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January 14, 2019
FS-19-0003

ATTN: Document Control Desk
Director, Division of Spent Fuel Management
Office of Nuclear Material Safety and Safeguards
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: 1) 1105-SD Package License Application, Docket No. 71-9379
and EPID No. L-2018-NEW-0002
2) Letter from Norma Garcia-Santos to Philip Noss of December
21, 2018, transmitting a Request for Supplemental Information
(RSI)

Dear Ms. Garcia-Santos:

Orano Federal Services LLC (Orano FS) hereby submits a response to the RSI referenced above. RSI-1(a) requests a listing of the documents constituting the licensing basis for the 1105-SD package. Attachment A gives the requested information for the six calculations and two certification test documents that forms the safety basis for the 435-B package, and which apply fully to the 1105-SD package. All applicable computer analysis files are associated with specific calculation documents, and consequently are not separately listed. All calculations, reports, and computer files are available in Orano's Records Management system. There are no ADAMS accession numbers associated with these documents.

RSI-1(b) requests a description of the quality assurance program applicable to the 1105-SD package. The safety basis for the 1105-SD package was developed under Orano's NRC-approved 10 CFR 71, Subpart H quality assurance program. The NRC Quality Assurance Program Approval number is 0938, granted to Orano Federal Services LLC Quality Assurance Program document No. FS-QA-PMD-001.

The following observation was also included in the referenced document:

- OBS-Co-1** Provide the following descriptions in the Model No. 1105-SD safety analysis report (SAR):
- a. standards used to certify personnel that develops and approves written leakage rate testing procedures;
 - b. qualifications of personnel that develops and approves written leakage rate testing procedures;

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- c. standards used to certify personnel that performs leakage rate testing; and
- d. qualifications of personnel that performs leakage rate testing.

Sections 7.4, 8.1.4, and 8.2.2 of the Model No. 1105-SD application includes a description of leakage rate testing procedures. In these sections, the staff noted that the applicant does not mention the following regarding nondestructive testing (NDT) personnel:

1. if only personnel certified as an ASNT Level III examiner for leakage testing shall develop and approve written leakage rate testing procedures, and;
2. if personnel performing leakage rate testing shall be qualified and certified in accordance with Recommended Practice No. SNT-TC-1A, "Personnel Qualification and Certification in Nondestructive Testing."

Please specify whether the written leakage rate testing procedures are developed, approved, and performed by qualified and certified NDT personnel for leakage testing in accordance with industry standards to ensure that the package is designed, constructed, and prepared for shipment to comply with the requirements in 10 CFR Part 71.

In response, Orano notes that both Chapter 7 and Chapter 8 of the 1105-SD SAR reference ANSI N14.5 – 2014, *Leakage Tests on Packages for Shipment*.

Section 8.8 of this standard states in part:

Leakage rate testing procedures shall be approved by personnel whose qualification and certification in the nondestructive method of leak testing includes certification by a nationally recognized society at a level appropriate to the writing and/or review of leakage rate testing procedures.

The phrase "...certification by a nationally recognized society..." implies certification to the standards of the American Society for Nondestructive Testing (ASNT), which is the only applicable nationally recognized society in this country. Similarly, "...at a level appropriate to the writing and/or review of leakage rate testing procedures" implies certification to Level III. Thus, the requirement in the SAR to follow ANSI N14.5 – 2014 includes the requirement that leakage rate testing procedures must be approved by personnel certified by ASNT as a Level III test technician.

Similarly, Section 8.8 of ANSI N14.5 – 2014 states in part:



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Leakage rate testing shall be performed by personnel that are qualified and certified in accordance with the requirements of [Reference 5], in Section 9.

Reference 5 of ANSI N14.5 is ASNT Recommended Practice No. SNT-TC-1A. Thus, the requirement in the SAR to follow ANSI N14.5 – 2014 includes the requirement that leakage rate testing must be performed by personnel qualified and certified in accordance with ASNT SNT-TC-1A.

In summary, the answer to questions #1 and #2 above is: written leakage rate testing procedures for the 1105-SD package are developed, approved, and performed by qualified and certified NDT personnel for leakage testing in accordance with industry standards. For these reasons, Orano believes no further detail, other than reference to ANSI N14.5 – 2014, is necessary in the text of the SAR.

Orano also notes that all text relating to leakage rate testing in the 1105-SD SAR is identical to the text in Revision 4.3 of the 435-B SAR except that the edition of ANSI N14.5 is updated to the latest 2014 edition. Revision 5 of the 435-B SAR, currently under NRC review, also references the 2014 edition.

