



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

July 7, 2025

Mr. Ross Moore
Senior Director of Regulatory Affairs
Oklo, Inc.
3190 Coronado Dr.
Santa Clara, CA 95054

SUBJECT: OKLO, INC. – REPORT ON LIMITED SCOPE PREAPPLICATION READINESS
ASSESSMENT FOR PHASE ONE OF A COMBINED LICENSE APPLICATION

Dear Mr. Moore:

By letter dated February 21, 2025 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML25052A168), Oklo Inc. (Oklo) submitted a response to Regulatory Issue Summary 2020-02, "Process for Scheduling and Allocating Resources for Fiscal Years 2023-2025 for the Review of New Licensing Applications for Light-Water and Non-Light-Water Reactors," that indicated a readiness assessment was requested for the first phase of its combined license (COL) application (COLA) to begin the last week of March 2025. Oklo stated that it intends to submit at least one COLA under Title 10 of the *Code of Federal Regulations* (10 CFR) Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants," for its Aurora powerhouse in calendar year 2025, which will be deployed at the U.S. Department of Energy's (DOE's) Idaho National Laboratory (INL). Oklo plans to submit the application for the Aurora at INL in two phases in accordance with 10 CFR 2.101(a)(5). Phase I is anticipated to include the following: the environmental report (ER); final safety analysis report (FSAR) information supporting 10 CFR 52.79(a)(1); company information and financial requirements; the State of Idaho Emergency Operations Plan; and the INL Emergency Plan.

The U.S. Nuclear Regulatory Commission (NRC) staff issued a preapplication readiness assessment plan to Oklo by letter dated March 19, 2025, outlining the proposed approach for conducting the limited scope readiness assessment (ML25057A385). The readiness assessment entrance meeting was conducted on March 31, 2025. During the meeting, Oklo provided the NRC staff with an overview of their approach to the design and operations for the Aurora Powerhouse and the structure of its proposed phase I preliminary COLA. The NRC staff briefed Oklo on the status of the readiness assessment during a meeting held on April 16, 2025. The readiness assessment timeline was extended, at Oklo's request, to facilitate the staff's review of proposed revisions to the ER. An overview of the assessment, including general observations, is provided below. The detailed results of the assessment are included as enclosures to this letter.

Assessment Approach

The NRC staff conducted the limited scope readiness assessment in accordance with the Office of Nuclear Reactor Regulation's office instruction LIC-116, "Preapplication Readiness Assessment" (ML20104B698). As indicated in LIC-116, readiness assessments provide the

NRC staff with opportunities to (1) identify any required information that is missing from an application, (2) identify technical or regulatory issues that may complicate the acceptance or technical reviews of an application, and (3) become familiar with the content of an application, particularly in areas where applicants plan to propose new concepts or novel design features. While readiness assessments provide valuable insights for the NRC staff and prospective applicants regarding preliminary applications, the readiness assessment is not part of the NRC's official acceptance review process and is not intended to determine whether the associated COLA will be acceptable for docketing, as would be required by 10 CFR Part 2, "Agency Rules of Practice and Procedure."

To support the NRC staff's assessment, Oklo made available phase I of its preliminary COLA in an electronic reading room. The preliminary COLA phase I included the ER; FSAR information supporting 10 CFR 52.79(a)(1); company and financial information; the State of Idaho Emergency Operations Plan; and the INL Emergency Plan. Oklo's licensing project plan update dated December 20, 2024 (ML24356A001) stated that the scope of the first phase of the COLA would include portions of FSAR chapter 5 "Transient analysis," and portions of Part V "Applicability of regulations" of the COLA. In the draft COLA shared with the staff, this information was included in chapter 1 of the FSAR.

The NRC staff's observations from the readiness assessment are included in enclosures 1 (public) and 2 (proprietary) to this letter. The observations were assigned one of the following three categories:

- **Category A – Gap:** Information that the NRC staff perceives to be necessary to meet the information requirements in 10 CFR 52.77, 52.79(a)(1), and 52.80(b), that was not provided in the preliminary COLA.
- **Category B – Items Requiring Additional Information:** Items that the NRC staff perceive as needing justification or additional information to support a regulatory finding.
- **Category C – Other:** Observations that should be addressed or considered by Oklo to support the development of a quality application. If unaddressed they could negatively impact the NRC staff's review of the application, including resources and schedule.

Consistent with the readiness assessment plan, the NRC staff shared observations with Oklo through written observations and during real-time discussions. During these engagements, Oklo offered initial responses on how it planned to address the staff observations (e.g., updating its FSAR or ER, making additional information available for audit during the application review phase). Oklo shared some proposed updates to Chapter 1 of the FSAR on April 15, 2025, and to the ER on May 9, 2025. The NRC staff found Oklo's verbal responses helpful to contextualize observations and considered this input when categorizing observations.

The staff considered Oklo's description of the preliminary Aurora Powerhouse design characteristics to right-size and adapt regulatory requirements originally developed for large light water reactor reviews. The staff also considered novel approaches that are under development for new technologies that are significantly different from those applied to the current operating fleet.

