



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

September 21, 2018

MEMORANDUM TO: Robert K. Johnson, Chief
Fuel Manufacturing Branch
Division of Fuel Cycle Safety, Safeguards,
and Environmental Review
Office of Nuclear Material Safety
and Safeguards

FROM: David H. Tiktinsky, Sr. Project Manager
Fuel Manufacturing Branch (RA)
Division of Fuel Cycle Safety, Safeguards,
and Environmental Review
Office of Nuclear Material Safety
and Safeguards

SUBJECT: MEETING SUMMARY: MEETING WITH X-ENERGY TO
PROVIDE PRE-APPLICATION INFORMATION REGARDING
THE TRISO-X FUEL FABRICATION FACILITY LICENSE
APPLICATION

PURPOSE:

The purpose of the meeting was for X-Energy to provide a pre-application introduction and scheduling information regarding an application for a first of a kind commercial TRISO-X fuel fabrication facility. X-Energy is planning to apply for a license for a Category (CAT) II fuel fabrication facility as defined in Title 10 of the *Code of Federal Regulations* Part 70, "Domestic Licensing of Special Nuclear Material", since the planned enrichment is higher than the CAT III limit.

MEETING SUMMARY:

The meeting took place on August 24, 2018, at the U.S. Nuclear Regulatory Commission's Two White Flint Building in Rockville, Maryland. Attendees included X-Energy, staff from the Office of Nuclear Material Safety and Safeguards and the Office of Nuclear Security and Incident Response and members of the public.

DISCUSSION:

X-Energy provided a background discussion of the company and the types of reactor fuel they intend to produce. The first fuel type they plan on building would be for the Xe-100 Pebble Bed Small Modular Advanced Reactor Concept.

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They also discussed the properties of the fuel they plan on producing including particles, coatings, matrix, over-coating and pebble pressing. The process for producing the fuel was discussed as well as the type of equipment that is to be used for fuel production.

X-Energy staff provided a conceptual layout of the TRISO-X Fuel fabrication facility and a schedule for preparation of the license application. They stated that the next pre-application meeting would likely be related to criticality controls. Other fuel pre-application meetings include topics such as the development of the Integrated Safety Analyses, Material Control and Accounting, and physical security.

Action Items

No regulatory decisions were made at the closed meeting.

If you have any questions or comments, please contact me at (301) 415-8740 or via e-mail at: David.Tiktinsky@nrc.gov.

Enclosure:
Attendees List
Meeting attachment

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DATED: September 21, 2018

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OFC	FSCE/FMB	FSCE/FMB	FSCE/FMB	FSCE/FMB
NAME	DTiktinsky	TBrockington	RJohnson	DTiktinsky
DATE	09/ /18	09/20/18	09/21/18	09/21/18

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August 24, 2018

Attendees List

Pete Pappano	X-Energy
Carol Lane	X-Energy
Melanie White Lyons	X-Energy
Rod Krich	X-Energy
Ralph Loretta	X-Energy
James Hammelman	NRC/NMSS
Jake Zimmerman	NRC/NMSS
Mollie Semmes	NRC/NMSS
Kayla Gamin	NRC
Patrick Koch	NRC/NMSS
Charles Teal	NRC
Soly Soto Lugo	NRC/NMSS
Annie Ramirez	NRC/NMSS
Brian Smith	NRC/NMSS
David Tiktinsky	NRC/NMSS
Tim Harris	NRC/NSIR
Joe Rivers	NRC/NSIR
Suzanne Ani	NRC/NMSS
Tom Pham	NRC/NMSS
Glenn Tuttle	NRC/NMSS
Amy Cabbage	NRC
Ed Lyman	UCS
Jana Bergman	Sciencetech
Calvan Manning	Framatome
Nima Askkebous	NEI
Everett Redmond	NEI

Enclosure