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[7590-01-P]

NUCLEAR REGULATORY COMMISSION

[Docket No. 07007027; License No. SNM-7007; EAF-RII-2026-0052; NRC-2026-5050]

In the Matter of TRISO-X, LLC; Confirmatory Order Modifying License

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice; issuance.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is issuing a Confirmatory Order to TRISO-X, LLC (the licensee), as a result of a successful Alternative Dispute Resolution (ADR) mediation. On June 9, 2026, the NRC notified the licensee of an apparent violation being considered for escalated enforcement. The apparent violation involved the implementation of management measures to ensure the design basis supporting the structural stability function of the TX-1 process building's main force resisting system (MFRS) was maintained during construction. The NRC provided the licensee with the opportunity to respond through a written response, a Pre-decisional Enforcement Conference (PEC), or ADR. The licensee elected to participate in ADR, and mediation sessions were held on July 29 and August 20, 2026, during which the parties reached an Agreement in Principle. As part of the agreement, the licensee committed to taking certain corrective actions and consented to the issuance of a Confirmatory Order to make those commitments legally binding and resolve the apparent violation without further enforcement action by the NRC. The Confirmatory Order is effective upon issuance.

DATES: The Confirmatory Order was issued on October 21, 2026.

ADDRESSES: Please refer to Docket ID NRC-2026-5050 when contacting the NRC about the availability of information regarding this document. You may obtain publicly available information related to this document using any of the following methods:

- **Federal Rulemaking Website:** Go to https://www.regulations.gov and search for Docket ID NRC-2026-5050. Address questions about Docket IDs in

Regulations.gov to Bridget Curran; telephone: 301-415-1003; email: Bridget.Curran@nrc.gov. For technical questions, contact the individual(s) listed in the "For Further Information Contact" section of this document.

- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly available documents online in the ADAMS Public Documents collection at https://www.nrc.gov/reading-rm/adams.html. To begin the search, select "Begin ADAMS Public Search." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, at 301-415-4737, or by email to PDR.Resource@nrc.gov.
- **NRC's PDR:** The PDR, where you may examine and order copies of publicly available documents, is open by appointment. To make an appointment to visit the PDR, please send an email to PDR.Resource@nrc.gov or call 1-800-397-4209 or 301-415-4737, between 8 a.m. and 4 p.m. eastern time (ET), Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Carmen Rivera, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; telephone: 301-415-0296; email: Carmen.Rivera@nrc.gov.

SUPPLEMENTARY INFORMATION: The text of the order is attached.

Authority: 42 U.S.C. 2011 *et seq.*

Dated: November 13, 2026.

For the Nuclear Regulatory Commission.

Jamie Pelton,
Deputy Director,
Office of Nuclear Material Safety and Safeguards.

Attachment – CONFIRMATORY ORDER MODIFYING LICENSE

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	Docket No. 07007027
	)	
TRISO-X, LLC	)	License No. SNM-7007
	)	
TRISO-X Facility	)	EAF-RII-2026-0052

CONFIRMATORY ORDER MODIFYING LICENSE
(EFFECTIVE UPON ISSUANCE)

I

TRISO-X, LLC (TRISO-X) is the holder of Special Nuclear Material License No. SNM-7007, issued on February 13, 2026, by the U.S. Nuclear Regulatory Commission (NRC or Commission) pursuant to Part 70 of *Title 10 of the Code of Federal Regulations* (10 CFR). The license authorizes TRISO-X to receive, acquire, possess, transfer, and use byproduct, source, and special nuclear material in accordance with conditions specified therein. The facility is located on the licensee's site in Oak Ridge, Tennessee.

This Confirmatory Order is the result of an agreement reached during Alternative Dispute Resolution (ADR) mediation sessions conducted on July 29, 2026, and August 20, 2026.

II

From March 9 through 12, 2026, the NRC conducted an inspection of construction activities at the TRISO-X site. As discussed in NRC Inspection Report 07007027/2026-006, dated June 9, 2026, the NRC identified an apparent violation associated with TRISO-X’s failure to apply effective management measures, specifically, design control measures, to ensure the design basis supporting the structural stability function of the TX-1 process building’s main force resisting system (MFRS) was maintained during construction.

In accordance with the NRC Enforcement Policy, the apparent violation was considered for escalated enforcement action on the basis of the information available to

the NRC at the time of the inspection, including the following:

1. On or before January 19, 2026, the licensee approved (and later implemented) welding processes that could not meet the design specifications for the special concentrically braced frames (SCBF) forming part of the MFRS. Specifically, the licensee implemented welding processes for the construction of SCBF diagonal braces that did not achieve the qualified weld size necessary to meet the requirements of the construction code specified in the licensing basis of the facility. Consequently, multiple SCBF welds were constructed such that their available design strength was less than the strength required to meet the applicable construction code.
2. From approximately January 28, 2026, to February 16, 2026, and from February 20, 2026, to March 10, 2026, the licensee failed to conduct visual weld inspections of the structural steel in the MFRS of the TX-1 process building as required by the applicable construction code. Specifically, the field welded connections of the SCBF diagonal braces were not inspected by an authorized special inspector prior to and during welding on a random daily basis as required by the construction code. As a result, the quality of the welding operations performed over the period identified above was not verified to be in conformance with the design basis and quality requirements.

