



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

June 7, 2021

MEMORANDUM TO: Tania Martinez Navedo, Chief  
Materials Rulemaking  
and Project Management Branch  
Division of Rulemaking  
Office of Nuclear Material Safety  
and Safeguards

FROM: John McKirgan, Chief  
Storage and Transportation Licensing Branch  
Division of Fuel Management  
Office of Nuclear Material Safety  
and Safeguards

SUBJECT: USER NEED FOR RULEMAKING FOR THE NUHOMS® EOS  
DRY SPENT FUEL STORAGE SYSTEM CERTIFICATE OF  
COMPLIANCE NO. 1042, AMENDMENT NO. 2

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: [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 April 18, 2019, as supplemented on August 5, 2019, October 2, 2019, October 29, 2019, June 30, 2020, October 29, 2020, and January 27, 2021, TN Americas LLC submitted an amendment request to the U.S. Nuclear Regulatory Commission (NRC) for the NUHOMS® EOS Dry Spent Fuel Storage System Certificate of Compliance (CoC) No. 1042. The proposed changes include the following:

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**Change No. 1:**

Add the 61BTH Type 2 dry shielded canister (DSC) transferred in the OS197 Transfer Cask (TC) for storage in the NUHOMS® MATRIX (HSM-MX) design approved in Amendment 1 to CoC No. 1042. The 61BTH Type 2 DSC design included in this amendment is approved in CoC No. 1004 Amendment 15. The associated design change to the HSM-MX included in this amendment is the addition of spacer blocks at the front and rear DSC supports to maintain the centerline of the DSC in line with the horizontal storage module (HSM) door centerline.

**Change No. 2:**

For the EOS-37PTH DSC, add two new heat load zone configurations (HLZCs) for the EOS-37PTH for higher heat load assemblies, up to 3.5 kW/assembly, that also allow for damaged and failed fuel storage.

**Change No. 3:**

For the EOS-37PTH DSC, add basket type 4H, previously introduced in CoC No. 1042 Amendment 1, for HLZCs 1, 4, 5, 6, 8, and 9.

**Change No. 4:**

For the EOS-TC108 TC System with the EOS-37PTH DSC, add HLZCs 4 through 9 for the 4H basket and reduce the minimum cooling times to 2 years (HLZC 2 through 9).

**Change No. 5:**

For the EOS-37PTH DSC, increase the control component source terms to better address potential control component sources from various shutdown plants.

**Change No. 6:**

Certain CoC and Technical Specification (TS) items are revised for consistency and clarity.

In addition to the six changes requested by applicant in their letter dated April 18, 2019, the applicant requested additional changes not associated with its responses to the request for additional information (RAI) in the letters dated June 30, 2020, and October 29, 2020, including the following:

**Additional Changes not associated with the RAI****Additional Change No. 1:**

Move TS Table 3 relating to control component (CC) Co-60 from the TS to the Updated Final Safety Analysis Report (UFSAR) as Table 6-37a as part of continued application of the graded approach. *Note: On October 29, 2020, the applicant withdrew this change. Therefore, there is no evaluation of this change needed in the SER.*

**Additional Change No. 2:**

Add description of methodology on Co-60 equivalence to UFSAR Section 6.2.4, Control Components, to clarify methodology for CCs.

**Additional Change No. 3:**

Add description to UFSAR Section 1.2.1.1 for EOS-37PTH and Section 1.2.1.2 for EOS-89BTH to clarify the option of using a shield plug integrated with the inner top cover plate.

**Additional Change No. 4:**

Update UFSAR Section 2.4.3 to clarify the methodology to reduce the maximum allowable heat load based on the fuel assembly type.

**Additional Change No. 5:**

Replace the phrase "28 days" with "which may be tested up to 56 days" in Paragraph 4.4.4 of the TS to clarify whether concrete testing is required based on HSM component temperatures.

3. The proposed CoC, TS, 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. ML21125A103).

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-2019-LLA-0078

**ADAMS References:**

1. Proposed CoC 1042 - EOS Amendment No. 2 (ML21125A105)
2. Proposed TS - EOS Amendment No. 2 (ML21125A106)
3. Preliminary SER - EOS Amendment No. 2 (ML21125A107)

SUBJECT: USER NEED FOR RULEMAKING FOR THE NUHOMS® EOS DRY SPENT FUEL STORAGE SYSTEM CERTIFICATE OF COMPLIANCE NO. 1042, AMENDMENT NO. 2

DOCUMENT DATE: June 7, 2021

**DISTRIBUTION:**

DFM r/f

**ADAMS Package No.:** ML21125A103

**Memo:** ML21125A104

\* concur via email

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