



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

March 15, 2023

MEMORANDUM TO: Jill Shepherd, Chief
Materials Rulemaking and Project Management Branch
Division of Rulemaking, Environmental,
and Financial Support,
Office of Nuclear Material Safety
and Safeguards

FROM: Yoira Diaz Sanabria, Chief
Storage and Transportation Licensing Branch
Division of Fuel Management,
Office of Nuclear Material Safety
and Safeguards

Handwritten signature of Yoira Diaz Sanabria in black ink.

Signed by Diaz-Sanabria, Yoira
on 03/15/23

SUBJECT: USER NEED FOR RULEMAKING FOR THE NUHOMS® EOS DRY
SPENT FUEL STORAGE SYSTEM CERTIFICATE OF COMPLIANCE
NO. 1042, AMENDMENT NO. 3

The purpose of this communication is to request support for rulemaking activities in the Division of Fuel Management (DFM) for the following Title 10 of the *Code of Federal Regulations* (10 CFR) Part 72 licensing action:

1. Changes to 10 CFR 72.214 rule text (changes appear in bold):

Certificate Number: 1042.

Initial Certificate Effective Date: June 7, 2017.

Amendment Number 1 Effective Date: June 17, 2020.

Amendment Number 2 Effective Date: October 26, 2021.

Amendment Number 3 Effective Date: [insert 75 days from date of *Federal Register* publication].

SAR Submitted by: TN Americas LLC.

SAR Title: Final Safety Analysis Report for the NUHOMS® EOS Dry Spent Fuel Storage System.

Docket Number: 72-1042.

Certificate Expiration Date: June 7, 2037.

Model Number: EOS-37PTH, EOS-89BTH, 61BTH Type 2.

2. On March 31, 2021 (Agencywide Documents Access and Management System (ADAMS) Accession Number ML21102A281), as supplemented in letters dated June 23, 2021 (ML21174A231), August 4, 2021 (ML21209A098), September 3, 2021

CONTACT: Christian Jacobs, NMSS/DFM
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(ML21246A136), October 22, 2021 (ML21295A260), November 30, 2021 (ML21334A206), February 25, 2022 (ML22056A458), June 7, 2022 (ML22158A293), June 29, 2022 (ML22180A266), September 30, 2022 (ML22273A031), October 31, 2022 (ML22304A217), November 14, 2022 (ML22318A205), and December 21, 2022 (ML22355A219), TN Americas LLC requested that the U.S. Nuclear Regulatory Commission amend the Certificate of Compliance (CoC) No. 1042 to include the following changes:

Change No. 1:

Add three new heat load zone configurations (HLZCs) for the EOS-89BTH Dry Shielded Canister (DSC), with increased heat load up to 1.7 kW per fuel assembly, which reduces the minimum cooling time to 1 year.

Change No. 2:

Add a variable-lead thickness EOS-TC125 for transfer with the EOS-89BTH DSC.

Change No. 3:

Add ATRIUM 11 fuel as an allowable content in the EOS-89BTH DSC. Reran the limiting GNF2 and ABB-10-C cases to reduce the statistical uncertainties and increase the enrichment limits.

Change No. 4:

Update the criticality evaluation to allow short-loading the EOS-89BTH DSC with less than 89 fuel assemblies to increase the enrichment limits.

Change No. 5:

For the technical specifications; a revision to allow for phased array automated ultrasonic testing and to utilize a single pass high amperage gas tungsten arc weld or multipass gas tungsten arc weld on the outer top cover plate.

Change No. 6:

For the technical specifications; a revision to reduce EOS-37PTH HLZC 1 and 2 time limit for transfer to 8 hours.

Change No. 7:

Incorporate a method to determine new loading patterns based on the maximum allowable heat load per DSC and per location specified in the technical specifications (TS). All HLZCs and time limits for transfer for the EOS-89BTH DSC transferred in the EOS-TC125 are moved from the technical specifications to the updated final safety analysis report (UFSAR) chapter 2.

Change No. 8:

For the single bottom forging EOS-DSCs, waive the fabrication pressure test requirement.

Change No. 9:

TS and UFSAR changes for consistency among DSC types and terminology clarifications.

In addition to the nine changes requested by applicant in their letter dated March 21, 2021, the applicant requested three additional scope changes in letters dated October 22, 2021, June 29, 2022, and September 30, 2022. The three additional scope changes include:

Additional Scope Change No. 1:

UFSAR revisions associated with transfer cask lifting heights and consideration of severe weather.

Additional Scope Change No. 2:

UFSAR revisions associated with maintaining water in the annulus.

Additional Scope Change No. 3:

Design changes to the Matrix Loading Crane (MX-LC).

3. The proposed CoC, technical specifications, and preliminary safety evaluation report (PSER) have been placed in ADAMS (see references below) and are available for your use in the rulemaking package. DFM will designate these documents as Official Agency Records after the Executive Director for Operations has approved the package (ADAMS Package No. ML23027A212).

The Office of the General Counsel has reviewed this memorandum with its referenced documents and has no legal objection to its contents.

Docket No. 72-1042

CAC No. 001028

EPID: L-2021-LLA-0055

ADAMS References:

1. Proposed CoC No.1042 - EOS Amendment No. 3 (ML23027A214)
2. Proposed technical specifications - EOS Amendment No. 3 (ML23027A216)
3. PSER - EOS Amendment No. 3 (ML23027A217)

SUBJECT: USER NEED FOR RULEMAKING FOR THE NUHOMS® EOS DRY SPENT FUEL STORAGE SYSTEM CERTIFICATE OF COMPLIANCE NO. 1042, AMENDMENT NO. 3

DOCUMENT DATE: March 15, 2023

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ADAMS Accession Nos.: ML23027A212 (Package); ML23027A213 (Memo)

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