



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

July 5, 2019

MEMORANDUM TO: Christopher M. Regan, Deputy Director
Division of Spent Fuel Management
Office of Nuclear Material Safety
and Safeguards

FROM: Bernard White, Senior Project Manager **/RA/**
Spent Fuel Licensing Branch
Division of Spent Fuel Management
Office of Nuclear Material Safety
and Safeguards

SUBJECT: SUMMARY OF MARCH 5, 2019, MEETING WITH TN AMERICAS TO
DISCUSS THE PROPOSED APPLICATION FOR THE TN-EAGLE
TRANSPORTATION PACKAGE

Purpose

TN Americas LLC (TN) requested the partially-closed meeting to provide to the U.S. Nuclear Regulatory Commission (NRC) staff an overview of its design for the Model No. TN-Eagle spent fuel transportation package and the safety basis for the package design.

Background

On March 5, 2019, a partially-closed meeting was held in Rockville, Maryland, at the request of TN with the NRC staff to discuss TN's design for the TN-Eagle transportation package. The list of meeting attendees, including those participating via telephone, is provided as an Enclosure.

The meeting was noticed on February 14, 2019 (see Agencywide Documents Access and Management System (ADAMS) Accession No. ML19045A699). The meeting attendance list is provided as an Enclosure, the non-proprietary presentation slides are located in ADAMS at Accession No. ML19035A687, and the proprietary presentation slides are provided in ADAMS at Accession No. ML19035A693.

CONTACT: Bernard White, NMSS/DSFM
(301) 415-6577

Discussion

The TN-Eagle will be a single-forged body surrounded by neutron shielding. The package will be designed to transport bare pressurized-water and boiling-water reactor spent fuel, and canisters for the Model Nos. NUHOMS® EOS-37PTH, and -89BTH (Docket No. 72-1042) storage system. The package is designed to hold up to 37 PWR fuel assemblies or 89 BWR fuel assemblies. The package will employ a double lid system (primary and secondary lids) for containment when transporting bare fuel but will only use the primary lid when transporting spent fuel inside a canister.

TN Americas LLC stated that it plans on manufacturing the first prototype package in mid-2019 to evaluate the manufacturing process. TN stated that it may elect to use the prototype package in transportation and wanted to ensure that all necessary notifications were made to NRC, prior to starting to manufacture the packaging.

TN Americas LLC stated that it will follow NUREG-2224, "Dry Storage and Transportation of High Burnup Spent Nuclear Fuel" for its evaluation of high burnup fuel. TN stated that it will perform structural and thermal calculations to evaluate normal conditions of transport and hypothetical accident conditions. Containment will be evaluated using the results of the analytical calculations for structural and thermal evaluations.

TN Americas LLC plans to include moderator exclusion for hypothetical accident conditions, consistent with its structural and thermal evaluations of the tests for hypothetical accident conditions. For criticality safety, TN will evaluate burnup for BWR fuel assemblies, to determine the most reactive state consistent with depletion of gadolinium burnable absorber. TN will use burnup credit for PWR fuel assemblies.

The shielding evaluation for hypothetical accident conditions will include damage from the evaluation of hypothetical accident conditions, including the puncture bar impacts. The analysis will also account for degradation of the neutron absorber after the fire test.

TN Americas LLC stated that it plans to submit its application in late 2020 and will have another pre-application meeting prior to application submittal.

Docket No.: 71-9382

EPID No.: L-2019-LRM-0005

Enclosure:

Meeting Attendees

SUBJECT: SUMMARY OF MARCH 5, 2019, MEETING WITH TN AMERICAS TO DISCUSS
THE PROPOSED APPLICATION FOR THE TN-EAGLE TRANSPORTATION
PACKAGE, DOCUMENT DATE: July 5, 2019

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meeting.docx

ADAMS Memo Accession No.: ML19189A249

OFFICE	DSFM	DSFM	DSFM
NAME	BWhite	SFigueroa	JMcKirgan
DATE	5/13/19	5/13/19	7/5/19

MEETING ATTENDEES

Meeting Title: MARCH 5, 2019, MEETING WITH TN AMERICAS TO DISCUSS THE PROPOSED APPLICATION FOR THE TN-EAGLE TRANSPORTATION PACKAGE

Participants: TN Americas LLC and the NRC

Date: March 5, 2019,

Location: U.S. NRC Headquarters, 0-9-B04

NAME	AFFILIATION
In attendance	
Bernie White	NRC/NMSS/DSFM
Peter Vescovi	Orano TN Americas
Lionel Antognelli	Orano TN Americas
Herve Ripert	Orano TN Americas
Prakash Narayanan	Orano TN Americas
Andrew Barto	NRC/NMSS/DSFM
Philippe Pham	Orano TN Americas
Venketa Venigalla	Orano TN Americas
Yuzhkan Shih	Orano TN Americas
Don Shaw	Orano TN Americas
David Tang	NRC/NMSS/DSFM
JoAnn Ireland	NRC/NMSS/DSFM
Christopher Regan	NRC/NMSS/DSFM
Darrell Dunn	NRC/NMSS/DSFM
Veronica Wilson	NRC/NMSS/DSFM
Jimmy Chang	NRC/NMSS/DSFM
Merah Rahimi	NRC/NMSS/DSFM
Joe Borowsky	NRC/NMSS/DSFM
Ilka Berrios	NRC/NMSS/DSFM
Ricardo Rodrigues	NRC/NMSS/DSFM
Phone Attendees	
Carlyn Green	Ux Consulting
Robery Heally	Wolf Creek Generating Station
Jim McIndale	Wolf Creek Generating Station
Damaris Marcano	NRC/NMSS/DSFM
Chris Allen	NRC/NMSS/DSFM

Enclosure