By letter dated June 9, 2026, the NRC notified TRISO-X of the results of the inspection with an opportunity to: (1) attend a Pre-decisional Enforcement Conference, (2) provide a written response to the NRC, or (3) participate in an ADR mediation session in an effort to resolve these concerns.

In response to the NRC's offer, TRISO-X requested the use of the NRC's ADR process to achieve resolution of the apparent violation. On July 29, 2026, and August 20, 2026, the NRC and TRISO-X participated in ADR mediation sessions conducted by a professional mediator, arranged through Cornell University's Institute on Conflict

Resolution. The ADR process uses a neutral mediator, who has no decision-making authority, to assist the parties in resolving disputes. The ADR mediation sessions resulted in an Agreement in Principle concerning resolution of the apparent violation. This Confirmatory Order reflects the terms agreed upon through the ADR process and makes TRISO-X's commitments legally binding.

III

During the ADR sessions, TRISO-X and the NRC reached a preliminary settlement agreement called an Agreement in Principle.

The elements of the agreement include the following:

A. Definitions:

1. *Braced-frame intersection welds*, as used in the Agreement in Principle and this Confirmatory Order, refers to the existing flare bevel groove field welds on the TX-1 process building that connect the diagonal braces of the special concentrically braced frames (SCBF) at their intersection, which form part of the building's Main Force Resisting System (MFRS). These are the welds characterized by the NRC as nonconforming with the original design with respect to their effective throat size and the welding process selected for their installation, as discussed in NRC Inspection Report 07007027/2026-006, dated June 9, 2026.

B. Pre-ADR Corrective Actions:

Prior to the ADR sessions, TRISO-X completed the corrective actions and enhancements listed below to address the noncompliance and preclude recurrence of the apparent violation. The NRC agreed to give TRISO-X credit for these corrective actions, subject to verification through NRC inspection.

1. TRISO-X completed an apparent cause analysis for the braced-frame intersection welds using the 5-Why Cause & Effect Method to identify the cause of the potential weld nonconformance. The analysis identified the apparent cause as a shop drawing detail error which resulted in

braced-frame intersection welds that did not meet the original design requirements.

2. TRISO-X conducted an extent of condition review which revealed that the issue described in Item III.A.1 of this Confirmatory Order included ten (10) SCBF in the MFRS of the TX-1 process building.
3. On April 3, 2026, TRISO-X issued a verbal Stop Work to the construction contractor for structural welding (referred to in the contractor documentation as ‘x-bracing’ welding operations) to prevent any further potential nonconforming welds, followed by a formal confirmation of Stop Work via letter, dated April 5, 2026.
4. TRISO-X performed an analysis and calculation of the braced-frame intersection welds which determined that a 7/16-inch effective throat meets the design requirements (i.e., demand-to-capacity ratios less than 1). TRISO-X updated the applicable design drawings to specify the use of 7/16-inch effective throat instead of the original 5/8-inch to ensure compliance with revised design requirements.
5. TRISO-X developed a Performance Qualification Record (PQR) for the Weld Procedure Specification (WPS) used in the installation of the braced-frame intersection welds to validate the WPS welding parameters, specifically to support an effective throat larger than that specified in American Institute of Steel Construction (AISC) Standard 360-16, “*Specification for Structural Steel Buildings*,” Table J2.2, for the welding processes used to make the welds.
6. TRISO-X developed and implemented a qualified Ultrasonic Testing (UT) procedure for the braced-frame intersection welds to measure the as-built effective throats. TRISO-X performed UT on 100% of the braced-frame intersection welds under Nonconformance Report NCR-15. The UT results indicated that the effective throats of all braced-frame intersection welds measured equal to or greater than a 7/16-inch, meeting the updated design

requirements.

7. TRISO-X completed an extent of condition review for all partial penetration groove welds in the TX-1 process building design drawings to identify other structural welding locations where incorrect design parameters were specified. TRISO-X identified some design drawings for pipe support welds that potentially could have led to a similar issue with the shop drawing detailing process. These design drawings were revised to clarify the design intent.
8. The Engineer of Record conducted an extent of condition review of TX-1 design and shop drawings issued at the time of discovery of the vendor shop drawing error that led to the braced-frame intersection welds nonconformance. The extent of condition review concluded that this issue was localized and did not extend to other areas of the project. TRISO-X and the Engineer of Record addressed the shop drawing review process and communicated to personnel the application of internal review standards and the lessons learned related to this event.
9. TRISO-X directed the construction contractor to revise vendor shop drawings applicable to the braced-frame intersection welds to update weld size and remove incorrect joint designation. Additionally, TRISO-X directed the construction contractor to revise vendor shop drawings for the shop welds at the intersection of the SCBF and confirmed that the WPS used for their installation met the original design requirements.
10. TRISO-X revised the construction contractor Site Specific Quality Plan to implement enhancements to the Nonconformance Report (NCR)/Corrective Action Process; integration of work planning documentation and proper identification of required inspections; and protocols for ensuring consistency of reviews of sub-suppliers.
11. TRISO-X revised the structural steel Inspection and Test Plan (ITP) to include

additional witness and hold points and clear notification requirements for TRISO-X to ensure code-required special inspections are conducted prior to, during, and after welding activities.

