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	MATERIALS LICENSE	

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, *Code of Federal Regulations*, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the U.S. Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee	
1. TRISO-X, LLC	4. Amendment: 0
2. 151 Lafayette Drive, Suite 300 Oak Ridge, TN 37830	5. Expiration Date: February 13, 2066
	6. Docket No. 07007027

7. **Byproduct, source, and/or special nuclear material**	8. **Chemical and/or physical form**	9. **Maximum amount that licensee may possess at any one time under this license**	10. **Authorized use**
A. U-235 contained in uranium enriched to less than 20%, and daughter products	A. Any chemical or physical form	A. [SEE SENSITIVE CONDITIONS]	A. Fuel fabrication
B. Contaminants may include transuranic materials and fission products	B. Any chemical or physical form	B. [SEE SENSITIVE CONDITIONS]	B. Fuel fabrication
C. U-235 at any enrichment	C. Any chemical or physical form	C. 350 grams	C. For use in measurement and detection instruments, check sources, and instrument response standards.
D. U-235 at any enrichment	D. Any chemical or physical form	D. 350 grams	D. For use in research and development studies.
E. Plutonium	E. Sealed source	E. 25 millicuries	E. For counting and calibration standards or for use in research and development studies.

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F. Any special nuclear material	E. Sealed and unsealed radioactive sources	E. 1 microcurie	E. For use in measurement and detection instruments, check sources, instrument response standards, and counting and calibration standards.

11. Authorized place of use: The TRISO X FFF located at 170 Renovare Boulevard, Oak Ridge, Tennessee 37830.

12. This license shall be deemed to contain two sections: Safety Conditions and Safeguards Conditions. These sections are part of the license, and the licensee is subject to compliance with all listed conditions in each section.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date: See digital signature

By: SHANA HELTON
Digitally signed by SHANA HELTON
Date: 2026.02.13 10:14:22 -05'00'

Shana Helton

Division of Fuel Management
Office of Nuclear Material
Safety and Safeguards

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SECTION 1.0 - SAFETY CONDITIONS

S-1 Authorized Use: For use in accordance with statements, representations, and conditions in the license application, dated February 10, 2026 (ML26040A336); or as revised, pursuant to Title 10 of the Code of Federal Regulations (10 CFR) 70.32, 10 CFR 70.72, or the license conditions of S-7.

S-2 The licensee shall maintain and execute the Site Emergency Plan for the TRISO-X Fuel Fabrication Facility, dated November 20, 2025 (ML25324A322), non-public, or as further revised by the licensee consistent with 10 CFR 70.32(i).

S-3 The Licensee is granted an exemption from the criticality monitoring requirements in 10 CFR 70.24(a) for (1) special nuclear material (SNM) stored in authorized shipping containers in compliance with 10 CFR Part 71 and which are in isolated arrays no more reactive than that approved for transport, and (2) SNM stored in authorized shipping containers in compliance with 10 CFR Part 71 on a transport vehicle in a configuration no more reactive than that approved for transport.

S-4 The Licensee is granted an exemption to the labeling requirements in 10 CFR 20.1904(a) and shall instead post entrances to each building in which radioactive materials are stored, used, or handled with a sign stating, “Every container or vessel in this area may contain radioactive materials.”

S-5 The Licensee is granted an exemption to the requirements in 10 CFR Part 20, Appendix B, related to the use of dose coefficients for determining derived air concentrations and annual limit on intake values, and shall use, in accordance with approved procedures, the derived air concentration and annual limit on intake values based on dose coefficients published in International Commission on Radiation Protection Publication No. 68 (ICRP-68), “Dose Coefficients for Intakes of Radionuclides by Workers,” in lieu of the values in Appendix B of 10 CFR Part 20.

The Licensee is also granted an exemption to the requirements in 10 CFR 20.1003, related to the use of the organ dose weighting factors for effective dose assessments, and shall use, in accordance with approved procedures, the tissue weighting factors listed in the International Commission on Radiation Protection Publication No. 60 (ICRP-60) for effective dose assessments listed in ICRP-68 methodologies, in lieu of the organ dose weighting factors in 10 CFR 20.1003.

S-6 Notwithstanding the requirements of 10 CFR 70.50(b)(1), the licensee is granted an exemption from the requirement to report unplanned contamination events when the following conditions are met:

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- The event occurs in a restricted area in a building which is maintained inaccessible to the public by multiple access controls.
- The area was controlled for contamination before the event occurred, the release of radioactive material is under control, and no contamination has spread outside the area.
- Radiation safety personnel trained in contamination control are readily available.
- Equipment and facilities that may be needed for contamination control are readily available.
- The otherwise reportable unplanned contamination event is documented in the licensee's Corrective Action Program.

