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*ELECTRONIC DELIVERY*

September 23, 2022

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

- References:
- 1) Docket No. 70-7027
  - 2) X-energy letter from Jennifer Wheeler to Director, Office of Nuclear Material Safety and Safeguards, "Request for an Exemption Pursuant to 10 CFR 70.17 and 10 CFR 51.6 from the Requirements of 10 CFR 51.60(a) and 70.21(f) for Timing of Submittal of the Environmental Report for the TRISO-X Fuel Fabrication Facility," dated February 4, 2022
  - 3) NRC letter from Director, Division of Fuel Management, Office of Nuclear Material Safety and Safeguards, to Jennifer Wheeler, "Approval of TRISO-X Exemption Request to Support Submittal of the Safety and Safeguards Analysis Report in Advance of the Environmental Report," dated March 17, 2022
  - 4) TRISO-X letter from Jennifer Wheeler to Director, Office of Nuclear Material Safety and Safeguards, "TRISO-X Fuel Fabrication Facility License Application Submittal," dated April 5, 2022

**Subject: TRISO-X Fuel Fabrication Facility Environmental Report Submittal**

In accordance with Title 10 Code of Federal Regulations (CFR) Sections 70.5(a) *Communications*, 70.21(f) *Filing*, and 51.60(a) *Environmental report – materials licenses*, TRISO-X, LLC (TRISO-X) hereby submits an Environmental Report (ER) that supports the application submitted on April 5, 2022 (Reference 4) to possess and use special nuclear material in the TRISO-X Fuel Fabrication Facility. The facility will be located in Roane County, Tennessee, within the western limits of the City of Oak Ridge. The NRC granted a temporary exemption from the requirements of 10 CFR 70.21(f) and 51.60(a) to allow submittal of the ER separately and up to one year after official receipt of the safety and safeguards portions of the license application (Reference 3).

**Summary of this Submittal**

As required by 10 CFR 51.60(a), the ER contains the information specified in 10 CFR 51.45 to support the NRC's evaluation of the environmental impacts of licensing the TRISO-X Fuel Fabrication Facility to meet requirements of the National Environmental Policy Act of 1969. Site specific seasonal data was collected during a one-year period spanning portions of 2021 and 2022. The ER is organized in accordance with NUREG-1748, *Environmental Review Guidance for*

*Licensing Actions Associated with NMSS Programs*, dated August 2003. The following documents are enclosed with this letter.

**Environmental Report for the TRISO-X Fuel Fabrication Facility** as required by 10 CFR 70.21(f) and 51.60(a), is considered *Non-Proprietary*, and reflects guidance provided in NUREG-1748, *Environmental Review Guidance for Licensing Actions Associated with NMSS Programs*, dated August 2003.

For the purposes of electronic submittal through the NRC Electronic Information Exchange (EIE) System, the file names and extensions that make up three Enclosures are listed below.

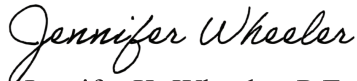
- Enclosure 1: TRISO-X Environmental Report Chapters 1-2 (publicly available)  
Filename: 001 TRISO-X Environmental Report Chapters 1-2 Part 1 of 3.pdf, 103MB
- Enclosure 2: TRISO-X Environmental Report Chapter 3 (publicly available)  
Filename: 002 TRISO-X Environmental Report Chapter 3 Part 2 of 3.pdf, 363MB
- Enclosure 3: TRISO-X Environmental Report Chapters 4-10 (publicly available)  
(NOTE: Provided in separate EIE submittal due to aggregate file size exceeding 500MB)  
Filename: 003 TRISO-X Environmental Report Chapters 4-10 Part 3 of 3.pdf, 74MB

As discussed with your staff, the City of Oak Ridge initiated a rezoning of the site to better align the type of manufacturing planned at the TRISO-X Fuel Fabrication Facility with the City's Zoning Ordinance industrial district definitions. The rezoning from IND-2 to IND-3 was fully approved on September 12, 2022, by the Council of the City of Oak Ridge, Tennessee, via Ordinance Number 19-2022, and amending the zoning map effective September 22, 2022. The ER sections that discuss zoning of the site will be updated accordingly in the next revision.

Finally, also as discussed with your staff, a copy of the Phase 1 Cultural Resource Survey report that supports the ER is being submitted under a separate cover letter due to the requirements of Section 304 of the National Historic Preservation Act of 1966, as amended.

If there are questions or if additional information is required, please contact me at (865) 850-0893 or [jwheeler@x-energy.com](mailto:jwheeler@x-energy.com).

Sincerely,



Jennifer K. Wheeler, P.E.  
Director, Regulatory Affairs

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Copy: Mr. Matthew Bartlett, US NRC, NMSS  
TRISO-X Regulatory Records File