



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

October 10, 2019

MEMORANDUM TO: Margie A. Kotzalas, Chief  
Fuel Facility Licensing and Oversight Branch  
Division of Fuel Cycle Safety, Safeguards,  
and Environmental Review  
Office of Nuclear Material Safety  
and Safeguards

FROM: David H. Tiktinsky, Sr. Project Manager */RA/*  
Fuel Facility Licensing and Oversight Branch  
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 RELATED TO  
INTEGRATED SAFETY ANALYSES METHODS FOR THE  
TRISO-X FUEL FABRICATION FACILITY LICENSE  
APPLICATION

PURPOSE:

The purpose of the meeting was for X-Energy to provide a pre-application discussion of the integrated safety analysis methods related to 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 II fuel fabrication facility as defined in Title 10 of the *Code of Federal Regulations* Part 70, "Domestic Licensing of Special Nuclear Material".

MEETING SUMMARY:

The meeting took place on September 11, 2019, at the U.S. Nuclear Regulatory Commission, Two White Flint Building in Rockville, Maryland. Attendees included X-Energy and staff from the Office of Nuclear Material Safety and Safeguards.

CONTACT: David Tiktinsky, NMSS/FCSE  
301-415-8740

DISCUSSION:

X-Energy discussed their methodology that they plan on using to develop their approach to developing its integrated safety analysis for their anticipated application for a TRISO-X fuel fabrication facility. X-Energy is currently developing its preliminary design.

They also discussed the qualifications of the team that is performing the integrated safety analyses (ISA), the applicability of the ISA to potential accident scenarios, how they plan to meet the design criteria, effects of natural phenomena, use of defense-in-depth, process hazards analyses methods, process safety information, nuclear criticality safety evaluations, and the accident consequence evaluation.

The discussion was held in the closed portion of the meeting relating to the specific methods that X-Energy is planning on using to evaluate chemical and radiological hazards at the facility.

ACTION ITEMS

No regulatory decisions were made at the meeting.

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

Docket No. 070-07027

Enclosures:

1. Attendees List
2. Meeting Attachment (public and non-public)

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DATED: October 10, 2019

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<b>NAME</b>	DTiktinsky	AWalker-Smith	MKotzalas	DTiktinsky
<b>DATE</b>	10/10/2019	10/10/2019	10/10/2019	10/10/2019

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INFORMATION RELATED TO INTEGRATED SAFETY ANALYSES METHODS FOR THE  
TRISO-X FUEL FABRICATION FACILITY LICENSE APPLICATION

**September 11, 2019**

**Attendees List**

Pete Pappano	X-Energy
Jennifer Wheeler	X-Energy
Robert Maurer	X-Energy
James Hammelman	NRC/NMSS
Yawar Faraz	NRC/NMSS
April Smith	NRC/NMSS
Jeremy Munson	NRC/NMSS
James Down	NRC/NMSS
Jake Zimmerman	NRC/NMSS
David Tiktinsky	NRC/NMSS

Enclosure