S-7 Notwithstanding the requirements of 10 CFR 70.61(e), structures used to prevent or mitigate natural phenomena-initiated accident sequences may be credited for compliance with the performance requirements in paragraphs (b), (c), and (d) of 10 CFR 70.61 without being designated as an item relied on for safety, if all of the following conditions are met:

- The structures are designed and maintained to meet the design criteria over the life of the facility in accordance with the license that demonstrate the risks of external-initiated accident sequences are limited per the performance requirements in paragraphs (b), (c), and (d) of 10 CFR 70.61;
- The credit for compliance with the performance requirements is only applied to the structural stability safety function of a structure and does not apply to any other safety function of the structure;
- The structural stability safety function will be maintained under the Configuration Management Program, consistent with the requirements in 10 CFR 70.72;
- The following requirements are maintained for the structural stability safety function:
    - Apply 10 CFR 70.62(c)(1)(vi) and 70.65(b)(6) to provide a description of the NPH events and associated design criteria used to provide the structural stability safety function of the process building Main Force Resisting System (MFRS) in the integrated safety analysis (ISA),
    - Apply 10 CFR 70.62(d) to ensure management measures are identified and applied to ensure the structural stability safety function is maintained available and reliable,
    - Apply 10 CFR 70.64(a)(1) to ensure the design is developed, recorded, and implemented in accordance with management measures,
    - Apply 10 CFR 70.64(a)(8) to provide adequate inspection, testing, and maintenance,
    - Consistent with the reporting process described in 10 CFR Part 70 Appendix A(b), provide a twenty-four hour report following loss or degradation of the structural stability safety function of the process buildings MFRS that results in failure to meet the performance requirements.

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S-8 The licensee may make changes to the License Application (LA) and/or to supporting documents referenced in the license without prior NRC approval provided the change meets the following provisions:

- The change does not decrease the level of effectiveness of the design basis as described in the LA.
- The change does not result in a departure from the methods of evaluation described in the LA used in establishing the design basis for safety functions or their validation.
- The change does not result in a degradation of safety.
- The change does not affect compliance with applicable regulatory requirements.
- The change does not conflict with an existing license condition.
- Records of such changes shall be maintained, including management approval and a technical justification that provides the bases for the determination that prior NRC approval is not required.
- Within 30 days after the end of the calendar year in which the change is implemented, the licensee shall submit the revised chapters of the License Application to the Director, NMSS, using an appropriate method listed in 10 CFR 70.5(a), and a copy to the appropriate NRC Regional Office.

S-9 The licensee shall provide the Commission with 90-days advance notice of its plan to introduce uranium in any module of the TRISO-X process buildings. Introduction of this material shall not occur until the NRC provides written notice to the licensee that the NRC has completed an operational readiness review (ORR). The ORR will verify that: (1) commitments in the License Application have been fulfilled; (2) management measures for IROFS have been implemented; (3) the new facilities and processes have been constructed in accordance with design requirements and startup plans reflect as-built conditions; and (4) other actions necessary for safe operations are complete, including but not limited to: (a) the process safety information and integrated safety analysis summaries are updated for all nodes of the fuel fabrication facility to reflect final design; (b) the items relied on for safety are fully defined (e.g., completed boundary packages) and implemented based on as-built conditions (e.g., set points established); (c) the plans referenced in the license (e.g., Fundamental Nuclear Material Control Plan, emergency plan, physical protection plans) are updated and appropriately documented, in accordance with the applicable provisions of 10 CFR 70.32, to reflect the as-built conditions and any changes needed for operations; and (d) a license amendment to update the financial assurance instruments for the decommissioning of the TRISO-X facility has been approved by the NRC staff.

S-10 The licensee shall provide to NRC for review an updated Decommissioning Funding Plan at least six months prior to the planned date for obtaining licensed material for the first process building, and subsequently, after resolution of any NRC comments, final executed copies of the financial assurance instruments shall be provided to NRC, at least 30 days prior to receipt of licensed material. The amount of the financial assurance instrument shall be updated to current year dollars and include any applicable changes to the decommissioning cost estimate. The same shall apply at least six months prior to the planned date for obtaining licensed material for the second process building.

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SECTION 2.0 - SAFEGUARDS CONDITIONS

SG-1 The licensee shall maintain and comply with the provisions of "TRISO-X Fuel Fabrication Facility Fundamental Nuclear Material Control Plan," Revision 3, transmitted by letter dated November 20, 2025 (ML25324A324), non-public, pursuant to 10 CFR 74.41. Any further revision to this plan shall be made only in accordance with, and pursuant to, either the provisions of 10 CFR 70.32(c) or 70.34.

SG-2 Prior U.S. Government approval is needed before foreign obligations can be reassigned from E1 to E2 material, as described in 10 CFR 74.15, "Nuclear material transaction reports," and Appendix F of NUREG/BR-0006, "Instructions for Completing Nuclear Material Transaction Reports."

SG-3 The licensee shall comply with the provisions of the Category II fixed site security plan entitled, "TRISO-X Fuel Fabrication Facility Physical Security Plan," Revision 4, transmitted by letter dated January 31, 2025, and as it may be further revised in accordance with the provisions of 10 CFR -73.67(d), 70.32(e) or 70.34.

SG-4 The licensee shall follow the SNM transport security provisions in Section 6.5 within the physical security plan referenced in SG-3, and as it may be further revised in accordance with the provisions of 10 CFR 73.67(g), 70.32(d) or 70.34.

SG-5 Notwithstanding the requirements of 10 CFR 73.67(d) and (e) for physical protection of SNM of moderate strategic significance at fixed-sites and in-transit, respectively; an exemption is granted to utilize the requirements for SNM of low strategic significance in 10 CFR 73.67(f) and (g)(1) to (3) in lieu of 10 CFR 73.67(d) and (e) under the following conditions:

- Onsite storage of finished fuel pebble products isolated in trailers awaiting transport;
- The transport of the finished fuel pebble products to licensed reactor sites; and
- Fresh fuel returns from a licensed reactor site back to the TRISO-X fuel fabrication facility.