12. Effective May 21, 2026, TRISO-X implemented a periodic Quality Control (QC) coordination meeting between TRISO-X and the appropriate TX-1 construction project contractors/subcontractors.
13. On July 7, 2026, TRISO-X held a meeting with the construction contractor and the Engineer of Record to confirm the roles and responsibilities of Special Inspectors under the 2018 Edition of the International Building Code (IBC-2018), Chapter 17. A follow-up letter documenting these responsibilities was issued on July 13, 2026, and signed by all parties.
14. TRISO-X developed a weld tracking mechanism to clearly communicate the status of the braced-frame intersection welds to internal stakeholders including Engineering, Regulatory, and Construction groups.
15. On July 15, 2026, TRISO-X performed a walkdown and visual inspection of SCBF components located on the first level of the TX-1 process building. The status of the as-built welds and open NCRs was reviewed and the results documented in a report.
16. On July 22, 2026, TRISO-X provided training to the Quality Assurance (QA) Special Inspectors to reinforce expectations for inspections, documentation, and escalation of field issues to management. This training is documented in TRISO-X CR-2026-0022-CA04.
17. On June 11, 2026, TRISO-X issued a letter to the construction contractor requiring replacement of the Quality Control subcontractor due to unacceptable performance of assigned duties for QC inspection of construction activities.
18. TRISO-X implemented a new procedure, TX0-PRO-QAS-0171, “*Construction Surveillance Program*,” to formalize the QA requirements for surveillance and

oversight of contractors performing construction activities. The procedure includes two forms, Construction Surveillance Report and ITP Review Checklist, to improve consistency of documentation.

19. TRISO-X developed specific work packages for SCBF welding to incorporate the updated ITPs.
20. TRISO-X revised TXF-QAS-PLN-0016, "*Construction Quality Plan*," to include references to additional oversight requirements and execution expectations that are implemented through new procedure TX0-PRO-QAS-0171, "*Construction Surveillance Program.*"

C. Corrective Actions Agreed to in ADR:

1. TRISO-X shall demonstrate, with respect to the structural stability safety function for natural phenomena hazards (NPH), that the existing braced-frame intersection welds meet the performance objectives and quality requirements of the structural codes and standards documented in TRISO-X materials license SNM-7007 and the license application incorporated by reference therein. The forces, limit states, material strengths, and resistance factors used in the design of the welded connections shall be consistent with the intended performance of the connection and the assumptions used in the design of the structure. This demonstration shall be made available to the NRC for inspection within 30 days of the issuance date of this Confirmatory Order. If TRISO-X chooses to rework or replace individual components of the braced-frame or the entire braced-frame, including welded connections, then this corrective action item (Item III.C.1) does not apply to those components. The demonstration for existing conditions shall include, at a minimum, the following:
    a. Technical justification demonstrating that the braced-frame intersection welds meet all applicable design requirements with the revised 7/16-inch effective throat

b. The WPS and associated PQRs that support the use of an effective throat larger than specified in AISC 360-16, Table J2.2, for the braced-frame intersection welds
c. Qualification records (performance demonstration) of the UT procedure used for measuring the as-built effective throat of the braced-frame intersection welds
d. Training and qualification records of the personnel who performed the UT examination of the braced-frame intersection welds
e. Examination reports for the UT performed on the braced-frame intersection welds in accordance with the qualified UT procedure
f. Training and qualification records of individuals performing QA oversight of the WPS qualification and UT examinations
g. QA oversight records of WPS qualification and the UT examination performed on the braced-frame intersection welds

2. If the NRC's review of the information provided for Item III.C.1 above concludes that TRISO-X did not successfully demonstrate that the structural stability safety function of the TX-1 process building and its braced-frame intersection welds is maintained, TRISO-X shall repair, replace, or redesign all braced-frame intersection welds to restore such function in accordance with TRISO-X materials license SNM-7007 and the license application incorporated by reference therein. TRISO-X agrees to complete this item within 6 months of the date of the NRC correspondence documenting the conclusions about Item III.C.1 of this Confirmatory Order.
3. For any future structural field welding, including rework or replace, of SCBF's flare bevel groove welds, TRISO-X will install the field welds using welding processes that conform with AISC 360-16 without exceeding the effective throat limitations in AISC 360-16, Table J2.2.
4. Within 6 months of the issuance date of this Confirmatory Order, TRISO-X

