



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

June 5, 2020

Dr. Jacob DeWitte  
Co-Founder, Chief Executive Officer  
Oklo, Inc.  
230 E. Caribbean Dr.  
Sunnyvale, CA 94089

SUBJECT: OKLO POWER LLC – ACCEPTANCE OF THE APPLICATION FOR A  
COMBINED LICENSE APPLICATION FOR THE AURORA AT IDAHO  
NATIONAL LABORATORY

Dear Dr. DeWitte:

By letter dated March 11, 2020 (Agencywide Documents Access and Management System (ADAMS Accession No. ML20075A000), Oklo Power LLC (Oklo) submitted a combined license (COL) application for one micro-reactor to be located at the Idaho National Laboratory located in Idaho. This proposed plant is to be designated as the Aurora. In your letter you stated that you were submitting the COL pursuant to the requirements of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants," Subpart C, Combined Licenses.

In accordance with 10 CFR Part 2, "Agency Rules of Practice and Procedure," Part 52, and agency procedures, the NRC staff performed an acceptance review of the Aurora COL application, assessed the various criteria and considerations specified in agency procedures associated with accepting an application, and concluded that it is in the best interest of the nation and the agency to accept this application for docketing. The docket number established for the Aurora is 52-049. As part of its decision to accept and docket the application, the NRC staff considered the following circumstances:

- The Aurora COL application is a first-of-a-kind submission involving a novel reactor design for which there is limited precedent to establish consistent standards for acceptance;
- It is in the national interest to allow innovation and the commercialization of safe and secure advanced nuclear reactors as indicated in the Nuclear Energy Innovation and Modernization Act (NEIMA); and
- Accepting the application should improve the efficiency, timeliness, and cost-effectiveness of the licensing review, and should provide opportunities to minimize the delays that may result from any necessary amendment or supplement to the application.

As stated in the March 30, 2020, letter acknowledging the receipt of the Aurora application (ADAMS Accession No. ML20083G752), it was the NRC's intention to issue a review schedule within 90 days of completion of the acceptance review. The NRC is committed to completing its safety review of the Aurora application in the most efficient and effective manner possible and within the established generic 36-month NRC schedule for such applications in accordance with

NEIMA. To that end, the NRC staff has determined that the overall review can be completed in the most efficient manner possible by reaching alignment on key safety and design aspects of the Aurora licensing basis presented in the application before initiating a detailed review of all aspects of the design. Once alignment is achieved on these foundational aspects, as discussed below, a reliable and efficient schedule for the entire licensing review can be established.

To implement this approach, the NRC plans to complete the review of the Aurora design in a two-step process. In Step 1, the NRC staff plans to engage Oklo in public meetings, conduct regulatory audits, and issue requests for additional information to efficiently align on four key safety and design aspects of the licensing basis. After gaining alignment on the key aspects in Step 1, NRC staff will have defined the scope of the full, detailed technical review and will develop a schedule to efficiently perform the review in Step 2. The four topics to be addressed during the first step of the licensing review follow.

*Maximum Credible Accident* – An analysis and evaluation of the design with the objective of assessing the risk to public health and safety and for the prevention of accidents and the mitigation of the consequences of accidents is required by 10 CFR 52.79(a)(5). The Aurora application states that the maximum credible accident would result in zero source term, a conclusion that provides the basis for Oklo's approach to other areas of the design including reduced emergency planning and security systems. Because the maximum credible accident and related source term affect several aspects of the licensing basis, the NRC concludes that early alignment is needed to provide stability to the remainder of the review. Agreement on the maximum credible accident is needed to determine the margins in the design and to inform the scope and depth needed for other areas of the application. Step one will be complete for this item when staff issues a letter documenting mutual agreement on the methodology used in the analysis and evaluation of the maximum credible accident.

