



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

May 22, 2015

MEMORANDUM TO: Anthony H. Hsia, Deputy Director
Division of Spent Fuel Management, NMSS

FROM: John Vera, Project Manager **/RA/**
Spent Fuel Licensing Branch
Division of Spent Fuel Management, NMSS

SUBJECT: SUMMARY OF MAY 14, 2015, PRE-APPLICATION MEETING
WITH AREVA NP, INC., FOR THE NO. 51032-2 PACKAGE

Background

AREVA NP, Inc. (AREVA) requested a meeting to discuss submittal of a special authorization request for Certificate of Compliance (CoC) No. 9252 for the Model No. 51032-2 transportation package. The 51032-2 is a stainless steel package approved for transport of Type A fissile material. AREVA wished to discuss approval of transport of fuel which was briefly placed in the Crystal River 3 reactor prior to start of decommissioning but was not used to power the reactor. The fuel is planned to be shipped from Crystal River 3 to Oconee Nuclear Station for their use.

The meeting was scheduled for May 14, 2015, and noticed on April 30, 2015 (ADAMS Accession No. ML15132A309). The meeting attendance list is provided as Enclosure 1.

Discussion

AREVA gave a brief presentation on the purpose of the authorization request. In order to support the decommissioning of Crystal River 3, AREVA intends to ship fuel that was briefly placed in the Crystal River 3 reactor prior to start of decommissioning, but was not used to power the reactor, to Oconee Nuclear station for their use. To accomplish this, they intend to use the Model No. 51032-2 package, which is a Type A package authorized to transport unirradiated fuel assemblies. The proposed contents are 76 contaminated AREVA Mk B-HTP-1 fuel assemblies, 40 of which have 4.55% nominal enrichment and 36 of which have 4.95% nominal enrichment.

NRC staff noted that in order to use a Type A package, the radioactivity must be below Type A limits, including any contamination. AREVA stated that measures would be taken to ensure that the limits were met prior to shipment. NRC staff also noted that measures should be included to preclude errors in loading and arranging the actual transport, such as using dummy fuel in the chambers to be shipped without fuel.

NRC staff noted that due to the time spent inside the reactor, the fuel would still have seen a level of activation even if it was never critical, and that therefore the determination must be made whether the fuel still meets the definition of "unirradiated." While AREVA intended to request the special authorization only for the 4.95% enriched fuel assemblies, they stated they

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would verify by calculation whether the assemblies enriched at 4.55% would also need to be included in the request due to not meeting the definition of "unirradiated."

AREVA noted that the current CoC allows the type of fuel under consideration, but only to an enrichment of 4.8%. The package is designed for transport of two fuel assemblies at a time; AREVA proposes to ship the assemblies enriched at 4.95% placing only one in each package. AREVA will provide analyses to demonstrate that criticality safety is assured in this configuration. NRC staff noted that the benchmarks for the criticality codes used, as well as factors such as uncertainties and bias, would be very important in the safety demonstration. NRC staff noted that an authorization is issued for a maximum enrichment, and that therefore the analysis should consider fabrication uncertainties in the fuel enrichment. NRC staff stated that a further margin of safety could be introduced by increasing the criticality safety index.

AREVA stated that they plan to submit the amendment request late June 2015, and that they would need issuance by November 2015. NRC staff stated that this was an aggressive schedule, and exhorted AREVA to provide an application with thorough analyses and applied conservatism in order to expedite the review.

No regulatory commitments were made during the meeting.

Docket No. 71-9252
TAC No. L25013

Enclosure 1: Meeting Attendees
Enclosure 2: 51032-2 Slides

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Distribution: NRC Attendees
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ADAMS P8 Package No.: ML15146A304
ADAMS Memo No.: ML15146A322 Slides: ML15147A118

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**Meeting Between AREVA NP
and the
Nuclear Regulatory Commission
May 14, 2015
Meeting Attendees**

NRC/NMSS/SFM

John Vera
Michele Sampson
Meraj Rahimi
Drew Barto

AREVA NP

Robert Link
Jim Davis

AREVA TN

Glen Mathues
Philippe Pham Tam
Scott Edwards

AREVA Inc.

Jason St Clair

Duke Energy

Tim Rogers
Kevin Houston