will perform additional inspections (e.g. visual observation, non-destructive examination (NDE), or other methods as appropriate) of the completed SCBF fillet welds in the TX-1 process building which were not inspected by the welding Special Inspector before and during welding as required by AISC 341-16, "*Seismic Provisions for Structural Steel Buildings.*" TRISO-X will demonstrate that the inspection technique(s) and the results provide reasonable assurance that the fillet welds conform with the applicable design and installation requirements as specified in IBC-2018 and the applicable standards referenced therein. TRISO-X will correct any nonconforming fillet welds in accordance with the 2015 Edition of the American Welding Society (AWS) Code D1.1, "*Structural Welding Code–Steel.*" TRISO-X agrees to track implementation of the inspections and any necessary corrective actions under its NCR process including a timeline for completion. If TRISO-X chooses to rework or replace any of the braced-frames or components of the SCBF, including fillet welded connections, then this corrective action item (Item III.C.4) does not apply to those components.

5. Within 6 months of the issuance date of this Confirmatory Order, TRISO-X will evaluate its existing corrective action program (CAP) against the guidance in NRC Regulatory Guide (RG) 3.75, *"Corrective Action Programs for Fuel Cycle Facilities*," Section C, to identify and correct any gaps in its CAP with respect to the construction of the TX-1 process building. The evaluation will be formally documented, and the findings, if any, will be entered into TRISO-X's CAP for tracking and resolution, as determined to be appropriate by the licensee. The use of NRC RG 3.75 is intended to serve as a reference to help guide the evaluation and this provision is not intended to make compliance with NRC RG 3.75 a regulatory or licensing requirement.
6. Within 12 months of the issuance date of this Confirmatory Order, TRISO-X will perform external benchmarking at another facility within the U.S. nuclear

industry, either under construction or operating, to identify actionable best practices related to design control and contractor oversight activities and implement those actions for construction activities at the TRISO-X facility. TRISO-X will capture the results of this benchmarking activity in its CAP and assign action items to track their completion.

7. Within 12 months of the issuance date of this Confirmatory Order, TRISO-X will conduct an effectiveness review of the corrective actions implemented to prevent issues similar to the design control errors leading to the issuance of this Confirmatory Order. The effectiveness review, its conclusions, and resulting follow-up actions will be entered into TRISO-X's CAP for tracking and resolution.
8. Within 3 months of the issuance date of this Confirmatory Order, TRISO-X will revise its Contractor Management procedure to:
    a. implement a sitewide construction surveillance plan to clearly describe the activities that TRISO-X construction oversight personnel shall perform and witness. With respect to oversight activities, and as applicable to the circumstances, the Contractor Management procedure will address the following:
        i. assessments, surveillances, audits, and inspections
        ii. identification of nonconformances
        iii. development and monitoring of corrective actions
        iv. review of design and field work records
        v. witness points and hold points
        vi. review of contractor procedures
        vii. review of contractor qualifications
        viii. verification that items or services conform to procurement requirements before acceptance
        ix. verification of record retention to demonstrate compliance with

project requirements

x. identification of organizational interfaces and division of responsibilities

b. correct issues with roles and responsibilities presented in the original revision, and

c. establish appropriate monitoring metrics for specific construction activities identified during work package review.

9. Within 2 months after placement of the second level concrete floor slabs, TRISO-X will conduct a walkdown and visually inspect the SCBF components located on the second level of the TX-1 process building. The status of the as-built welds and open NCRs will be reviewed and the results documented in a report. TRISO-X agrees to track any necessary corrective actions under its NCR process including a timeline for completion and to complete remediation work to ensure compliance with applicable codes and design requirements.
10. Within 3 months of the issuance date of this Confirmatory Order, TRISO-X will perform an extent of condition review to identify other code-required special inspections (e.g., welding, bolting, and protected zones) of the TX-1 process building MFRS and confirm that these were completed and documented in accordance with the applicable code requirements. TRISO-X agrees to track any necessary corrective actions under its NCR process including a timeline for completion and to complete remediation work to ensure compliance with applicable codes and design requirements.
11. Within 6 months of the issuance date of this Confirmatory Order, TRISO-X will provide Nuclear Safety Culture training to the TRISO-X Construction Oversight, Engineering, Regulatory, and Quality teams, including applicable construction contractor management personnel and QC/QA construction inspectors. The training will reinforce common expectations for quality, conservative decision-making, procedural compliance, questioning attitude,

problem identification and resolution, Stop-Work authority, and raising safety concerns. TRISO-X agrees to maintain training materials and attendance records.

