



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

August 11, 2022

MEMORANDUM TO: William Kennedy, Acting Chief
Advanced Reactor Licensing Branch 1
Division of Advanced Reactors and Non-power
Production and Utilization Facilities
Office of Nuclear Reactor Regulation

FROM: Lucieann Vechioli Feliciano, Project Manager *Lucieann Vechioli Feliciano* Signed by Vechioli, L on 08/11/22
Advanced Reactor Licensing Branch 1
Division of Advanced Reactors and Non-power
Production and Utilization Facilities
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF THE APRIL 27, 2022, PARTIALLY OPEN TO THE
PUBLIC MEETING REGARDING X ENERGY LLC: XE-100
PRINCIPAL DESIGN CRITERIA

On April 27, 2022, the U.S. Nuclear Regulatory Commission (NRC) staff held a partially open to the public meeting with representatives from X Energy LLC (X-energy) regarding the Xe-100 reactor Principal Design Criteria (PDC). A previous meeting regarding this topic was held on March 17, 2022 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML22151A244). The public meeting notice and agenda are available in ADAMS at ML22110A147. The industry's presentation slides for the public portion of the meeting are available in ADAMS at ML22122A110. The Enclosure provides the list of meeting attendees.

Meeting Summary

After the opening remarks by the NRC staff and X-energy representatives, X-energy began the topic discussion by describing their iterative approach in developing the PDC using guidance in Nuclear Energy Institute (NEI) 18-04, "Risk-Informed Performance-Based Technology Inclusive Guidance for Non-Light Water Reactor Licensing Basis Development" (ML19241A472), NEI 21-07, "Technology Inclusive Guidance for Non-Light Water Reactors" (ML21250A378), and NRC Regulatory Guide 1.232, "Guidance for Developing Principal Design Criteria for Non-Light Water Reactors" (ML17325A611). The purpose of this meeting, like the previous one held on March 17, 2022, was for X-energy to present progress on their approach and to receive feedback from the NRC staff and address it prior submitting the information as a topical report for NRC staff review.

During the discussion, X-energy representatives described changes and respective rationale for consolidating several Modular High-Temperature Gas-Cooled Reactor Design Criteria (MHTGR-DC) into the Xe-100 PDC.

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Following the open to the public portion of the meeting, X-energy continued their discussion that involved proprietary information in the closed portion of the meeting. In accordance with Management Directive 3.5, "Attendance at NRC Staff-Sponsored Meetings" ([ML21180A271](#)), the portion of the meeting was closed because the discussion involved proprietary details related to the X-energy licensing strategy.

X-energy intends to continue to engage with the NRC staff on this and several other topics as part of the pre-application activities for the Xe-100 design. X-energy informed the NRC staff that contrary to previous notification of the plan of submitting a principal design criteria white paper and subsequently a topical report, X-energy decided that they will only submit a topical report regarding this topic. The topical report is scheduled to be submitted during summer of 2022.

There were no questions from the public at the end of the meeting.

Project No. 99902071

Enclosure:
List of Attendees

SUBJECT: SUMMARY OF THE APRIL 27, 2022, PARTIALLY OPEN TO THE PUBLIC
MEETING REGARDING X ENERGY LLC: XE-100 PRINCIPAL DESIGN
CRITERIA DATED: AUGUST 11, 2022

DISTRIBUTION:

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MHayes, NRR

WKennedy, NRR

LVechioli Feliciano, NRR

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JSebrosky, NRR

BTravis, NRR

MOrenak, NRR

MAudrain, NRR

CMoulton, NRR

ADAMS Accession No.: ML22187A233**NRR-106**

OFFICE	NRR/DANU/UAL1/PM	NRR/DANU/UAL1/LA	NRR/DANU/UAL1/BC(A)	NRR/DANU/UAL1/PM
NAME	LVechioli	DGreene	WKennedy	LVechioli
DATE	7/7/2022	7/8/2022	7/20/2022	8/11/2022

OFFICIAL RECORD COPY

List of Attendees

PUBLIC MEETING REGARDING X ENERGY LLC: XE-100 PRINCIPAL DESIGN CRITERIA

Wednesday, April 27, 2022

Name	Organization
Lucieann Vechioli-Feliciano	U.S. Nuclear Regulatory Commission (NRC)
Ian Jung	NRC
Joseph Sebrosky	NRC
Boyce Travis	NRC
Michael Orenak	NRC
William Kennedy	NRC
Michelle Hayes	NRC
Meg Audrain	NRC
Charles Moulton	NRC
Ingrid Nordby	X Energy, LLC
Travis Chapman	X Energy, LLC
Steve Vaughn	X Energy, LLC
Raymond Wang	X Energy, LLC
Charlotte Geiger	X Energy, LLC
Jon Facemire	X Energy, LLC
Paul Loza	X Energy, LLC
Jill Monahan	X Energy, LLC
Jessica Maddocks	X Energy, LLC
Amanda Spalding	X Energy, LLC
Neil Haggerty	X Energy, LLC
Chip Moon	X Energy, LLC

Enclosure