



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

February 15, 2019

Mr. Mike Rose  
Quality Assurance Manager/ARSO  
Industrial Nuclear Company, Inc.  
14320 Wicks Blvd.  
San Leandro, CA 94577

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR REVIEW OF THE MODEL  
NO. TEN HOLE SOURCE CHANGER TRANSPORT PACKAGE (EPID NO. L-  
2018-NEW-0009)

Dear Mr. Rose:

By letter dated October 2, 2018 (Agencywide Documents Access and Management System Accession No. ML18277A271), you submitted an application for a Certificate of Compliance (CoC) for the Model No. Ten Hole Source Changer transport package. To assist with our review, the U.S. Nuclear Regulatory Commission staff (the staff) needs the information identified in the enclosure to this letter. Discussion of this request for additional information and a response date occurred on February 14, 2019.

We request that you provide this information by April 19, 2019. Inform us at your earliest convenience, but no later than April 12, 2019, if you are not able to provide the information by that date. If you are unable to provide a response by April 19, 2019, please propose a new submittal date with the reasons for the delay.

Please reference Docket No. 71-9360 and EPID No. L-2018-NEW-0009 in future correspondence related to this amendment request. The staff is available to discuss these questions as well as your proposed responses. If you have any questions regarding this matter, feel free to contact me at (301) 415-6877.

Sincerely,

**/RA/**

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

Docket No. 71-9360  
EPID No. L-2018-NEW-0009

Enclosure:  
RAI

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR REVIEW OF THE MODEL NO. TEN HOLE SOURCE CHANGER TRANSPORT PACKAGE (EPID NO. L-2018-NEW-0009) DOCUMENT DATE: February 15, 2019

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**ADAMS No.: ML19050A023**

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Request for Additional Information  
Docket No. 71-9360  
Model No. Ten Hole Source Changer Package

By letter dated October 2, 2018 (ADAMS Accession No. ML18277A271), Industrial Nuclear Company, Inc. submitted an application for a Certificate of Compliance (CoC) for the Model No. Ten Hole Source Changer transport package. This RAI letter identifies information needed by the staff in connection with its review of the application. NUREG-1609, "Standard Review Plan for Transportation Packages for Radioactive Material," was used by the staff in its review of the application.

Each individual RAI describes information needed by the NRC staff to complete its review of the application to determine whether the applicant has demonstrated compliance with the regulatory requirements.

### **Materials Review**

- 2.1. Provide Standards for materials, which are not presented in the Drawing and SAR.

The Drawings and SAR do not specify the Standards (e.g., ASTM, ASME) for some of the packaging components. They include, but are not limited to cast alloy, stainless steel, brass, and rubber.

This information is necessary to satisfy the requirements in 10 CFR 71.43(f).

### **Thermal and Shielding Review**

- 3.1 Considering the response of the package to the hypothetical accident condition thermal test (fire) please provide the following:
- 1) proof that the depleted uranium (DU) shield for the package does not oxidize, and
  - 2) justification that the package will not be adversely impacted by thermal stresses.

Oxidation of the DU shield may result in loss of shield integrity, and an associated loss of shielding ability. Under the hypothetical accident fire condition, the polyurethane foam may char, and after out-gassing has ceased, oxygen could enter the outer shell to interact with the DU shield, which will remain hot for some time after the hypothetical fire accident. In addition, the applicant states that the effects of HAC thermal stresses on the transportation package are minimal. However, the applicant neither performed thermal testing nor provided thermal analyses in the application. Therefore, the application currently does not demonstrate the oxygen inhibitive nature of the charred foam. The application also does not demonstrate that the thermal stresses are in fact minimal and result in no adverse impacts on the package. As a result, the staff requires additional analyses or evaluations to demonstrate that both the oxidation of the DU shield for the package and the thermal stresses experienced by the package under the HAC fire would not adversely impact either the shielding or structural capability of the package.

This information is needed to determine compliance with 10 CFR 71.51(a)(1), 10 CFR 71.51(a)(2) and 10 CFR 71.73(c)(4).

Enclosure