

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](mailto:pdr@nrc.gov).

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

Contact: Nishka J. Devaser, NRO/DEIA/ARPB  
301-415-5196

### 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-1368<sup>1</sup>), 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

---

<sup>1</sup> 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

DISTRIBUTION:

Public  
RidsNroDeia Resource  
RidsNroDeiaArpb Resource  
RidsOgcMailCenter Resource

**ADAMS Accession No. ML17031A321**

**\*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         |

**OFFICIAL RECORD COPY**



## 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"><li>• Oklo introduction</li><li>• Brief introduction to Experimental Breeder Reactor-II and Integral Fast Reactor</li><li>• Argonne National Laboratory presentation on fast reactor metallic fuel experience set and database</li></ul> | 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"><li>• Introductions/Meeting Goals</li><li>• Oklo Design Overview</li><li>• Continuation of Fuels Discussion</li><li>• Fuels Data QA and Equivalancies Work</li><li>• QA as applicable to Oklo</li><li>• Design Criteria</li><li>• Questions/Concerns</li></ul> | 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

| <b>Name</b>         | <b>Affiliation</b> | <b>Name</b>         | <b>Affiliation</b>                      |
|---------------------|--------------------|---------------------|---|
| 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<br>Mgmt., Inc. |

\* Only present for the public portion of the meeting.