



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

October 28, 2019

Mr. Richard W. Boyle
Radioactive Materials Branch
U.S. Department of Transportation
1200 New Jersey Avenue SE
Washington, D.C. 20590

**SUBJECT: REQUEST FOR REVALIDATION OF JAPANESE CERTIFICATE OF
APPROVAL J/2027/AF-96 FOR THE RAJ-IIIS PACKAGE – REQUEST FOR
SUPPLEMENTARY INFORMATION, DOCKET 71-3096**

Dear Mr. Boyle:

By letter dated June 20, 2019 (Agencywide Documents Access and Management System [ADAMS] Accession No. ML19220A165), the U.S. Department of Transportation requested that the U.S. Nuclear Regulatory Commission (NRC) staff perform a review of the Japanese Certificate of Approval J/2027/AF-96, for the Model No. RAJ-IIIS transport package and make a recommendation concerning the revalidation of the package for import and export use.

The NRC staff performed an acceptance review of the application to determine if it contained sufficient technical information in scope and depth to allow the staff to complete a detailed technical review. This letter is to advise you that the information needed to continue our review is described as request for supplemental information (RSI) in the enclosure to this letter. Addressing the RSI does not preclude the staff from issuing further requests for additional information during the course of the detailed technical review of this application.

In order to schedule our technical review, your response should be provided by November 1, 2019. If the response is not received by this date, the application may not be accepted for review and the staff may discontinue any further review. If you have any questions regarding this matter, I may be contacted at (301) 415-5196.

Sincerely,
/RA/

Nishka Devaser, Project Manager
Spent Fuel Licensing Branch
Division of Fuel Management
Office of Nuclear Material Safety
and Safeguards

Docket No. 71-3096
EPID L-2019-LLA-0173

Enclosure:
Request for Supplemental Information

SUBJECT: REQUEST FOR SUPPLEMENTAL INFORMATION FOR THE REVIEW OF THE
MODEL NO. RAJ-IIIS PACKAGE

DATED: October 28, 2019

DISTRIBUTION: D. Marcano

ADimitriadis, RI

BBonser, RII

MKunowski, RIII

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ADAMS Memo Accession No.: ML19301B898

***by email**

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Request for Supplemental Information
Docket No. 71-3096
Model No. RAJ-IIIS Package
Japanese Certificate J/2027/AF-96

By letter dated June 20, 2019 (Agencywide Documents Access and Management System [ADAMS] Accession No. ML19220A165), the U.S. Department of Transportation requested that the U.S. Nuclear Regulatory Commission (NRC) staff perform a review of the Japanese Certificate of Approval J/2027/AF-96, for the Model No. RAJ-IIIS transport package and make a recommendation concerning the revalidation of the package for import and export use.

This request for supplemental information identifies information needed by the NRC staff (the staff) in connection with its acceptance review of the Model No. RAJ-IIIS package application to confirm whether the applicant has submitted a complete application in compliance with regulatory requirements.

Chapter 2 – Structural Evaluation

1. With respect to Item 5, “Specification of Package,” of the Certificate of Approval (CoA), provide legible drawings for the following:

- Figure (A)C-2, Structure of Inner Container (RAJ-IIIS)
- Figure (A)C-3, Structure of Outer Container (RAJ-IIIS)

The staff needs sufficiently high quality, large-scale, drawings to facilitate review of the package description.

2. With respect to Table (B)-F.1, “Evaluation of Compliance with the Ministerial Ordinance and Notification of the Competent Authority,” provide clarification on how the Ministerial Ordinance Articles as identified in the table meet the International Atomic Energy Agency (IAEA) Standard SSR-6, “Regulations for the Safe Transport of Radioactive Material (2012 Edition).” Provide justification, including compensatory design evaluations as appropriate, to demonstrate that meeting the Ministerial Ordinance Articles indicates the package design compliance with the SSR-6 requirements.

Page 1 of the CoA notes that the package design complies with the design requirements of the IAEA Standard SSR-6. In the Table (B)-F.1 evaluation of compliance with the Ministerial Ordinance Articles, the listed “Standards” and corresponding “Explanation” do not appear to be summarized to corroborate the CoA page 1 statement on meeting the SSR-6 standards.

This information is needed for the package revalidation for meeting the IAEA SSR-6 requirements as stated in the CoA.

Observation

1. Provide justification for the Section A.6.1.4, “Slanting Drop,” statement, “[S]ince the energy absorption is eventually made in the same condition as the case of the horizontal drop, the impact force given to the fuel rods are less severe than the horizontal drop.”

It’s generally known that the secondary impact as related to “slanting drop” may result in a higher impact force than that associated with the package horizontal drop. The slenderness

Enclosure

of the proposed package design for non-irradiated (fresh) fuel rods needs to be evaluated explicitly for the secondary impact effect, per the IAEA Guidance SSA-26, "Advisory Material for the IAEA Regulations for the Safe Transport of Radioactive Material (2012 Edition)." Specifically, Paragraph 702.2 of SSG-26 states, "[E]xperience suggests that the effect of secondary impact is often more severe for slender and rigid package, including:

- (a) A package with an aspect ratio larger than 5, but sometimes even as low as 2;
- (b) A large package when significant rebound is expected to occur following the 9 m drop;
- (c) A package in which the contents are rigid and slender and particularly vulnerable to lateral impact."

This information is needed for the package revalidation for meeting the IAEA SSR-6 requirements as stated in the CoA.

Chapter 3 – Thermal Evaluation

1. Provide the relevant thermal-related "Attached Documents – 1" that supports the thermal analysis or provide a description of the documents if they are not integral to the thermal analysis and evaluation.

SAR Section B.6 of Page (B)B-32 indicates there are attached documents, presumably to support the thermal analysis. These documents should be provided if they are integral to the thermal analysis; if not then a description of their relevance should be provided.

This information is needed for the package revalidation for meeting the IAEA SSR-6 requirements (paragraph 658) as stated in the CoA.