



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

May 7, 2026

MEMORANDUM TO: Tekia Govan, Acting Chief
Fuel Facility Licensing Branch
Division of Fuel Management
Office of Nuclear Material Safety
and Safeguards

FROM: James Downs, Senior Project Manager
Fuel Facility Licensing Branch
Division of Fuel Management
Office of Nuclear Material Safety
and Safeguards

A handwritten signature in black ink that reads "James N. Downs".

Signed by Downs, James
on 05/07/26

SUBJECT: SUMMARY OF APRIL 30, 2026, CLOSED MEETING WITH
SUBCRITICAL SYSTEMS, INC. – PRE-APPLICATION
ENGAGEMENT ON A SPECIAL NUCLEAR MATERIAL LICENSE

On April 30, 2026, the U.S. Nuclear Regulatory Commission (NRC) staff held a closed meeting with Subcritical Systems, Inc. (Subcritical Systems) to support pre-application engagement related to the company's development of an accelerator-driven subcritical system. The purpose of the meeting was to discuss technical topics related to the preparation of a license application for the facility. No regulatory decisions were made.

Subcritical Systems described its approach on human factors engineering (HFE), including the scope and applicability of its HFE program to items relied on for safety (IROFS) – especially for IROFS that are administrative controls or enhanced administrative controls. The approach is based on the regulatory requirements in Title 10 of the *Code of Federal Regulations* (10 CFR) Part 70 and applicable guidance documents (e.g., NUREG-1520, Rev. 2, "Standard Review Plan for Fuel Cycle Facilities License Applications," and NUREG-0711, Rev. 3, "Human Factors Engineering Program Review Model"). The company explained the roles and responsibilities of the HFE program and provided a model for program integration and iteration. The NRC staff discussed that the HFE program should, for any IROFS, also consider the associated management measures that have a human interface.

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Subcritical Systems described its approach for electrical power, control, and monitoring of IROFS. The approach includes concepts like failing safe on loss of power, using simple logic controllers, an IROFS monitoring system, requiring manual reset after actuation, and protecting setpoints via configuration management. The NRC staff encouraged Subcritical Systems to provide sufficient details in its license application and integrated safety analysis summary, such that there will be clear traceability to second-tier documents that support and implement the associated regulatory basis commitments. The NRC staff referenced example input for an NRC safety evaluation report on electrical and digital instrumentation and control for a fuel cycle facility. The example is at: <https://www.nrc.gov/docs/ML2334/ML23346A050.pdf>.

Subcritical Systems described its approach for material control and accounting (MC&A). The approach is based on regulatory requirements in 10 CFR Part 70, Part 74, and 73.67. Various industry standards were discussed, and MC&A essentials were discussed. The NRC staff noted that an applicant may find it appropriate to request an exemption from regulations that are not applicable to the operation of an accelerator-driven subcritical system. The Commission may, upon application of any interested person or upon its own initiative, grant such exemptions from the requirements of the regulations in this part as it determines are authorized by law and will not endanger life or property or the common defense and security and are otherwise of the public interest.

Finally, the participants discussed plans for future pre-application meetings and obtaining observations from the NRC staff on draft documents, prior to submitting a license application.

This was a closed meeting because of the proprietary and security-related content that was discussed. Subcritical Systems submitted slides in advance of the meeting that guided its presentation (Agencywide Documents Access and Management System Accession No. ML26113A561 – cover letter and affidavit only, slides are non-public).

In accordance with 10 CFR 2.390, “Public inspections, exemptions, requests for withholding,” of the NRC’s “Agency Rules of Practice and Procedure,” a copy of this memorandum will be available for public inspection in the NRC Public Document Room (PDR) or electronically from the publicly available records component of ADAMS. The PDR is currently open Monday-Friday by appointment only. To schedule an appointment, you may submit your request to the PDR via email at PDR.Resource@nrc.gov or call 1-800-397-4209 between 8:00 a.m. and 4:00 p.m. (EST), Monday through Friday, except Federal holidays. The ADAMS database is accessible from the NRC website at <http://www.nrc.gov/reading-rm/adams.html>.

Docket No. 70-7043

Enclosure:
Attendance List

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ATTENDANCE LIST

NAME	AFFILIATION	NAME	AFFILIATION
Jesus Diaz-Quiroz	Subcritical Systems, Inc.	James Downs	NMSS/DFM/FFLB
Thomas Jay Harrison	DeMase (Contractor for Subcritical Systems, Inc.)	Amy D'Agostino	NRR/DRO/IOLB/HFT
Laura Harris	DeMase (Contractor for Subcritical Systems, Inc.)	Garry Armstrong	NRR/DRO/IOLB/HFT
Amy Johnson	DeMase (Contractor for Subcritical Systems, Inc.)	David Rahn	NRR/DEX/ELTB
		Ming Li	NRR/DEX/ELTB
		Jorge Cintron-Rivera	NRR/DEX/ELTB
		James Chang	NMSS/DFM/NARAB
		Glenn Tuttle	NMSS/DFM/MCAB
		John Russell	NMSS/DFM/MCAB