



November 8, 2023

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
11555 Rockville Pike
Rockville, MD 20852

Subject: Oklo Inc.
“Development of Regulatory Controls: Shutdown Case Study” White Paper

Oklo Inc. (Oklo) is submitting to the U.S. Nuclear Regulatory Commission (NRC) a white paper entitled, “Development of Regulatory Controls: Shutdown Case Study,” as Enclosure 1 to this letter. Oklo’s approach to safety classification was a key topic identified for closure of Step 1 and an open item from the previous NRC staff review of the Aurora combined license application. During that review, NRC staff were seeking to understand “the process to be used for for classifying SSCs [structures, systems, and components] in the Aurora design and the treatment for each classification of SSCs.”¹

This white paper is one of a series of white papers that are intended to reach alignment between Oklo and the NRC staff on Oklo’s safety classification approach. Oklo intends, through the submittal of this white paper, to demonstrate and reach alignment on Oklo’s systematic process for classifying functions across the design, and transcribing those to structures, systems, and components, through the specific exemplification of a limiting event, as applied to the Aurora powerhouse. Oklo recognizes that the final classification process and results will be the subject of a future application review by NRC staff; however, the closure of this topic for the purposes of pre-application is a key step forward.

The development of Oklo’s safety classification approach was necessitated by the unique safety characteristics of advanced fission technologies versus the existing fleet, and motivated by the extensive lessons learned from ensuring proper design control for the existing fleet. Oklo’s designs, and the many advanced fission technologies with advanced safety characteristics, should be recognized for their contribution to meeting the NRC’s Policy Statement on Advanced Reactors. An additional motivation for this safety classification approach is Oklo’s business model, which is different from the traditional nuclear power plant model. Oklo has the unique opportunity and responsibility, as a modern owner-operator, to consider how the licensing basis will be maintained in its operating facilities. And unlike the operating fleet, the majority of which was built many decades before modern digital documentation, now there is the corollary opportunity and responsibility to modernize documentation and to use modern tools to track maintenance and operation of plants. Specifically, Oklo is intending to clearly articulate regulatory controls in its license applications, providing a direct tie between the regulatory controls and what portions of the design must be upheld to maintain its licensing basis. It is therefore in Oklo’s best interest to provide the NRC staff clear regulatory controls for transparency in the oversight of its facilities.

This paper expounds upon previous discussions and submittals related to Oklo’s approach to safety classification for its designs, including how regulatory controls and design bases are

¹ Letter from NRC to Dr. Jacob Dewitte, “Oklo Power LLC – Acceptance of the application for a Combined License Application for the Aurora at Idaho National Laboratory,” June 5, 2020, ML20149K616.



developed. Specifically, this white paper provides a case study of a loss of heat sink initiating event, evaluating plant response and the overall reliance on the shutdown function.

Oklo looks forward to and is prepared to support the NRC staff in reviewing this white paper. In Enclosure 3, Oklo respectfully requests written feedback from the NRC staff review.

Oklo requests that Enclosure 1 and Enclosure 3 be withheld in their entirety from public disclosure pursuant to 10 CFR §2.390, due to including detailed confidential and proprietary business information and strategy.

If you have any questions or need any additional information, please contact me at ross@oklo.com or (650) 550-0127.

Sincerely,

A handwritten signature in black ink, appearing to read "Ross Moore".

Ross Moore
Director of Regulatory Affairs
Oklo Inc.

Enclosure: (1) Development of Regulatory Controls: Shutdown Case Study
(2) Affidavit regarding request for withholding
(3) Feedback request for "Development of Regulatory Controls: Shutdown Case Study" White Paper

CC (with enclosures):

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