

Request for Additional Information
Global Nuclear Fuel – Americas, LLC
Docket No. 71-9309
Model No. RAJ-II Package

By letter dated July 28, 2017, Global Nuclear Fuel – Americas, LLC submitted an application for approval, through a letter authorization, of the Model No. RAJ-II package to transport lead test assemblies with accident tolerant fuel containing an iron, chromium, and aluminum (FeCrAl) cladding and uranium dioxide fuel as a Type A fissile quantity. Staff accepted the application for review by letter dated September 6, 2017.

This request for additional information (RAI) letter identifies information needed by the U.S. Nuclear Regulatory Commission staff (the staff) in connection with its review of the Model No. RAJ-II package application to confirm whether the applicant has demonstrated compliance with regulatory requirements.

The requested information is listed by chapter number and title in the package application.

Chapter 2 – Structural Evaluation

2-1 With respect to the strain energy density method:

- a. Justify the use of the strain energy density method to represent complicated “structure to structure” interactions, e.g., fuel to cladding, fuel rod to fuel rod assembly at high temperatures and under a 9-m drop, etc.,
- b. Provide references or case studies to support that the strain energy density method may be an equivalent or superior method over a detailed numerical analysis, e.g., LS DYNA-ANSYS analysis, and/or full scale testing to adequately predict the structural behavior of the package under hypothetical accident conditions (HAC),
- c. Justify whether the GNF FeCrAl cladding will survive under normal conditions of transport (NCT) drop at -40 °C and 9-m drop at -20 °C, and
- d. Explain how the creep behavior of FeCrAl is considered in the strain energy density method.

This information is required to determine compliance with 10 CFR 71.51(a) and 71.73.

Enclosure 1