General Observations

In addition to the specific observations included in the enclosures to this letter, the NRC staff made several general observations regarding Oklo's preliminary phase I COLA including the following:

- Because the readiness assessment evaluated only one chapter of the FSAR, which is expected to include a total of 24 chapters, the staff cannot make any conclusions at this time regarding its ability to accept the complete FSAR for review. The staff recognizes that most of the design information will be included in phase II of the COLA.
- The staff identified several instances in which additional information in supporting documents will need to be included in the application. The information that forms the basis for safety and environmental findings must be provided on the docket; including this information in the COLA will facilitate acceptance of the application for review and reduce the need for requests for additional information (RAIs).
- The draft application includes the terminology "reference COLA" (R-COLA) and "subsequent COLA" (S-COLA). Regulatory Guide (RG) 1.206, Revision 1, "Applications for Nuclear Power Plants," uses these terms in the context of applications that reference a design certification (DC). Since Oklo does not intend to reference a DC, the NRC staff indicated that content from an initial NRC-approved COL does not propt finality for future COLs, and that use of these terms could reduce clarity.
- The NRC staff encouraged Oklo to seek efficiencies through standardization of information in COLAs for the same or similar designs at subsequent sites, provided the standardized and site-specific information is clearly identified. The staff notes that some references to "R-COLA" were removed in the revised draft FSAR Chapter 1 that was shared with the staff on April 15, 2025.
- The following general observations are relevant to multiple subject areas in the draft ER and describe how the ER will benefit from additional detail to support the staff's review:
 - Statements were provided by Oklo but bases or citations to support the statements were not provided to justify their use or applicability to the application.
 - Draft ER Table 1-4 appeared to be missing key permits and authorizations for several environmental activities, such as DOE's National Environmental Policy Act (NEPA) analysis for pre-construction, a permit for the on-site septic system (described in draft ER Section 1.6), and authorization needed from the Bureau of Land Management (BLM) and others for transmission lines.
 - There is no description in the ER indicating which activities are planned under pre-construction versus those to occur as construction activities. It is suggested that Oklo separate which activities will be covered by DOE's NEPA analysis versus which are planned to be covered under NRC's NEPA analysis. Descriptions on site layout, permanent versus temporary disturbances, depths of disturbances, right-of-way, and similar information would be pertinent for NRC's review. Providing information on pre-construction and construction activities is a requirement in the NRC's regulations at 10 CFR Part 51.

- The transmission line is a connected action to the project and should be included in the project area. Information needed for NRC's review includes length and width of the transmission line right-of-way, locations of where towers will be installed, laydown yards, depths of disturbances, and other pertinent information, such as survey information to conduct National Historic Preservation Act and Endangered Species Act consultations.
- Development of the plant parameter envelope (PPE) and site parameter envelope (SPE) should allow subsequent reviews to tier off the first-of-a-kind (FOAK) review. The information and supporting documentation for the PPE and SPE parameters must adequately facilitate the examination of the review of impacts associated with development of future plants by allowing analysis of broad impacts of the surrogate or FOAK plant and the reasonably foreseeable consequences of the parameters. PPE and SPE values using INL data should include supporting documentation for NRC's review and determination. Inclusion of data from the draft New Reactor (NR) Generic Environmental Impact Statement (GEIS) as a baseline for PPE and SPE values should acknowledge that the GEIS is still in draft form and the final environmental impact statement (EIS) has not been approved by the Commission.
- Some of the approaches described in the preliminary phase I COLA depend on supporting information that will be documented in phase II. In these cases, Oklo should add a cross-reference in the phase I COLA to the section of the phase II COLA that will contain the supporting information. Further, NRC findings on such approaches are dependent on provision of adequate information in the phase II submittal. For example, the level of detail necessary for site characterization and hazard analysis included in phase I is dependent on the natural phenomena hazard (NPH) design category (NDC) methodology provided in phase II.¹ These cases introduce a risk that changes or supplemental information may be needed subsequent to the COLA submittal, which could result in significant additional resources and extended review timelines.

Next Steps

The NRC staff expects that Oklo will review the enclosed observations to inform phase I of its forthcoming COLA for the INL site.

If you have any questions regarding this matter, please contact Donna Williams, at (301) 415-1322 or via email at Donna.Williams@nrc.gov.

Sincerely,



Jonathan Greives, Acting Director
Division of Advanced Reactors and Non-Power
Production and Utilization Facilities
Office of Nuclear Reactor Regulation

¹ Additional feedback on the seismic site characterization and seismic hazard analysis is included in enclosures 3 (public) and 4 (proprietary) enclosure to this letter.

Project No. 99902095

Enclosures:

1. Observations Table (public)
2. Observations Table (proprietary)
3. Additional feedback on seismic site characterization and seismic hazard analysis (public)
4. Additional feedback on seismic site characterization and seismic hazard analysis (proprietary)

cc: Oklo Powerhouse
via Gov Delivery

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ADAMS Accession Nos.: package ML25178A078**Cover letter ML25178A002****Enclosure 1: ML25178C715****Enclosure 2: ML25178A003 (proprietary)****Enclosure 3: ML25178C716****Enclosure 4: ML25178A004 (proprietary)****NRR-106**

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