



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

15 March 2023

2023-XE-NRC-009

Project No. 99902071

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

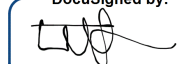
Submittal of X Energy, LLC (X-energy) Xe-100 Slide Deck, "Control Room Operator Qualification Discussion"

The purpose of this letter is to submit the slides for a requested meeting regarding Control Room Operator Qualifications.

This presentation contains commercially sensitive, proprietary information and, as such, we are requesting that this information be withheld from public disclosure in accordance with 10 CFR 2.390, "Public inspections, exemptions, request for withholding," paragraph (a)(4). Enclosure 1 is the Proprietary, Non-Public version of the slides which contains nonredacted sensitive, proprietary information that is appropriately marked. Enclosure 2 provides an affidavit with the basis for this request. Enclosure 3 provides a redacted copy of the slides that contains non-proprietary, publicly available content.

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

Sincerely,

DocuSigned by:

F053E736949E4C3...

Travis A. Chapman
Director, Reactor Licensing & Regulatory Affairs, Xe-100
Program
X Energy, LLC

cc:

X-energy, LLC
George Vanderheyden
Steve Miller
Martin van Staden



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U.S. Nuclear Regulatory Commission

William Jessup
Stephanie Devlin-Gill
Michael Orenak

U.S. Department of Energy

Jeff Ciocco
Carl Friesen

Enclosures:

- 1) X Energy, LLC Xe-100 Slide Deck, "Control Room Operator Qualification Discussion" (Proprietary)
- 2) Affidavit Supporting Request for Withholding from Public Disclosure (10 CFR 2.390)
- 3) X Energy, LLC Xe-100 Slide Deck, "Control Room Operator Qualification Discussion" (Non-Proprietary)



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Enclosure 1

X Energy, LLC
Xe-100 Slide Deck
“Xe-100 Control Room Operator Qualification Discussion”
(Proprietary)



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Enclosure 2

Affidavit Supporting Request for Withholding from Public Disclosure

(10 CFR 2.390)



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Affidavit Supporting Request for Withholding from Public Disclosure (10 CFR 2.390)

I, Travis A. Chapman, Director, Reactor Licensing & Regulatory Affairs, Xe-100 Program, of X Energy, LLC (X-energy), do hereby affirm and state:

1. I am authorized to execute this affidavit on behalf of X-energy. I am further authorized to review information submitted to or discussed with the Nuclear Regulatory Commission (NRC) and apply for the withholding of information from disclosure. The purpose of this affidavit is to provide the information required by 10 CFR 2.390(b) in support of X-energy's request for proprietary treatment of certain commercial information submitted in "Xe-100 Control Room Operator Qualification Discussion" from myself to the NRC which provides a proprietary slide deck (Enclosure 1) for a requested closed meeting.
2. I have knowledge of the criteria used by X-energy in designating information as sensitive, proprietary, or confidential.
3. Pursuant to the provision of paragraph (b)(4) of 10 CFR 2.390, the following is furnished for consideration by the NRC in determining whether the information sought to be withheld from public disclosure should be withheld.
 - a. The information sought to be withheld from public disclosure in Enclosure 1 is owned by X-energy. This information was prepared with the explicit understanding that the information itself would be treated as proprietary and confidential and has been held in confidence by X-energy.
 - b. The information sought to be protected in the Enclosure 1 is not available to the public.
 - c. The information contained in Enclosure 1 is of the type that is customarily held in confidence by X-energy, and there is a rational basis for doing so. The information X-energy is requesting to be withheld from public disclosure includes commercial information related to the licensing strategies and regulatory analysis associated with our Xe-100 high-temperature, gas-cooled, pebble bed advanced reactor design that directly impact our business development and commercialization efforts. X-energy limits access to this proprietary and confidential information in order to maintain confidentiality.
 - d. Enclosure 1 contains information about the planned activities of X-energy related to the development and submittal of documents for regulatory review, forecast design development timeframes, pre-decisional licensing pathway information, and commercialization strategy for our Xe-100 advanced reactor. Public disclosure of the information contained in Enclosure 1 would create substantial harm to X-energy because it



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would reveal valuable business information regarding X-energy's competitive expectations, assumptions, current position and strategy. Its use by a competitor could substantially improve the competitor's position in the design, manufacture, licensing, construction, and operation of a similar competing product.

- e. The Proprietary Information contained within Enclosure 1 is transmitted to the NRC in confidence and under the provisions of 10 CFR 2.390; it is to be received in confidence by the NRC. The information is properly marked.

I declare under the penalty of perjury that the foregoing is true and correct. Executed on March 15, 2023.

Sincerely,

DocuSigned by:

A handwritten signature in black ink, appearing to read 'T. Chapman', enclosed within a blue DocuSign signature box.

F053E736949E4C3...