12. Within 6 months of the issuance date of this Confirmatory Order, TRISO-X will provide training for laborers and craft workers to reinforce that work execution must follow build-to-print practices using approved design documents, that work quality is essential, and that work should be stopped when there is uncertainty about the path forward. The training will be formalized and maintained as a requirement for onboarding of new laborers and craft workers involved in the construction of the TRISO-X process buildings.
13. Within 6 months of the issuance date of this Confirmatory Order, TRISO-X will conduct a lessons-learned presentation for the TRISO-X team (TRISO-X and applicable X-energy employees, contractors, and subcontractors) summarizing the apparent violation, contributing causes, corrective actions, and programmatic improvements. The presentation will provide formal internal lessons-learned to help ensure that personnel involved understand the circumstances that led to the apparent violation, reinforce expectations for future work, promote implementation of the corrective actions across the organization, and improve preparation and planning for installation of process equipment and items relied on for safety (IROFS). TRISO-X agrees to maintain presentation materials and attendance records.
14. Within 12 months of the issuance date of this Confirmatory Order, TRISO-X will prepare a formal lessons-learned report summarizing the apparent violation, causes, corrective actions, and programmatic improvements; distribute the report to applicable TRISO-X and X-energy personnel; and present the lessons learned during an internal company briefing such as an All-Hands meeting. TRISO-X will maintain an official copy of the report in its

records.

15. Within 12 months of the issuance date of this Confirmatory Order, TRISO-X will develop a case study to highlight cross-cutting issues. This case study will be incorporated and maintained in training for new TRISO-X employees.
16. TRISO-X agrees to provide a lessons-learned presentation at the March 2027 NRC Regulatory Information Conference (RIC), or other mutually agreed forum if the RIC is not available, regarding its experience with construction of the TRISO-X facility, including the issues giving rise to this Confirmatory Order. The presentation will address, as appropriate, lessons learned regarding construction of a new fuel cycle facility; the selection, oversight, and management of contractors with limited or no prior nuclear industry experience; development and implementation of programs and processes as a new NRC licensee; and other regulatory, programmatic, and construction-related lessons learned during facility construction.

D. Agreement by Agency:

Based on the completed corrective actions described in Section III.B above, and the commitments described in Section V below:

1. The NRC agrees not to issue a notice of violation for all matters discussed in the NRC's letter to TRISO-X, dated June 9, 2026 (NRC Inspection Report 07007027/2026-006, EAF-RII-2026-0052).
2. The NRC agrees not to impose a civil penalty for all matters discussed in the NRC's letter to TRISO-X, dated June 9, 2026 (NRC Inspection Report 07007027/2026-006, EAF-RII-2026-0052).
3. The NRC agrees not to consider this Confirmatory Order as an escalated enforcement action in the civil penalty assessment process for future enforcement cases involving the TRISO-X facility licensed under SNM-7007.

On October 5, 2026, TRISO-X consented to issuing this Confirmatory Order with the commitments, as described in Section V below. TRISO-X further agreed that this

Confirmatory Order is to be effective upon issuance, the agreement memorialized in this Confirmatory Order settles the matter between the parties, and that TRISO-X has waived its right to a hearing.

IV

I find that TRISO-X's completed actions, as described in Section III above, combined with the commitments as set forth in Section V are acceptable and necessary, and I conclude that with these commitments the public's health and safety are reasonably assured. In view of the foregoing, I have determined that public health and safety require that TRISO-X's commitments be confirmed by this Confirmatory Order. Based on the above and TRISO-X's consent, this Confirmatory Order is effective upon issuance.

Within 30 days of the issuance of this Confirmatory Order, and every three (3) months thereafter until completion of the commitments specified in Section V, TRISO-X shall submit a letter to the NRC describing the status of each action required by Section V and summarizing the actions taken during the reporting period. For each completed action, TRISO-X shall identify the date of completion and indicate that the action is available for NRC inspection and verification. TRISO-X may notify the NRC of completed actions and their availability for inspection at any time during the required three-month reporting intervals.

The NRC may inspect completed actions, including, as appropriate, corrective actions described in Section III.B and commitments required by Section V, to verify TRISO-X's compliance with this Confirmatory Order. The results of any such inspections, including the NRC's conclusions regarding compliance with the applicable provisions of this Confirmatory Order, will be documented in NRC inspection reports.

Unless otherwise specified, all documents required to be submitted to the NRC as a result of this Confirmatory Order will be submitted to U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with a copy to the Director, Division of Decommissioning, Fuels, ISFSI, and Transportation.

TRISO-X will retain a copy of all documentation and records necessary to demonstrate compliance with this Confirmatory Order for three (3) years after completion of the TX-1 process building construction, or as consistent with regulatory requirements, whichever is longer.

V

Accordingly, pursuant to Sections 81, 161b, 161i, 161o, 182 and 186 of the Atomic Energy Act of 1954, as amended, and the Commission's regulations in 10 CFR 2.202 and 10 CFR Part 70, IT IS HEREBY ORDERED, EFFECTIVE UPON ISSUANCE, THAT LICENSE NUMBER SNM-7007 IS MODIFIED AS FOLLOWS:

