



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

April 22, 2022

MEMORANDUM TO: William Kennedy, Acting Chief  
Advanced Reactor Licensing Branch  
Division of Advanced Reactors and Non-Power  
Production and Utilization Facilities  
Office of Nuclear Reactor Regulation

FROM: Lucieann Vechioli, Project Manager  
Advanced Reactor Licensing Branch  
Division of Advanced Reactors and Non-Power  
Production and Utilization Facilities  
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF NOVEMBER 17, 2021, MEETING BETWEEN  
THE U.S. NUCLEAR REGULATORY COMMISSION STAFF AND  
X ENERGY, LLC REGARDING XE-100 RISK-INFORMED  
PERFORMANCE-BASED LICENSING BASIS DEVELOPMENT  
TOPICAL REPORT SUBMITTAL

*Lucieann Vechioli Feliciano*

Signed by Vechioli, Lucieann  
on 04/22/22

On November 17, 2021, the U.S. Nuclear Regulatory Commission (NRC) staff held a virtual observation public meeting with representatives from X-Energy, LLC (X-energy). This meeting was part of the NRC staff's review process of X-energy submittal: "Xe-100 Risk-Informed Performance-Based Licensing Basis Development Topical Report." The meeting was an opportunity to discuss a set of preliminary questions developed by the NRC staff to improve understanding of the information included in the subject topical report. The set of preliminary questions can be found in the Agencywide Documents Access and Management System (ADAMS) at Accession No. [ML21312A478](#). Enclosure 1 provides the list of meeting attendees.

The meeting began with X-energy providing an introduction about the purpose of the submitted report. X-energy summarized how the Xe-100 design will implement Nuclear Energy Institute (NEI) 18-04, "Risk-Informed Performance-Based Technology Guidance for Non-Light Water Reactors" (ADAMS Accession No. [ML19241A336](#)), with clarifications identified in the NRC Regulatory Guide (RG) 1.233, "Guidance for a Technology-Inclusive, Risk-Informed, and Performance-Based Methodology to Inform the Licensing Basis and Content of Applications for Licenses, Certifications, and Approvals for Non-Light Water Reactors" (ADAMS Accession No. [ML20091L698](#)).

CONTACT: Lucieann Vechioli, NRR/DANU  
(301) 415-6035

The discussion was driven by the NRC staff's preliminary questions, which the NRC staff sent to X-energy via email on November 5, 2021 (ADAMS Accession No. ML21312A166). X-energy provided responses to the NRC staff questions and stated that it intends to revise the report to address the NRC staff's observations.

X-energy stated that it intends to continue to engage in the Technology Inclusive Content of Application Project and the Advanced Reactor Content of Application Project activities. X-energy did not provide the date when it will submit the revised report to the NRC staff.

Project No.: 99902071

Enclosure:  
List of Attendees

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NUCLEAR REGULATORY COMMISSION STAFF AND X ENERGY, LLC  
REGARDING XE-100 RISK-INFORMED PERFORMANCE-BASED LICENSING  
BASIS DEVELOPMENT TOPICAL REPORT SUBMITTAL  
DATED: APRIL 22, 2022

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**ADAMS Accession Number: ML21347A947****NRR-052**

OFFICE	NRR/DANU/UARL /PM	NRR/DANU/UARL /LA	NRR/DANU/UARL /BC	NRR/DANU/UARL /PM
NAME	LVechioli	DGreene	WKennedy	LVechioli
DATE	12/14/2021	4/20/2022	4/22/2022	4/22/2022

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## **List of Attendees**

**Public Meeting with X Energy LLC to Discuss the Topical Report:**

**“Xe-100 Risk-Informed Performance-Based Licensing Basis Development”**

**Wednesday, November 17, 2021**

<b><u>Name</u></b>	<b><u>Organization</u></b>
Lucieann Vechioli	U.S. Nuclear Regulatory Commission (NRC)
Ian Jung	NRC
Alexandra Siwy	NRC
Michael Orenak	NRC
William Kennedy	NRC
Ingrid Nordby	X-Energy LLC (X-energy)
Travis Chapman	X-energy
Stephen Vaughn	X-energy
Jon Facemire	X-energy
Raymond Wang	X-energy
Maggie Staiger	X-energy
Paul Loza	X-energy
Neil Haggerty	Excel Services
Amanda Spalding	Westinghouse
Ian Gifford	Terrapower
Adam Stein	The Breakthrough Institute

Enclosure