



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

September 15, 2020

MEMORANDUM TO: Benjamin G. Beasley, Chief
Advanced Reactor Licensing Branch
Division of Advanced Reactors and Non-Power
Production and Utilization Facilities
Office of Nuclear Reactor Regulation

FROM: Lucieann Vechioli, Project Manager *Lucieann Vechioli*
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Division of Advanced Reactors and Non-Power
Production and Utilization Facilities
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF APRIL 15-16, 2020, MEETING BETWEEN THE
U.S. NUCLEAR REGULATORY COMMISSION STAFF AND
OKLO, INC., TO DISCUSS AURORA COMBINED LICENSE
APPLICATION

A virtual meeting was held on April 15-16, 2020, between the U.S. Nuclear Regulatory Commission (NRC) staff and representatives from Oklo, Inc. (Oklo). The meeting was a combination of a Category 2 public meeting and non-public meeting. The purpose of the meeting was to discuss Oklo's Aurora powerhouse combined license (COL) application that was submitted to the NRC on March 11, 2020. The staff posted the meeting notice in the NRC's Agencywide Documents Access and Management System (ADAMS) at Accession No. [ML20105A282](#) and the presentation slides at Accession No. [ML20105A036](#). The meeting agenda is included as an Enclosure to this document.

The meeting began with the public session in which Oklo provided an overview of the Aurora micro-reactor COL application. Oklo also presented information on the Aurora design, including size, fuel, heat pipe operation, and other design features.

Caroline Cochran, from Oklo, led the presentation of the Aurora's safety case. The micro-reactor safety case is based on a maximum credible accident (MCA) which is presented as the single most challenging failure. To accomplish this, Oklo plans to rely on a deterministic analysis and utilize insights from a probabilistic risk analysis. Because of the small size of the Aurora reactor, Oklo asserts that the MCA is mitigated by the inherent features of the design (i.e. small size, low power density, inherent reactivity, etc). The NRC staff noted that it would examine the Oklo safety analysis and supporting data in detail during the review of the application.

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Oklo also went through the application structure and pointed out the Aurora COL application sections and its methodology. Jacob DeWitte, from Oklo, stated that some of the NRC regulations do not apply to the Aurora design and therefore, the application was submitted in a way they thought was easier to follow.

One of the questions received from the public during the meeting was about how the NRC is implementing lessons learned from the Canadian regulatory framework to ease the review of the new technologies. The NRC staff stated that the agency is working closely with Canada and also is collaborating with other countries. It was also mentioned that in 2019 the NRC signed two Memoranda of Cooperation with the Canadian Nuclear Safety Commission to evaluate and collaborate on possible cooperative reviews between both regulators.

Heather Madison, from Diablo Canyon, commended the NRC efforts on advanced reactors and research and test reactors and asked about how NRC plans to regulate small reactors such as Oklo, which in some aspects is similar to a research and test reactor.

The NRC staff explained that the recent merge of the Office of New Reactors and the Office of Nuclear Reactor Regulation resulted in a reorganization in which the Oklo review and other advanced reactor reviews are now in the same division as the staff that performs the test and research reactors reviews. The Aurora reactor is similar in size and some other aspects to test and research reactors; therefore, the NRC staff is taking into consideration relevant guidance for both (power and research and test reactors) in their Aurora application review.

Another question was raised by Ed Lyman, from the Union of Concerned Scientists, about clarification on how the NRC staff will address Oklo's claim that some regulations are not applicable to the Aurora application. The NRC staff responded that existing regulations are, in its majority, developed for light water reactors. However, some regulations are valid to all types of reactors and some will not be applicable to advanced reactors such as the Aurora. There will be some regulations that may require a request for exemption.

During the closed sessions of the meetings, Oklo discussed technical issues of the application by addressing topics that were part of the Aurora audit plan (ADAMS Accession No. ML20079L202). The audit plan was part of the application acceptance review. These topics included the classification of systems, structures and components, siting, core, fuel, and security. Oklo provided supporting documents to the audit team via the online reference portal and discussed the information during the closed portion of the meeting.

The meeting ended with an open discussion between Oklo and the NRC staff. The NRC staff used the information received during the meeting to continue its review of the audit items and the Aurora COL application acceptance review.

Project No.: 99902046

Docket No. 052-0049

Enclosure:
Agenda

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B. Beasley

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SUBJECT: SUMMARY OF APRIL 15-16, 2020, MEETING BETWEEN THE U.S. NUCLEAR REGULATORY COMMISSION STAFF AND OKLO, INC., TO DISCUSS AURORA CUSTOM COMBINED LICENSE APPLICATION
DATED: September 15, 2020

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DATE	09/10/2020	09/08/2020	09/15/2020	09/15/2020

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AGENDA

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

Aurora Custom Combined License Application Discussion

Wednesday April 15 – Thursday April 16, 2020

Time	Topic	Lead
Wednesday April 15, 2020		
12:00 p.m. – 12:10 p.m.	Introductions– (open to the public)	NRC/Oklo
12:10 p.m. – 1:40 p.m.	Overview of application structure and assurance of safety – (open to the public)	Oklo
1:40 p.m. – 2:00 p.m.	Opportunity for public questions for the NRC	NRC
2:00 p.m. – 2:30 p.m.	Break	All
2:30 p.m. – 5:00 p.m.	Technical Session 1 – (closed to the public)	Oklo
5:00 p.m.	Adjourn	
Thursday April 16, 2020 –		
11:00 a.m. – 11:10 a.m.	Introductions – (closed to the public)	All
11:10 a.m. – 12:30 p.m.	Technical Session 2 – (closed to the public)	Oklo
12:30 p.m. – 1:00 p.m.	Break	All
1:00 p.m. – 3:30 p.m.	Technical Session 3 – (closed to the public)	Oklo
3:30 p.m. – 4:00 p.m.	Break	All
4:00 p.m. – 5:00 p.m.	Technical Session 4 – (closed to the public)	Oklo
5:00 p.m.	Adjourn	