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2023-XE-NRC-036

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 GOTHIC and Flownex Analysis Codes Qualification**

The purpose of this letter is to submit the subject Licensing Topical Report to the U.S. Nuclear Regulatory Commission (NRC) on behalf of X Energy, LLC (X-energy). This Licensing Topical Report provides the theory associated with GOTHIC and Flownex base models, and the specific theory utilized for analyses of the Xe-100 reactor technology. 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 continue to be developed with X-energy's NRC project manager. X-energy has determined this report is available for unrestricted release.

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

Sincerely,

A handwritten signature in black ink, appearing to read 'T. Chapman', written over a horizontal line.

Travis A. Chapman  
Director, Reactor Licensing & Regulatory Affairs  
X Energy, LLC



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Enclosures:

- 1) "Xe-100 Licensing Topical Report GOTHIC and Flownex Analysis Code Qualification" (Public)

cc:

X-energy, LLC

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

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