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**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
WASHINGTON, D.C. 20555-0001

July 18, 2025

Mr. Michael Dudek, Licensing Manager  
XENITH™ Microreactor Program  
X Energy, LLC.  
530 Gaither Road, Suite 700  
Rockville, MD, 20850

SUBJECT: X ENERGY, LLC. - REPORT REGARDING THE REGULATORY AUDIT OF THE  
"XENITH™ ANALYTICAL METHODS TOPICAL REPORT"  
(EPID L-2024-TOP-0027)

Dear Mr. Dudek:

By letters dated July 12, 2024, and May 13, 2025 (Agencywide Documents Access and Management System (ADAMS) Accession Nos.: ML24194A129 and ML25133A253, respectively), X Energy, LLC (X-energy), submitted Revision 1 and Revision 2, respectively, of the topical report (TR) titled, "XENITH Analytical Methods Licensing Topical Report," for the U.S. Nuclear Regulatory Commission (NRC) staff's review and approval. The topical report (TR) describes the development of Analytical Methods for X-energy's Next-Generation Integrated Transportable High-Temperature (XENITH™) transportable nuclear power plant.

The NRC staff's report for the regulatory audit conducted in connection with its review of the TR is provided as an enclosure. The NRC staff did not make any licensing conclusions or findings as a result of this audit, but the report is part of the administrative record of the NRC staff's review of the TR and may provide information supporting the NRC staff's safety evaluation. The audit followed the plan dated November 12, 2024, (ML24312A348) unless otherwise noted in the enclosed report. This report constitutes the final report for the audit.

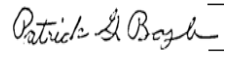
The enclosure to this letter contains controlled unclassified and proprietary information. When separated from the enclosure, this letter is DECONTROLLED.

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If you have any questions, please contact me at (301) 415-3936 or via email at [Patrick.Boyle@nrc.gov](mailto:Patrick.Boyle@nrc.gov) .

Sincerely,

 Signed by Boyle, Patrick  
on 07/18/25

Patrick Boyle, Project Manager  
Advanced Reactors Licensing Branch 2  
Division of Advanced Reactors and Non-Power  
Production and Utilization Facilities  
Office of Nuclear Reactor Regulation

Docket No.: 99902118

Enclosure:  
As stated

cc: Distribution via X- Energy, LLC. GovDelivery (Letter)

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SUBJECT: X ENERGY, LLC. - REPORT REGARDING THE REGULATORY AUDIT OF THE  
“XENITH™ ANALYTICAL METHODS TOPICAL REPORT”  
(EPID L- 2024- TOP- 0027) DATED: JULY 18, 2025

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**ADAMS Accession Nos.:**

**Package: ML25161A058**

**Letter: ML25175A211**

**Enclosure: ML25175A210**

**NRR-106**

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