*Classification of Structures, Systems and Components* – A description and analysis of the structures, systems, and components (SSCs) of the facility with emphasis upon performance requirements, the bases, with technical justification upon which these requirements have been established, and the evaluations required to show that safety functions will be accomplished, is required by 10 CFR 52.79(a)(2). Alignment on which, if any, SSCs require designation as safety related in the Aurora design is necessary so that the staff can make a reasonable assurance finding that the plant's SSCs are designed, fabricated, constructed and tested to levels of quality commensurate with their fundamental safety function. As such, the staff plans to align with Oklo on a focused, risk-informed approach that complies with NRC regulations. Step one will be complete for this item when staff issues a letter documenting the process to be used for classifying SSCs in the Aurora design and the treatment for each classification of SSCs.

*Applicability of Regulations* – The application discusses the applicability of NRC regulations to the Aurora design in Part V. The acceptance review identified several regulations Oklo identified as non-applicable to the Aurora design that require further review and early alignment. Aligning on the applicability of NRC regulations to the novel Aurora design early will provide stability to the remainder of the review. Step one will be complete for this item when the staff issues a letter documenting which, if any, of the regulations identified as non-applicable in the original application are actually applicable and require either compliance or exemptions.

*Quality Assurance Program* – The identification of components under the scope of the Quality Assurance Program and the application of the Program to the design and fabrication is required by 10 CFR 52.79(a)(25). The acceptance review identified that aligning on the scope of the

Quality Assurance Program and relationship of that Program to the license application will provide clarity and efficiency for the remainder of the review. Focus areas during this portion of the review include ensuring clear and consistent terminology within the Quality Assurance Program and in the license application and gaining an understanding of how Oklo's novel digital tracking system supports the application of the Quality Assurance Program. Understanding the underpinning quality of the design is necessary to make reasonable assurance findings in the remainder of the review. Step one will be complete for this item when the staff issues a letter documenting understanding of the scope and application of the Quality Assurance Program to the Aurora.

In license application reviews where additional information is needed, an applicant should expect that application supplements, extended schedules, and increased costs may be necessary. Therefore, timely and high-quality responses to information requests are necessary to maintain review schedules. The 2-step process adopted by NRC staff should minimize schedule and cost uncertainty. Considering the nature of the key safety and design aspects of the Aurora licensing basis needing alignment, the NRC anticipates that the four key topics described above can be addressed within five months of the date of this letter. Additionally, the NRC will begin portions of the environmental review during this five-month period for openness and to protect the overall review schedule. The NRC estimates that 2,500 hours are needed during Step 1; 1,800 hours to align on key safety and design aspects and 700 hours for environmental review. The NRC is committed to ensuring appropriate staff and management resources and focus are applied to support the timely resolution of these topics.

Following alignment on the four key safety and design aspects identified above and receipt of any associated supplemental information provided by Oklo, the NRC staff will initiate Step 2, which will include establishing a detailed review schedule and a projected level of effort. In addition to the topics to be addressed during the first step of the review, the NRC staff has identified several additional topics that will be focus areas during the second step of the review. Examples include: 1) information to support emergency planning, security systems, and site characterization; 2) adequacy and completeness of technical specifications and pre-operational and start-up testing; and 3) use of non-licensed personnel to start up and operate the reactor. Successful completion of Step 2 will involve the staff making its reasonable assurance findings regarding the Aurora application, successful completion of the Advisory Committee on Reactor Safeguards review, and issuance of the staff's Final Safety Evaluation Report.

The enclosed *Federal Register* Notice of acceptance for docketing has been forwarded to the Office of the *Federal Register*. In accordance with the provisions of 10 CFR 2.104, a separate notice will be published regarding the opportunity to file a petition for leave to intervene in a hearing regarding this application.

J. DeWitte

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If you have any questions, I can be reached by phone at (301) 415-0498 or by email at [Jan.Mazza@nrc.gov](mailto:Jan.Mazza@nrc.gov).

Sincerely,

*/RA/*

Jan Mazza, Project Manager  
Advanced Reactor Licensing Branch  
Division of Advanced Reactors and Non-Power  
Production and Utilization Facilities  
Office of Nuclear Reactor Regulation

Docket No. 52-049

Enclosure:  
*Federal Register* Notice

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**ADAMS Accession Nos. Pkg. ML20149K604; Letter ML20149K616; FRN ML20149K621  
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