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

February 22, 2021

MEMORANDUM TO: Christopher Regan, Deputy Director
Division of Fuel Management, NMSS

FROM: Pierre Saverot, Project Manager **R/A**
Storage and Transportation Licensing Branch
Division of Fuel Management, NMSS

Pierre M. Saverot
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Date: 2021.02.22 13:33:06 -05'00'

SUBJECT: SUMMARY OF FEBRUARY 17, 2021 MEETING WITH DAHER NUCLEAR TECHNOLOGIES

Background

On February 17, 2021, a Category 1 public meeting was held by video conference between the U.S. Nuclear Regulatory Commission (NRC) staff and representatives from Daher Nuclear Technologies GmbH (DNT) to discuss the licensing approach for a new UF_6 package design, DN30-X, for enrichments between 10% and 20%. The first pre-application meeting was held on June 10, 2020.

The February 17, 2021, meeting was noticed on January 12, 2021 (ML21012A194). The meeting attendance list and public presentation are provided as Enclosure Nos. 1 and 2, respectively.

Discussion

Recent industry developments such as initiatives for Accident Tolerant Fuel, DOE-NNSA tritium production project, fuel for small modular reactors, as well as high assay low-enriched uranium projects, drive up the need for transportation of UF_6 enriched above 5%, i.e., between 10% and 20%, thus the need for a new UF_6 package design. The licensing approach selected by DNT consists in designing a new cylinder, the 30B-X cylinder, derived from the ANSI N14.1 30B cylinder but with added criticality control rods. The 30B-X cylinder will fit into the Protective Structural Packaging (PSP) already certified under Docket No. 71-9362. A 30B-10 cylinder (10% enrichment) holds 3527 lbs. of UF_6 while a 30B-20 cylinder (20% enrichment) has a capacity of 2756 lbs. of UF_6. DNT presented the results of the structural and criticality analyses (including the benchmark evaluation with the TSUNAMI code).

Staff asked if this design is meant to respond to all foreseeable industry needs, or if there may be eventually a need for other designs in future applications. DNT said that their concept, presented at the last PATRAM conference, was well received by industry, that it favors a sound transportation scheme by minimizing the number of shipments due to the high capacity of the 30B-X cylinder, and that it features the same handling needs and tools than for the existing 30B cylinder (identical dimensions and maximum gross weight, identical valve and plug, similar washing/cleaning procedures than for 30B cylinder. There was no question from the public during the public session.

The structural and criticality evaluations of the DN30-X package were discussed during the proprietary session. Staff asked a number of questions on (i) the criticality control system (CCS) restraints and their welding, (ii) their modeling and the potential for an uneven distribution of UF_6 during actual loading conditions, (iii) the selection of experiments for the criticality analysis and if there had been a similar analysis performed for an unmoderated system. Staff said that part of the focus during the review of the DNT application will be on the validation of the criticality cases with similar benchmarks.

Staff made no regulatory commitment during the meeting.

Docket No. 71-9388
EPID - L-2020-NEW-0003

Enclosures:
1. Meeting Attendees
2. Presentation

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ADAMS Package No.: ML21049A332 *** via email**

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NAME	*PSaverot		*SFigueroa		JMcKirgan		
DATE	02/18/2021		02/18/2021		02/22/2021		

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Meeting Between DAHER NUCLEAR TECHNOLOGIES (DNT)
and the
Nuclear Regulatory Commission
February 17, 2021
Meeting Attendees

NRC/NMSS/DSFM

Pierre Saverot
Andrew Barto
Jonathan Marcano
John McKirgan
Marilyn Diaz
Tom Boyce
Bernard White

DNT

Yara van Wijk
Maik Hennebach
Franz Hilbert
Sebastian Fels

DOT

Richard Boyle
Mike Conroy

URENCO

Wyatt Patchett
Joel Kruehler

PUBLIC

Benjamin Holtzman (NEI)
Lance Sterling (Certrec Corporation)