

30 April 2024

2024-XE-NRC-010

Project No. 99902071

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001**Submission of X Energy, LLC (X-energy) Xe-100 Licensing Topical Report Transient and Safety Analysis Methodology**

The purpose of this letter is to submit the subject licensing topical report (LTR) to the U.S. Nuclear Regulatory Commission (NRC). This LTR provides the approach to develop an evaluation model and analysis methods used for transient and safety analyses for the Xe-100 reactor. It is provided for NRC review and approval as indicated in the report and is expected to be referenced in future Xe-100 licensing applications. The specific review schedule will be coordinated by X-energy and NRC project managers.

The subject LTR contains proprietary information. As such, X-energy requests that Enclosure 3 be withheld from public disclosure per 10 CFR 2.390, "Public inspections, exemptions, requests for withholding." Redacted information is identified using [[]]^P. An affidavit certifying the basis for the request to withhold Enclosure 3 from public disclosure is included as Enclosure 1. Proprietary information has been omitted from the LTR provided in Enclosure 2 that should be made publicly available.

This letter contains no commitments. If you have any questions or require additional information, please contact Jessica Maddocks at jmaddocks@x-energy.com.

Sincerely,



Stephen Vaughn
Director, Licensing
X Energy, LLC



X Energy, LLC
801 Thompson Avenue
Rockville, MD 20852
+1 301.358.5600

Enclosures:

- 1) Affidavit Supporting Request for Withholding from Public Disclosure (10 CFR 2.390)
- 2) "Xe-100 Licensing Topical Report Transient and Safety Analysis Methodology" (Public)
- 3) "Xe-100 Licensing Topical Report Transient and Safety Analysis Methodology (Non-Public)

cc:

X-energy, LLC

David Bannister
Steve Miller
Martin van Staden
Jessica Maddocks

U.S. Nuclear Regulatory Commission

Michael Wentzel
Adrian Muñiz
Ondra Dukes

U.S. Department of Energy – Office of Clean Energy Demonstrations:

Jeff Ciocco
David Yarwood