Travis Chapman

Director, Reactor Licensing & Regulatory Affairs

Xe-100 Program

X Energy, LLC



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Enclosure 3

**X Energy, LLC
Xe-100 Slide Deck
“Xe-100 Control Room Operator Qualification Discussion”
(Non-Proprietary)**



Xe-100 Control Room Operator Qualification Discussion

Brandon Hartle, P.E., Xe-100 Operations Licensing Engineer

Gregg Crannick, Xe-100 Operations Training Manager

March 10, 2023



Disclaimer



Meeting Agenda

Topic	Time (90 minutes)	Presenter
Opening Remarks	5 minutes	Travis Chapman – X-energy Operator Licensing Branch Chief – NRC
Introductions and Safety Moment	5 minutes	Brandon Hartle – X-energy
Review of White Paper Comments on Qualified Control Room Operators (QCRO)	10 minutes	Brandon Hartle
Discussion on Approach to Exemption Process for Part 55	30 minutes	X-energy and NRC Staff
[[Proposal on Piloting the Generally Licensed Reactor Operator (GLRO) from Draft Part 53]]	30 minutes	X-energy and NRC Staff
Closing Remarks	5 minutes	Brandon Hartle & Operator Licensing Branch Chief – NRC



Review of NRC Comments on QCRO

Brandon Hartle

Xe-100 Operations Licensing Engineer

- From the June 2, 2022 White Paper, Section 3 on Part 55 Exemptions, X-energy proposed:
 - [
 - 1
 - Proposal is consistent with the previous iteration of Draft Part 53 that allowed for certified operators (QCRO) in lieu of licensed operators
 - Provided a table of potential Part 55 exemptions
- The NRC staff provided the following comments:
 - A certified operator approach would be inconsistent with the Atomic Energy Act (AEA) § 107
 - Latest iteration of Draft Part 53 removed the certified operator and introduced the GLRO position
 - Recommended X-energy to revisit intent to use Part 55 exemptions for the QCRO
 - Encouraged further discussion between NRC staff and X-energy about exemption process
- X-energy is ready for further discussion about the exemption process



Approach to Exemption Process for Part 55

- X-energy's Problem Statement:
 - [
 - However, to meet ARDP milestones and commitments, X-energy is applying for a Construction Permit Application and Operating License Application under 10 CFR 50, which requires Part 55 licensed control room operators]
 - X-energy understands draft rule language should not be used as a technical basis for an exemption request
 - Therefore X-energy is requesting a discussion on the best way to approach exemptions from Part 55 while being consistent with AEA § 107
- X-energy's Proposed Approach to Part 55 Exemptions:
 - [

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Approach to Exemption Process for Part 55 (Cont.)

- Examples of proposed exemptions:
 - 55.21 through 55.27, Medical Requirements
 - Medical requirements would reflect the language in Draft Part 53, that “no specific medical requirements in the GLRO framework”
 - 55.40, “shall use criteria in NUREG-1021”
 - []]
 - 55.41 and 55.43, separate requirements for ROs and SROs
 - []]
 - The list of items would be modified to be applicable to the Xe-100 technology
 - 55.45, mentions RO and SRO
 - []]
 - The list of items would be modified to be applicable to the Xe-100 technology
 - 55.51, Issuance of Licenses
 - []]
-]
 - The full list of exemptions requests with adequate technical bases will be provided in a licensing topical report in Q2 of 2023.



- As previously mentioned, X-energy is following the latest iterations of Draft Part 53:

- [[

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- To promote and champion the latest iteration of Draft Part 53:

- [[

- This benefits the NRC by demonstrating Draft Part 53 is an effective rule for advanced reactors

- [[

- This benefits the advanced reactor industry by promoting new rule making that leverages technological advances in nuclear safety

- X-energy seeks continued collaboration and open communication with the NRC

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The Next Steps

- For further consideration and discussion:

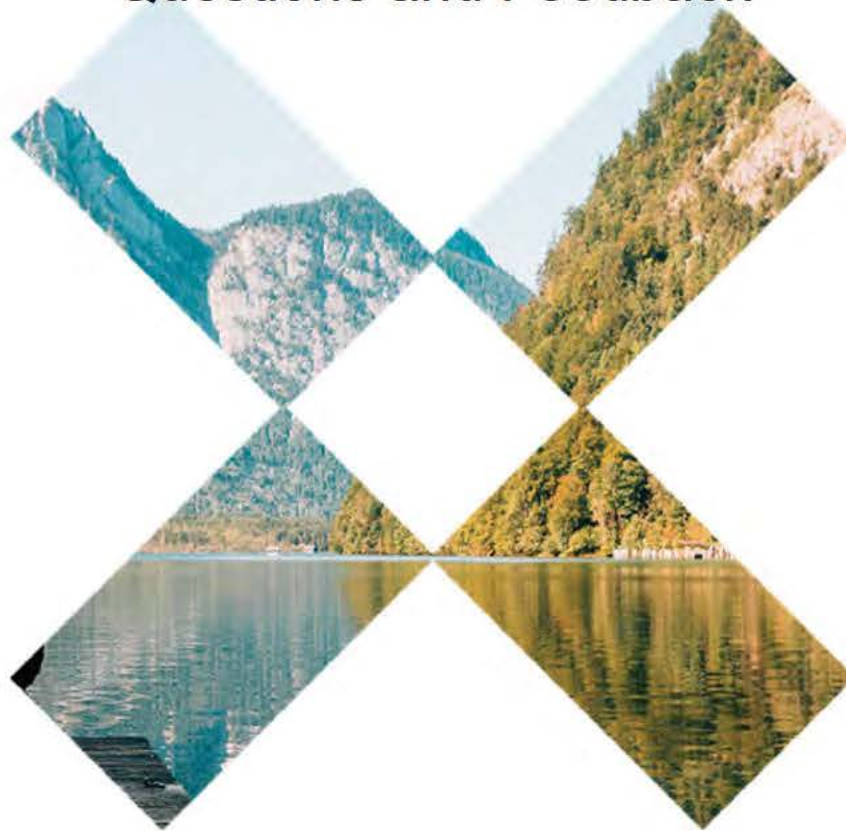
- []

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- What future interactions are necessary to proceed with:

- []
 - Part 55 exemptions in the future X-energy licensing topical report

Questions and Feedback





X Energy, LLC

x-energy.com @xenergynuclear