

February 2, 2017

MEMORANDUM TO: John P. Segala, Chief
Advanced Reactor and Policy Branch
Division of Engineering, Infrastructure, and Advanced Reactors
Office of New Reactors

FROM: Nishka J. Devaser, Project Manager **/RA/**
Advanced Reactor and Policy Branch
Division of Engineering, Infrastructure, and Advanced Reactors
Office of New Reactors

SUBJECT: SUMMARY OF DECEMBER 14, 2016, OPEN CATEGORY 1 AND
CLOSED MEETING WITH THE U.S. NUCLEAR REGULATORY
COMMISSION STAFF AND OKLO, INC., TO DISCUSS OKLO
DESIGN

On December 14, 2016, a public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) staff and representatives from Oklo, Inc. (Oklo) at the NRC offices at Two White Flint North, 11545 Rockville Pike, North Bethesda, MD 20852, Room 7-A01. The purpose of this meeting was for Oklo personnel to provide information regarding the Oklo design. A large portion of the meeting was closed to the public due to the proprietary nature of a significant portion of the information to be discussed at the meeting on the Oklo design.

The meeting agenda and meeting attendees are included in enclosures 1 and 2. Oklo, Inc. slide presentations are available through the Agencywide Documents Access and Management System (ADAMS). The ADAMS Accession Numbers for the meeting notice and non-proprietary slide presentations are ML16335A257 and ML16343A221, respectively. ADAMS is the database that provides text and image files of NRC's public documents. Documents are available electronically at the NRC's Electronic Reading Room at <http://www.nrc.gov/reading-rm/adams.html>. If you do not have access to ADAMS or have problems accessing the documents located in ADAMS, contact the NRC Public Document Room staff at (800) 397 4209 or (301) 415-4737, or pdr@nrc.gov.

Please direct any inquiries to Nishka Devaser at (301) 415-5196, email Nishka.Devaser@nrc.gov or Jan Mazza at (301) 415-0498, email Jan.Mazza@nrc.gov.

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PUBLIC MEETING SUMMARY

The public portion of the meeting lasted approximately one hour and included a 10-minute period for public comments. Eight members of the public were in attendance by phone. During this portion, Oklo personnel discussed the non-proprietary portions of their design and licensing plan. Oklo began by providing a short history of the company and an overview of their design.

The Oklo design is intended to be a compact fast reactor utilizing metallic fuel that references, in aspects of both design and testing protocols, the Experimental Breeder Reactor-II (EBR-II) and Integral Fast Reactor. Oklo is employing technical expertise at Argonne National Laboratory (ANL) to compile relevant data about the historical designs. Following the Oklo background slides, a speaker from ANL provided a presentation focused on fast reactor metallic fuel history and experience. Oklo is proposing a uranium-zirconium fuel alloy, which was used as the driver fuel in EBR-II. Reference was made to NRC's review of the PRISM reactor (NUREG-1368¹), with regard to the fuel qualification plan, which used uranium-zirconium fuel alloys. More details on the fuel behavior and results of fuel testing can be found in the meeting slides at ML16343A221.

The purpose of the discussion on fuels testing results was for Oklo to provide some introductory basis for relying on these test results in their fuel qualification program. Questions and comments from NRC staff were focused on the applicability of these results to Oklo's design and on any potential shortcomings of the testing protocols as a result of their age or differences in design.

CLOSED MEETING SUMMARY

Following the open portion of the meeting, a closed meeting was held between the NRC staff and representatives from Oklo. The purpose of this meeting was to discuss proprietary information regarding the design. This portion of the discussions focused on the fuel design, quality assurance (QA) of the fuel testing data, QA for the Oklo design, and principal design criteria.

Enclosure:

1. Agenda
2. Meeting Attendees

¹ NUREG-1368, Preapplication Safety Evaluation Report for the Power Reactor Innovative Small Module (PRISM) Liquid-Metal Reactor, ML063410561.