1. TRISO-X shall demonstrate, with respect to the structural stability safety function for NPH, that the existing braced-frame intersection welds meet the performance objectives and quality requirements of the structural codes and standards documented in TRISO-X materials license SNM-7007 and the license application incorporated by reference therein. The forces, limit states, material strengths, and resistance factors used in the design of the welded connections shall be consistent with the intended performance of the connection and the assumptions used in the design of the structure. This demonstration shall be made available to the NRC for inspection within 30 days of the issuance date of this Confirmatory Order. If TRISO-X chooses to rework or replace individual components of the braced-frame or the entire braced-frame, including welded connections, then Item V.1 of this Confirmatory Order does not apply to those components. The demonstration for existing conditions shall include, at a minimum, the following:
    a. Technical justification demonstrating that the braced-frame intersection welds meet all applicable design requirements with the revised 7/16-inch effective throat
    b. The WPS and associated PQRs that support the use of an effective throat larger than specified in AISC 360-16, Table J2.2, for the

braced-frame intersection welds

c. Qualification records (performance demonstration) of the UT procedure used for measuring the as-built effective throat of the braced-frame intersection welds
d. Training and qualification records of the personnel who performed the UT examination of the braced-frame intersection welds
e. Examination reports for the UT performed on the braced-frame intersection welds in accordance with the qualified UT procedure
f. Training and qualification records of individuals performing QA oversight of the WPS qualification and UT examinations
g. QA oversight records of WPS qualification and the UT examination performed on the braced-frame intersection welds

2. If the NRC's review of the information provided for Item V.1 above concludes that TRISO-X did not successfully demonstrate that the structural stability safety function of the TX-1 process building and its braced-frame intersection welds is maintained, TRISO-X shall repair, replace, or redesign all braced-frame intersection welds to restore such function in accordance with TRISO-X materials license SNM-7007 and the license application incorporated by reference therein. TRISO-X agrees to complete this item within 6 months of the date of the NRC correspondence documenting the conclusions about Item V.1.
3. For any future structural field welding, including rework or replace, of SCBF's flare bevel groove welds, TRISO-X will install the field welds using welding processes that conform with AISC 360-16 without exceeding the effective throat limitations in AISC 360-16 Table J2.2.
4. Within 6 months of the issuance date of this Confirmatory Order, TRISO-X will perform additional inspections (e.g. visual observation, NDE, or other methods as appropriate) of the completed SCBF fillet welds in the TX-1

process building which were not inspected by the welding Special Inspector before and during welding as required by AISC 341-16, “Seismic Provisions for Structural Steel Buildings.” TRISO-X will demonstrate that the inspection technique(s) and the results provide reasonable assurance that the fillet welds conform with the applicable design and installation requirements as specified in IBC-2018 and the applicable standards referenced therein. TRISO-X will correct any nonconforming fillet welds in accordance with the 2015 Edition of AWS D1.1, “Structural Welding Code–Steel.” TRISO-X agrees to track implementation of the inspections and any necessary corrective actions under its NCR process including a timeline for completion. If TRISO-X chooses to rework or replace any of the braced-frames or components of the SCBF, including fillet welded connections, then Item V.4 of this Confirmatory Order does not apply to those components.

5. Within 6 months of the issuance date of this Confirmatory Order, TRISO-X will evaluate its existing CAP against the guidance in NRC RG 3.75, “*Corrective Action Programs for Fuel Cycle Facilities*,” Section C, to identify and correct any gaps in its CAP with respect to the construction of the TX-1 process building. The evaluation will be formally documented, and the findings, if any, will be entered into TRISO-X’s CAP for tracking and resolution, as determined to be appropriate by the licensee. The use of NRC RG 3.75 is intended to serve as a reference to help guide the evaluation and this provision is not intended to make compliance with RG 3.75 a regulatory or licensing requirement.
6. Within 12 months of the issuance date of this Confirmatory Order, TRISO-X will perform external benchmarking at another facility within the U.S. nuclear industry, either under construction or operating, to identify actionable best practices related to design control and contractor oversight activities and implement those actions for construction activities at the TRISO-X facility.

TRISO-X will capture the results of this benchmarking activity in its CAP and assign action items to track their completion.

7. Within 12 months of the issuance date of this Confirmatory Order, TRISO-X will conduct an effectiveness review for the corrective actions implemented to prevent issues similar to the design control errors leading to the issuance of this Confirmatory Order. The effectiveness review, its conclusions, and resulting follow-up actions will be entered into TRISO-X's CAP for tracking and resolution.
8. Within 3 months of the issuance date of this Confirmatory Order, TRISO-X will revise its Contractor Management procedure to:
    a. implement a sitewide construction surveillance plan to clearly describe the activities that TRISO-X construction oversight personnel shall perform and witness. With respect to oversight activities, and as applicable to the circumstances, the Contractor Management procedure will address the following:
        i. assessments, surveillances, audits, and inspections
        ii. identification of nonconformances
        iii. development and monitoring of corrective actions
        iv. review of design and field work records
        v. witness points and hold points
        vi. review of contractor procedures
        vii. review of contractor qualifications
        viii. verification that items or services conform to procurement requirements before acceptance
        ix. verification of record retention to demonstrate compliance with project requirements
        x. identification of organizational interfaces and division of responsibilities

b. correct issues with roles and responsibilities presented in the original revision, and

c. establish appropriate monitoring metrics for specific construction activities identified during work package review.

