boundary components (e.g., seals and valves) could have been opened during a previous shipment of Type A contents, LSA material, or SCO, but a pre-shipment leakage rate test might not have been performed at that time. A pre-shipment leakage rate test should be performed on the containment boundary components that cannot be verified as being closed to confirm that the containment system is properly assembled on packages containing a Type B quantity of material.

For part 2 of the clarification, ANSI N14.5 pre-shipment leakage rate testing should be performed on containment boundary seals that have been opened, unless a maintenance/periodic leakage rate test has been performed before each shipment, after the contents are loaded, and the containment system is assembled, in lieu of a pre-shipment leakage rate test. This is especially important for Type B contents in normal form.

This information is needed to determine compliance with 10 CFR 71.37(b), 71.51(a)(1) and (2), and 71.87(c).