SUMMARY OF DECEMBER 14, 2016, OPEN CATEGORY 1 AND CLOSED MEETING WITH THE U.S. NUCLEAR REGULATORY COMMISSION STAFF AND OKLO, INC., TO DISCUSS OKLO DESIGN FEBRUARY 2, 2017

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***via email**

NRO-002

OFFICE	PM:NRO/DEIA/APRB	PM:NRO/DEIA/APRB	BC:NRO/DEIA/ARPB
NAME	NDevaser	JMazza	JSegala
DATE	02/01/17	02/01/17	02/02/17

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AGENDA

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

Oklo Design Second Discussion

Wednesday, December 14, 2016

Two White Flint 07-A01

OPEN MEETING

Time	Topic	Lead
8:00am – 8:10am	Opening	NRC
8:10am – 8:45am	<u>Oklo Design Discussion</u> <ul style="list-style-type: none">• Oklo introduction• Brief introduction to Experimental Breeder Reactor-II and Integral Fast Reactor• Argonne National Laboratory presentation on fast reactor metallic fuel experience set and database	Oklo, Inc.
8:45am – 9:00am	Public Comment Period	All
9:00am	Meeting Adjourn	NRC

CLOSED MEETING

Time	Topic	Lead
9:30am – 9:35am	Opening	NRC
9:35am – 12:00pm	<u>Oklo Design Discussion</u> <ul style="list-style-type: none">• Introductions/Meeting Goals• Oklo Design Overview• Continuation of Fuels Discussion• Fuels Data QA and Equivalencies Work• QA as applicable to Oklo• Design Criteria• Questions/Concerns	Oklo, Inc.
12:00pm	Meeting Adjourn	NRC

ATTENDANCE LIST

Oklo, Inc. Public Meeting with the U.S. Nuclear Regulatory Commission (NRC)

Introductory Oklo Design Discussion

Wednesday, December 14, 2016

Two White Flint 07-A01

Name	Affiliation	Name	Affiliation
Bajorek, Stephen	NRC/RES	Segala, John	NRC/NRO
Carpentier, Marcia	NRC/OGC	Strnisha, James	NRC/NRO
Costa, Arlon	NRC/NRO	Stutzke, Martin	NRC/NRO
Devaser, Nishka	NRC/NRO	Van Wert, Chris	NRC/NRO
Drzewiecki, Timothy	NRC/NRO	Bloom, Roger	Oklo, Inc.
Fitzpatrick, Robert	NRC/NRR	Popova, Alexandra	Oklo, Inc.
Hammelman, Jim	NRC/NMSS	Cochran, Caroline	Oklo, Inc.
Hart, Michelle	NRC/NRO	Dewitte, Jacob	Oklo, Inc.
Jackson, Deborah	NRC/NRO	Hastings, Peter	Oklo, Inc.
Jackson, Diane	NRC/NRO	Hill, Robert	Argonne National Lab
Kavanagh, Kerri	NRC/NRO	Yacout, Abdellatif	Argonne National Lab
Lupold, Timothy	NRC/NRO	Denman, Matthew	Sandia National Lab
Lynch, Steven	NRC/NRR	Kowalczyk, Joseph	Southern Company
Madni, Imtiaz	NRC/NRO	Macher, Nathan*	Cornell
Mazza, Jan	NRC/NRO	Campbell, Patricia*	GE Power
McMurray, Nicholas	NRC/NRO	Wallace, Ed*	GNBC Associates
Mitchell, Matthew	NRC/NRO	Honma, George*	INL
Monninger, John	NRC/NRO	Jordan, Peter*	INL
Palmrose, Donald	NRC/NRO	Moe, Wayne*	INL
Prescott, Paul	NRC/NRO	Auth, Sean*	Public
Reed, Wendy	NRC/NMSS	Lewis, Marvin*	Public
Schmidt, Jeffrey	NRC/NRO	Freebairn, William*	SP Global Platts
		Dodson, Tim*	Engineering Planning and Mgmt., Inc.

* Only present for the public portion of the meeting.