9. Within 2 months after placement of the second level concrete floor slabs, TRISO-X will conduct a walkdown and visually inspect the SCBF components located on the second level of the TX-1 process building. The status of the as-built welds and open NCRs will be reviewed and the results documented in a report. TRISO-X agrees to track any necessary corrective actions under its NCR process including a timeline for completion and to complete remediation work to ensure compliance with applicable codes and design requirements.

10. Within 3 months of the issuance date of this Confirmatory Order, TRISO-X will perform an extent of condition review to identify other code-required special inspections (e.g., welding, bolting, and protected zones) of the TX-1 process building MFRS and confirm that these were completed and documented in accordance with the applicable code requirements. TRISO-X agrees to track any necessary corrective actions under its NCR process including a timeline for completion and to complete remediation work to ensure compliance with applicable codes and design requirements.

11. Within 6 months of the issuance date of this Confirmatory Order, TRISO-X will provide Nuclear Safety Culture training to the TRISO-X Construction Oversight, Engineering, Regulatory, and Quality teams, including applicable construction contractor management personnel and QC/QA construction inspectors. The training will reinforce common expectations for quality, conservative decision-making, procedural compliance, questioning attitude, problem identification and resolution, stop-work authority, and raising safety concerns. TRISO-X agrees to maintain training materials and attendance

records.

12. Within 6 months of the issuance date of this Confirmatory Order, TRISO-X will provide training for laborers and craft workers to reinforce that work execution must follow build-to-print practices using approved design documents, that work quality is essential, and that work should be stopped when there is uncertainty about the path forward. The training will be formalized and maintained as a requirement for onboarding of new laborers and craft workers involved in the construction of the TRISO-X process buildings.
13. Within 6 months of the issuance date of this Confirmatory Order, TRISO-X will conduct a lessons-learned presentation for the TRISO-X team (TRISO-X and applicable X-energy employees, contractors, and subcontractors) summarizing the apparent violation, contributing causes, corrective actions, and programmatic improvements. The presentation will provide formal internal lessons-learned to help ensure that personnel involved understand the circumstances that led to the apparent violation, reinforce expectations for future work, promote implementation of the corrective actions across the organization, and improve preparation and planning for installation of process equipment and IROFS. TRISO-X agrees to maintain presentation materials and attendance records.
14. Within 12 months of the issuance date of this Confirmatory Order, TRISO-X will prepare a formal lessons-learned report summarizing the apparent violation, causes, corrective actions, and programmatic improvements; distribute the report to applicable TRISO-X and X-energy personnel; and present the lessons learned during an internal company briefing such as an All-Hands meeting. TRISO-X will maintain an official copy of the report in its records.
15. Within 12 months of the issuance date of this Confirmatory Order, TRISO-X

will develop a case study to highlight cross-cutting issues. This case study will be incorporated and maintained in training for new TRISO-X employees.

16. TRISO-X will provide a lessons-learned presentation at the March 2027 NRC RIC, or other mutually agreed forum if the RIC is not available, regarding its experience with construction of the TRISO-X facility, including the issues giving rise to this Confirmatory Order. The presentation will address, as appropriate, lessons learned regarding construction of a new fuel cycle facility; the selection, oversight, and management of contractors with limited or no prior nuclear industry experience; development and implementation of programs and processes as a new NRC licensee; and other regulatory, programmatic, and construction-related lessons learned during facility construction.

This agreement is binding upon successors and assigns of TRISO-X, LLC. The Chief Nuclear Materials Inspector, Office of Nuclear Material Safety and Safeguards, may, in writing, relax or rescind any of the above conditions upon demonstration by TRISO-X or its successors of good cause.

VI

In accordance with 10 CFR 2.202 and 10 CFR 2.309, any person adversely affected by this Confirmatory Order, other than TRISO-X, may request a hearing within thirty (30) calendar days of the date of issuance of this Confirmatory Order. Where good cause is shown, consideration will be given to extending the time to request a hearing. A request for extension of time must be made in writing to the Chief Nuclear Materials Inspector, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and include a statement of good cause for the extension.

All documents filed in NRC adjudicatory proceedings, including a request for hearing, a petition for leave to intervene, any motion or other document filed in the proceeding prior to the submission of a request for hearing or petition to intervene

(hereinafter “petition”), and documents filed by interested governmental entities participating under 10 CFR 2.315(c), must be filed in accordance with the NRC’s E-Filing rule (72 FR 49139; August 28, 2007, as amended at 77 FR 46562, August 3, 2012). The E-Filing process requires participants to submit and serve all adjudicatory documents over the internet, or in some cases to mail copies on electronic storage media. Participants may not submit paper copies of their filings unless they seek an exemption in accordance with the procedures described below. Detailed guidance on making electronic submissions may be found in the Guidance for Electronic Submissions to the NRC and on the NRC Web site at https://www.nrc.gov/site-help/e-submittals.html.

