



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

October 25, 2021

MEMORANDUM TO: William B. Kennedy, Acting Chief
Advanced Reactor Licensing Branch
Division of Advanced Reactors and Non-Power
Production and Utilization Facilities
Office of Nuclear Reactor Regulation

FROM: Jan M. Mazza, Project Manager *Jan Mazza* Signed by Mazza, Jan
Advanced Reactor Licensing Branch on 10/25/21
Division of Advanced Reactors and Non-Power
Production and Utilization Facilities
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF SEPTEMBER 28, 2021, MEETING BETWEEN THE
U.S. NUCLEAR REGULATORY COMMISSION STAFF AND OKLO
POWER, LLC, TO DISCUSS MAXIMUM CREDIBLE ACCIDENT
METHODOLOGY AND PERFORMANCE-BASED LICENSING
METHODOLOGY TOPICAL REPORTS (EPID NOS. L-2021-TOP-0016
AND L-2021-TOP-0017)

A virtual observation public meeting was held on September 28, 2021, between the U.S. Nuclear Regulatory Commission (NRC) staff and representatives from Oklo Power, LLC (Oklo) using the Microsoft Teams platform. The meeting notice, Oklo meeting slides, Oklo topical reports ("Maximum Credible Accident Methodology" and "Performance-Based Licensing Methodology"), and NRC completeness review results are located in the NRC's Agencywide Documents Access and Management System (ADAMS) at Accession Nos. ML21236A236, ML21272A193, ML21184A000, ML21201A010, and ML21201A104, respectively. A list of the meeting attendees are included in the enclosure to this document.

The purpose of the meeting was for NRC and Oklo staff to discuss the supplemental information needed for the Maximum Credible Accident Methodology and Performance-Based Licensing Methodology topical reports, as identified during the NRC completeness reviews.

CONTACT: Jan M. Mazza, NRR/DANU
301-415-0498

Docket No.: 52-049

Enclosure:
Meeting Attendees

Prior to the technical discussion, the NRC provided clarification on a follow-up item from the September 16, 2021, public meeting regarding expectations for the form of the supplemental information needed for the topical reports. The NRC stated that it would accept the supplemental information in the form of a letter as long as the letter provides the verbatim replacement text or additional text with a clear description of where it will be in the topical report, and provided that complete revisions of the topical report would be submitted in the future capturing the supplemental information along with any additional changes to the topical reports. Oklo stated that it plans to provide revised versions of the topical reports by October 5, 2021.

Oklo provided slides to clarify their methodologies and to communicate plans to update the topical reports with a focus on the Performance-Based Licensing Methodology. The topics discussed include:

Maximum Credible Accident Methodology Completeness Determination Item III and Note 2

Oklo acknowledged that they received a follow up email from NRC (ADAMS Accession No. ML21265A528) clarifying the acceptance criteria referenced within NUREG-1520, "Standard Review Plan for Fuel Cycle Facilities License Applications." Oklo noted that this example is applicable to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 70 and not 10 CFR Part 52; however, they will consider this information when preparing the supplemental information for the Maximum Credible Accident Methodology topical report. The NRC staff reiterated that the information in NUREG-1520 provides a way to account for uncertainty.

Performance-Based Licensing Methodology

Oklo presented slides to illustrate how the implementation of this methodology is envisioned. This included the use of an example to try to help address many of the NRC staff's questions.

Oklo first presented the steps in the Performance-Based Licensing Methodology. Oklo emphasized that the methodology provides a designer with a way to analyze inherent features. The acceptance criteria are determined by the Licensing Basis Event Analysis Methodology chosen by the designer. These acceptance criteria feed into the steps in Section 4.4.1 of the Performance-Based Licensing Methodology. Optional supporting criteria are also identified in this process and must "bound" the acceptance criteria. The iterative nature of the methodology allows for a "perturbation" analysis of active and passive functions, as well as inherent features to see how they support downstream acceptance and/or supporting criteria. Oklo stressed that the methodology focuses on identifying functions and features and their design bases to determine the programmatic controls, but not how these controls are applied. Throughout the presentation, Oklo stressed that the Performance-Based Licensing Methodology is intended to be technology inclusive and therefore must remain at a high-level to provide flexibility for designers.

Oklo then went through an example of how the methodology could be applied to a reactor module emplacement. Oklo used this example to help illustrate their view that the Performance-Based Licensing Methodology is a rigorous process that is used in the identification of the regulatory treatment of features and functions with respect to programmatic controls. These specific programmatic controls would then need to be outlined for NRC staff review in a license application.

The NRC asked for clarification on Oklo's statement that the appropriateness of the programmatic controls is performed during the application review. Oklo stated that the applicant develops the programmatic controls. The NRC further asked if the development of the programmatic controls is within or outside the scope of the Performance-Based Licensing

Methodology. Oklo responded that the development of the programmatic controls is outside the scope of the methodology.

Summary: Oklo will update the information in the topical reports to delineate where the Performance-Based Licensing Methodology ends, and the license application begins.

Meeting Conclusion

The NRC thanked Oklo for the presentation and will continue the completeness review of the topical reports once the supplemental information is received. Oklo restated that it plans to submit revised versions of the topical reports by October 5, 2021, and that no additional public meetings were needed at this time to clarify the supplemental information identified in the NRC staff's completeness determinations related to the topical reports.

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DATED: OCTOBER 25, 2021

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NRC-002

OFFICE	NRR/DANU/UARL/PM	NRR/DANU/UARL/LA	NRR/DANU/UARL/BC	NRR/DANU/UARL/PM
NAME	JMazza	SLent	WKennedy	JMazza
DATE	10/13 /2021	10/18/2021	10/22/2021	10/25/2021

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ATTENDEE LIST

Public Meeting with Oklo to Discuss Maximum Credible Accident Methodology and Performance-Based Licensing Methodology Topical Reports – September 28, 2021	
Name	Affiliation
Mazza, Jan	U. S. Nuclear Regulatory Commission (NRC)
Orenak, Michael	NRC
Lupold, Timothy	NRC
Drzewiecki, Timothy	NRC
Galletti, Greg	NRC
Segala, John	NRC
Shams, Mohamed	NRC
Siwy, Alexandra	NRC
Jung, Ian	NRC
Kennedy, William	NRC
Ross Moore	Oklo Power, LLC (Oklo)
Caroline Cochran	Oklo
Alex Renner	Oklo
John Hansen	Oklo
Lighty, Ryan K.	Public
Christopher P. Chwasz	Public
Theresa Kaufmann	Public
Bergman, Jana	Public
Ewa Muzikova	Public
Alan Hoffman	Public
Sola Talabi	Public
Costa, Arlon	NRC
Vitto, Steven	NRC
Johnson, Dante	NRC
Walker, Shakur	NRC
Gary Locklear	Kinetrics AES
Adam Stein	Breakthrough Institute
Julie Hoefnagels	SRA Boise ID