



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

March 7, 2024

MEMORANDUM TO: Cinthya Roman, Deputy Director
Division of Fuel Management
Office of Nuclear Material Safety
and Safeguards

FROM: Pierre Saverot, Project Manager
Storage and Transportation Licensing Branch
Division of Fuel Management
Office of Nuclear Material Safety
and Safeguards

A handwritten signature in black ink, appearing to read "Pierre Saverot".

Signed by Saverot, Pierre
on 03/07/24

SUBJECT: SUMMARY OF FEBRUARY 28, 2024, MEETING WITH ORANO
NCS

Background

On February 28, 2024, an Observation Public Meeting was held by teleconference between the U.S. Nuclear Regulatory Commission (NRC) staff and representatives from ORANO NCS to discuss a future amendment request for the Model No. DN30 package.

This Observation Public Meeting was noticed on February 7, 2024 (Agencywide Documents Access and Management System [ADAMS] Accession No. ML24037A192). The attendance list and the publicly available presentation slides are provided as Enclosure Nos. 1 and 2, respectively.

Discussion

ORANO NCS requested this meeting to discuss a proposed amendment request for the Model No. DN30 package (Docket No. 71-9362). This package is designed to transport UF₆ with an enrichment content up to 5 wt. %.

CONTACT: Pierre Saverot, NMSS/DFM
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During their review of the DN30 French certificate of compliance, the Institute for Radiation Protection and Nuclear Safety (IRSN) found that the 30B valve was not adequately modeled. Although the model had the correct geometry of 30B cylinder for the drop and fire tests, including the geometry of valve and plug, the gap between the valve and the valve housing was not correct. ORANO NCS explained that the housing of the valve protecting device was added to the DN30 design to improve its thermal safety after the experimental drop test program had already been completed and, as such, none of the simulations performed for the structural analysis of the DN30 package explicitly considered the housing, as it has no structural safety function. ORANO NCS explained their decision to remove the housing from the DN30 package design and that it does not affect any of the already performed simulations.

Regarding the admissible component temperatures of the DN30 package, the maximum temperature of 131°C (267.8°F) in the currently approved safety analysis report (SAR) is based solely on the possible pressure build-up of melted UF₆ contents. As a consequence, it is just a limit for the average UF₆ temperature. In the pending revised SAR, a more differentiated approach will be used and the admissible temperature of the 30B cylinder and its components will be based on the lowest admissible temperature of its components, i.e., 183°C (361.4°F) (solidus temperature of the tin lead solder of the valve and plug). As such, ORANO NCS explained there will still be a safety margin of 39°C (70°F) below the 183°C (361.4°F) limit for the 30B cylinder based on fire tests.

ORANO NCS concluded that the removal of the housing increases global safety margins so that the valve contact is not an issue anymore, that it has only small thermal effect due to efficiency of thermal insulation. ORANO will “prove” there is no purpose for the housing (which was originally needed) or the intumescent paint. ORANO will say that the testing with the microtherm blanket in the PSP would also prove there is no need for the intumescent paint because the inside shell never gets hot enough to activate the intumescent paint.

Staff said it understood well the changes to be implemented in this amendment request and asked, since ORANO relies on the 3rd thermal test, to (i) clearly point out the differences in the temperature limits in the SAR, and (ii) justify them between the 3rd fire test results and the results of the modified analysis without the housing.

ORANO NCS will submit the amendment request (new appendices, new thermal chapter, updated drawings, updated operating instructions related to the housing, updated changes between the prototype that was tested and the DN30 series of packages, impact of removing the housing) by the end of March and indicated a preferred need date for June 2024.

No regulatory commitments were made during this meeting.

Docket No. 71-9362
EPID L-2024-LLA-0010

Enclosures:

1. Meeting Attendees
2. Thermal Evaluation DN 30 without Housing
3. Impact of Removal of House on Structural Analysis of DN30 Package
4. 30B Valve Geometry in DN30 Safety Assessment

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DOCUMENT DATE: March 7, 2024

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OFFICE	NMSS/DFM	NMSS/DFM	NMSS/DFM
NAME	PSaverot	SFiguroa	YDiaz-Sanabria
DATE	03/5/2024	3/6/2024	3/7/2024

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**Meeting Between ORANO NCS
and the
U.S. Nuclear Regulatory Commission (NRC)
February 28, 2024
Meeting Attendees**

NRC/NMSS/ Division of Fuel Management (DFM)

Pierre Saverot
JoAnn Ireland
Yong Kim

ORANO NCS

Sebastian Fels
Simon Froehlicher
Maik Hennebach
Florian Shoner
Yara Van Wijk

ORANO

Peter Vescovi
Jay Thomas

PNNL

Brian Koeppel
Antonio Rigato