To comply with the procedural requirements of E-Filing, at least 10 days prior to the filing deadline, the participant should contact the Office of the Secretary by e-mail at hearing.docket@nrc.gov, or by telephone at 301-415-1677, to (1) request a digital identification

(ID) certificate, which allows the participant (or its counsel or representative) to digitally sign submissions and access the E-Filing system for any proceeding in which it is participating; and (2) advise the Secretary that the participant will be submitting a petition or other adjudicatory document (even in instances in which the participant, or its counsel or representative, already holds an NRC-issued digital ID certificate). Based upon this information, the Secretary will establish an electronic docket for the hearing in this proceeding if the Secretary has not already established an electronic docket.

Information about applying for a digital ID certificate is available on the NRC’s public Web site at https://www.nrc.gov/site-help/e-submittals/getting-started.html. Once a participant has obtained a digital ID certificate and a docket has been created; the participant can then submit adjudicatory documents. Submissions must be in Portable Document Format (PDF). Additional guidance on PDF submissions is available on the NRC’s public website at https://www.nrc.gov/site-help/electronic-sub-ref-mat.html. A filing is considered complete at the time the document is submitted through the NRC’s E-Filing system. To be timely, an electronic filing must be submitted to the E-Filing system

no later than 11:59 p.m. Eastern Time on the due date. Upon receipt of a transmission, the E-Filing system time-stamps the document and sends the submitter an e-mail notice confirming receipt of the document. The E-Filing system also distributes an e-mail notice that provides access to the document to the NRC's Office of the General Counsel and any others who have advised the Office of the Secretary that they wish to participate in the proceeding, so that the filer need not serve the document on those participants separately. Therefore, applicants and other participants (or their counsel or representative) must apply for and receive a digital ID certificate before adjudicatory documents are filed so that they can obtain access to the documents via the E-Filing system.

A person filing electronically using the NRC's adjudicatory E-Filing system may seek assistance by contacting the NRC's Electronic Filing Help Desk through the "Contact Us" link located on the NRC's public Web site at https://www.nrc.gov/site-help/e-submittals.html, by e-mail to MSHD.Resource@nrc.gov, or by a toll-free call at 1-866-672-7640. The NRC Electronic Filing Help Desk is available between 9 a.m. and 6 p.m., Eastern Time, Monday through Friday, excluding federal holidays.

Participants who believe that they have a good cause for not submitting documents electronically must file an exemption request, in accordance with 10 CFR 2.302(g), with their initial paper filing stating why there is good cause for not filing electronically and requesting authorization to continue to submit documents in paper format. Such filings must be submitted in accordance with 10 CFR 2.302(b)-(d). Participants filing adjudicatory documents in this manner are responsible for serving the document on all other participants. Filing is considered complete by first-class mail as of the time of deposit in the mail, or by courier, express mail, or expedited delivery service upon depositing the document with the provider of the service. A presiding officer, having granted an exemption request from using E-Filing, may require a participant or party to use E-Filing if the presiding officer subsequently determines that the reason for granting the exemption from use of E-Filing no longer exists.

Documents submitted in adjudicatory proceedings will appear in the NRC's electronic hearing docket which is available to the public at https://ehd.nrc.gov/home unless excluded pursuant to an order of the Commission or the presiding officer. If you do not have an NRC-issued digital ID certificate as described above, click "cancel" when the link requests certificates and you will be automatically directed to the NRC's electronic hearing dockets where you will be able to access any publicly available documents in a particular hearing docket. Participants are requested not to include personal privacy information, such as social security numbers, home addresses, or personal phone numbers in their filings, unless an NRC regulation or other law requires submission of such information. For example, in some instances, individuals provide home addresses in order to demonstrate proximity to a facility or site. With respect to copyrighted works, except for limited excerpts that serve the purpose of the adjudicatory filings and would constitute a Fair Use application, participants are requested not to include copyrighted materials in their submission.

The Commission will issue a notice or order granting or denying a hearing request or intervention petition, designating the issues for any hearing that will be held and designating the Presiding Officer. A notice granting a hearing will be published in the *Federal Register* and served on the parties to the hearing.

If a person other than TRISO-X or its successors requests a hearing, that person shall set forth with particularity the manner in which their interest is adversely affected by this Confirmatory Order and shall address the criteria set forth in 10 CFR 2.309(d) and (f).

If a hearing is requested by a person whose interest is adversely affected, the Commission will issue an order designating the time and place of any hearings. If a hearing is held, the issue to be considered at such hearing shall be whether this Confirmatory Order should be sustained.

In the absence of any request for hearing, or written approval of an extension of time in which to request a hearing, the provisions specified in Section V above shall be

final 30 days from the date of this Confirmatory Order without further order or proceedings. If an extension of time for requesting a hearing has been approved, the provisions specified in Section V shall be final when the extension expires if a hearing request has not been received.

For the U. S. Nuclear Regulatory Commission

/RA/

Jamie Pelton, Deputy Office Director
and Chief Nuclear Materials Inspector
Office of Nuclear Material Safety
and Safeguards

Dated the 21st day of October

2026.

Attachments: As stated

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