



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

September 30, 2019

MEMORANDUM TO: Steven T. Lynch, Acting Chief  
Advanced Reactor Licensing Branch  
Division of Advanced Reactors  
Office of New Reactors

FROM: Jan M. Mazza, Project Manager */RA/*  
Advanced Reactor Licensing Branch  
Division of Advanced Reactors  
Office of New Reactors

SUBJECT: SUMMARY OF AUGUST 22, 2019, MEETING BETWEEN THE  
U.S. NUCLEAR REGULATORY COMMISSION STAFF AND  
OKLO, INC., TO DISCUSS SAFETY CASE, RADIATION  
PROTECTION, AND AUTOMATIC CONTROLS (EPID LRM-0011)

On August 22, 2019, a meeting was held between the U.S. Nuclear Regulatory Commission (NRC) staff and representatives from Oklo, Inc. (Oklo) at the NRC offices at One White Flint North, 11555 Rockville Pike., Rockville, Maryland 20852, Room 10-B04. The meeting was a combination of a public Category 1 meeting and non-public meeting. The purpose of the meeting was to discuss Oklo's safety case and plans for radiation protection and automatic controls.

The public portion of the meeting commenced with an introduction to Oklo and its organization. Oklo also provided information on its design, including key design features, size, fuel, and safety case, including the impact of the safety case on radiation protection and automatic controls. A summary of the discussion in each area is provided the paragraphs below.

#### Safety Case

Oklo indicated that it is not planning to use the process described in the licensing modernization project (LMP) to determine the licensing basis for its facility. This decision was made partly due to the emphasis LMP places on the use of probabilistic risk assessment (PRA). Instead Oklo plans to provide a well-scoped design basis accident (DBA) utilizing the PRA to support a maximum credible accident (MCA). The NRC staff noted that it is unclear what Oklo's DBA and MCA are or how Oklo will apply methodologies to identify and analyze these accidents.

Oklo indicated that it is still evaluating external hazards and plans to submit a technical report to the NRC by the end of September 2019 to support a meeting with NRC staff by the end of October 2019. The NRC staff noted that it expects Oklo's custom combine license application to include the full scope of external hazards providing details commensurate with the impact of the hazard on Oklo's design. The NRC staff also informed Oklo that it must fully justify any assertions that a hazard is not applicable to the design of its facility.

### Automatic Controls

Oklo described the human's role in the operation of the plant to be monitoring only. Staff noted that more information on Oklo's plans for staffing – particularly with respect to NRC operator licensing regulations – is needed.

Oklo described its "all-digital" non-safety-related custom Instrumentation and Control (I&C) platform for controlling the plant. The I&C system would not be relied on for controlling the plant under any scenarios (e.g., normal operations, anticipated operational occurrences, design basis accidents, etc.).

Oklo stated that the plant will not depend on offsite power for safety. NRC staff noted that power may be required for other non-safety related equipment per regulation (e.g., post accident monitoring, emergency lighting, radiation monitoring, communications, etc.).

### Radiation Protection

Oklo asserted that its facility design complies with 10 Code of Federal Regulations (CFR) Part 20, "Standards for Protection Against Radiation," and incorporates radiation protection by shielding, containment of possible sources, low source terms, and operations without access to radiation areas. The NRC staff noted that Oklo would need to provide an activation analysis and more detail on maintenance and testing activities, leak pathways, and equipment features that could result in radiation effluents (e.g., water cooled motors, etc.) to demonstrate compliance with 10 CFR Part 20.

### Closed Meeting

Further in-depth discussions on these topics were held during the closed portion of the meeting. The staff also discussed with Oklo plans for further meeting engagements in these and other areas (e.g., external hazards, applicability of regulations).

The meeting agenda and list of meeting attendees are included in Enclosures 1 and 2, respectively. The meeting notice and non-proprietary version of the meeting slides are located in the NRC's Agencywide Documents Access and Management System (ADAMS) at accession numbers ML19233A300, and ML19233A117 respectively.

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Enclosures:

1. Agenda
2. List of Attendees

SUBJECT: SUMMARY OF AUGUST 22, 2019, MEETING BETWEEN THE U.S. NUCLEAR REGULATORY COMMISSION STAFF AND OKLO, INC., TO DISCUSS SAFETY CASE, RADIATION PROTECTION, AND AUTOMATIC CONTROLS (EPID LRM-0011)– DATED September 30, 2019

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**ADAMS ACCESSION No.:** ML19239A343 (Pkg)

NRC-001

OFFICE	NRO/DAR/ARLB	NRO/DAR/ARLB
NAME	JMazza	SLynch
DATE	09/23/2019	09/30/2019

**OFFICIAL RECORD COPY**

## AGENDA

**Oklo, Inc. Open and Closed Meeting with the U.S. Nuclear Regulatory Commission (NRC)**

**Safety Case, Radiation Protection, and Automatic Controls**

**Thursday, August 22, 2019**

**One White Flint North 10-B04**

<b>Time</b>	<b>Topic</b>	<b>Lead</b>
9:00 a.m. – 9:15 a.m.	Opening/Introductions	NRC/Oklo, Inc.
9:15 a.m. – 10:15 a.m.	Safety Case, Radiation Protection, and Automatic Controls – Open to the Public	Oklo, Inc.
10:15 a.m. – 10:30 a.m.	Break	
10:30 a.m. 12:00 p.m.	Oklo Safety Case Discussion – Closed to the Public	Oklo, Inc.
12:00 p.m. – 1:00 p.m.	Lunch	
1:00 p.m. – 1:30 p.m.	Radiation Protection – Closed to the Public	Oklo, Inc.
1:30 p.m. – 2:30 p.m.	Automatic Controls – Closed to the Public	Oklo, Inc.
2:30 p.m. – 2:45 p.m.	Closing Remarks – Closed to the Public	NRC/Oklo, Inc.
2:45 p.m.	Meeting Adjourn	

**ATTENDANCE LIST**

**Oklo, Inc. Open and Closed Meeting with the U.S. Nuclear Regulatory Commission (NRC)**

**Safety Case, Radiation Protection, and Automatic Controls**

**Thursday, August 22, 2019**

**One White Flint North 10-B04**

<b>Name</b>	<b>Affiliation</b>
Hughes, Niav	NRC/RES
Segala, John	NRC/NRO
Mazza, Jan	NRC/NRO
Green, Brian	NRC/NRR
Stutzke, Martin	NRC/NRO
Zhang, Deanna	NRC/NRR
Hart, Michelle	NRC/NRO
Chung, Donald	NRC/NMSS
Rivers, Joe	NRC/NSIR
Lee, Eric	NRC/NSIR
Monninger, John	NRC/NRO
Cubbage, Amy	NRC/NRO
Lynch, Steven	NRC/NRO
Travis, Boyce	NRC/NRO
Sun, Casper	NRC/RES
Ashcraft, Joe	NRC/NRR
LaVera, Ron	NRC./NRO
Jung, Ian	NRC/NRO
Stutzcage, Ed	NRC/NRO
Tomon, John	NRC/RES
Dority, Dayna	NRC/NRO
Parsons, Darryl	NRC/NSIR
Taneja, Dinesh	NRC/NRO

Desaulniers, David	NRC/NRO
Cochran, Caroline	Oklo, INC.
Renner, Alex	Oklo, INC
Doane, Sam	Oklo, INC
Richard, Josh	Oklo, INC
DeWitte, Jake	Oklo, INC
Freebairn, Bill	Platts
Hall, Nathan	Southwest Research Institute