Should you have any questions regarding this submittal, please contact me at (233) 552-1321 or via email (phil.noss@orano.group).

Yours Truly,

Philip Noss
Licensing Manager
Orano Federal Services LLC

Copies:

Attention: Norma Garcia-Santos, Project Manager
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Richard J. Smith, Project Manager, Orano Federal Services LLC

Attachment A, Table of Licensing Basis Documents Applicable to the 1105-SD



January 14, 2019
FS-19-0003

Attachment A

**Table of Licensing Basis Documents Applicable to the 1105-SD
Docket 71-9379, L-2018-NEW-0002**

Discipline	Document Number	Documentum Number	Title	Revision No.	Date	Description
Structural (Free Drop)	01916.01.C004.01-07	CALC-3006973-000	435-B Drop Analysis	0	5/14/12	This calculation forms the basis of SAR Section 2.12.4. The objective of this calculation is to demonstrate the 435-B certification test orientations are the worst-cases and appropriate for the licensing basis. The primary method this will be demonstrated is by comparison of the package free drop accelerations between the simulations and certification testing. The certification test orientations must be the worst case and conservatively demonstrate the structural Normal Conditions of Transport (NCT) and Hypothetical Accident Condition (HAC) free drop safety effectiveness of the package. If a particular packaging attribute or result cannot be confirmed by the certification testing, then the simulation results in this calculation may be utilized to demonstrate additional package safety for the license application. This analysis includes computer files.



January 14, 2019
FS-19-0003

Discipline	Document Number	Documentum Number	Title	Revision No.	Date	Description
Structural (Weight)	01916.01.C004.01-01	CALC-3003541-000	435-B Weight Calculation	0	3/1/12	This calculation forms a partial basis for SAR Chapter 2. This calculation finds the weight, position of the center of gravity and the mass moment of inertia of the 435-B transport package loaded with the lodgment / long term storage shield and the inner container / shielded device for both the certification test unit and the production unit. This analysis includes computer files.
Structural (Buckling)	01916.01.C004.01-02	CALC-3003967-000	Buckling Analysis for LANL-B Transport Package (LANL-B later became known as the 435-B.)	0	2/7/11	This calculation forms a partial basis for SAR Chapter 2. This calculation evaluates the LANL-B transport package for buckling from HAC immersion case required by 10 CFR §71.73(c)(6). This calculation shows that the design is adequate to support the applied loads. This analysis includes computer files.
Thermal	01916.01.C004.01-08	CALC-3007066-005	Thermal and Gas Generation Analysis for the 435-B Package	5	1/25/17	This calculation forms the basis of SAR Chapter 3. This calculation determines the thermal and gas generation safety basis for the 435-B transport package used to transport radioactive sealed sources in the Long Term Storage Shield (LTSS) or shielded devices containing their sources. This analysis includes computer files.



January 14, 2019
FS-19-0003

Discipline	Document Number	Documentum Number	Title	Revision No.	Date	Description
Shielding	01916.01.C004.01-05	CALC-3006640-001	LANL-B Device Shielding Analysis (LANL-B later became known as the 435-B.)	1	4/11/12	This calculation forms the basis of SAR Section 5.5.3. This calculation presents the shielding analysis for the 435-B cask when transporting irradiation devices. The calculated dose rates are below the non-exclusive use regulatory limits. This analysis includes computer files.
Shielding	01916.01.C004.01-06	CALC-3006972-001	435-B LTSS Shielding Analysis	1	9/10/15	This calculation forms the basis of SAR Chapter 5. This calculation presents the shielding analysis for the 435-B cask when transporting an LTSS. A number of different source isotopes are examined to determine the maximum allowable activity level based on dose rate and decay heat limits. The calculated dose rates are below the regulatory limits. This analysis includes computer files.
Certification Test	PKG-TP-SPC-008	SPC-3004633-002	435-B Package Certification Test Procedure	2	11/2/11	This document defines the requirements for the certification tests to be performed on the 435-B package with a Long Term Storage Shield (LTSS) and Shielded Device Payload.
Certification Test	PKG-TR-SPC-011	SPC-3006329-001	435-B Package Certification Test Report	1	4/17/12	This document forms the basis for SAR Section 2.12.3. This document contains the results and data from the certification tests of the 435-B package, which occurred during November and December 2011.