



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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301-415-8740

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