

Request for Additional Information
Docket No. 71-3076
Model No. F-458 Package
Canadian Certificate CDN/2078/B(U), Revision 11

Aging Review

By letter dated August 21, 2025 (Agencywide Documents Access and Management System Accession No. ML25241A349), the U.S. Department of Transportation requested that the U.S. Nuclear Regulatory Commission staff perform a review of the Canadian Certificate of Approval CDN/2078/B(U)-96, Revision 11, for the Model No. F-458 transport package and make a recommendation concerning the revalidation of the package for import and export use. This review was performed against the 2018 edition of the International Atomic Energy Agency (IAEA) Safety Standards Review Series 6 (SSR-6). Specifically, this review covers the aging portion of the upgrade to SSR-6, 2018 Edition.

This request for additional information identifies information needed by the NRC staff in connection with its technical review for the Model No. F-458 package application.

Structural Evaluation

RAI 2-1 Provide evaluations of fatigue due to vibration cycles during routine and normal service conditions for the reusable package components including tie-downs for the lifespan of use.

The regulation in paragraph 613 of IAEA SSR-6, 2018 Edition requires that the package shall be capable of withstanding the effects of any acceleration, vibration or vibration resonance that may arise under routine and normal conditions of transport without any deterioration in the effectiveness of the closing devices on the various receptacles or in the integrity of the package as a whole. Additionally, (1) the regulation in paragraph 613A requires that the design of the package shall take into account aging mechanisms, and (2) the regulation in paragraph 638 of IAEA SSR-6, 2018 Edition requires that any tie-down attachments on the package shall be so designed, under normal and accident conditions of transport, the forces in those attachments shall not impair the ability of the package to meet the requirements of those Regulations of IAEA SSR-6, 2018 Edition.

Fatigue evaluations are required for the NRC staff to determine the package's ability to meet the regulatory requirements of IAEA SSR-6, 2018 Edition in paragraph 613, 613A, and 638. The appropriate number of vibration cycles must be considered in the fatigue evaluations.

This information is required to determine compliance with the requirements in paragraphs 613, 613A, 638 and 809 (c) and (f) of IAEA SSR-6, 2018 Edition.

RAI 2-2 Provide an evaluation of water spray test for the F-458 package in accordance with the requirement in paragraph 721 of IAEA SSR-6, 2018 Edition.

The regulation in paragraph 721 of IAEA SSR-6, 2018 Edition requires that the package shall be subjected to a water spray test that simulates exposure to rainfall of approximately 5 cm per hour for at least 1 hour. The applicant did not

Enclosure

perform a water spray test for the package. The applicant stated that a 3 mm thick neoprene gasket between the lid and cylinder of the package prevents water leakage. However, the NRC staff could not find any additional information on (1) basis of the statement, and (2) how the F-458 package is in compliance with the required regulation in paragraph 721 of IAEA SSR-6, 2018 Edition.

This information is required to determine compliance with the requirement in paragraph 721 of IAEA SSR-6, 2018 Edition.