

August 10, 2020

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

In the Matter of

OKLO POWER, LLC.

(Aurora Reactor)

Docket No. 52-049-COL

**NRC STAFF ANSWER OPPOSING EMERGENCY PETITION TO SUSPEND DOCKETING
DECISION AND HEARING NOTICE**

INTRODUCTION

The U.S. Nuclear Regulatory Commission (NRC) Staff (the Staff) herein answers the Emergency Petition to suspend the docketing and hearing notices for the Oklo Aurora application that was filed by multiple organizations (the Petitioners) on July 31, 2020.¹ The Petitioners request that the Commission immediately revoke or suspend the docketing notice and the Notice of Hearing for the review of the combined license (COL) application submitted by Oklo Power, LLC (the Applicant) and request clarification that the Nuclear Energy Innovation

¹ Emergency Petition . . . to Immediately Suspend Docketing Notice and Hearing Notice for Combined License Application for Oklo Power, LLC and Request Clarification that Nuclear Energy Innovation and Modernization Act Does Not Mandate or Authorize Disregard of NRC Procedural Requirements for New Reactor License Applicants (July 31, 2020) (ADAMS Accession No. ML20213C692) (Petition). The Petitioners are: Beyond Nuclear, Blue Ridge Environmental Defense League, Citizens Awareness Network, Citizen Power, Citizens' Resistance at Fermi Two, Concerned Citizens for Nuclear Safety, Don't Waste Michigan, Ecological Options Network, Food and Water Watch, Friends of the Earth, HEAL Utah, Indian Point Safe Energy Coalition, Manhattan Project for a Nuclear-Free World, National Nuclear Workers for Justice, Nevada Nuclear Waste Task Force, Nuclear Energy Information Service, Nuclear Information and Resource Service, Nuclear Watch New Mexico, Oak Ridge Environmental Peace Alliance, Physicians for Social Responsibility, Portsmouth/Piketon Residents for Environmental Safety and Security, Promoting Health and Sustainable Energy, Tennessee Environmental Council, Three Mile Island Alert, San Luis Obispo Mothers for Peace, Snake River Alliance, Tri-Valley Cares, and Uranium Watch.

and Modernization Act (NEIMA) does not “mandate or authorize disregard of NRC procedural requirements for new reactor license applicants.”

The Petitioners have failed to demonstrate that the Staff’s docketing of the Application presents an immediate threat to public health and safety or otherwise present a compelling reason to warrant terminating the Staff’s review of the Application. Moreover, the Commission’s regulations do not provide for a “motion to dismiss” an application, and to the extent the Emergency Petition could be interpreted as a hearing request, the Petitioners have failed to address standing or the requirements for contention admissibility in 10 C.F.R. § 2.309(f)(1). Therefore, although other narrowly tailored relief, such as extending the deadline for intervention petitions, may be appropriate, the Petition should be denied.

BACKGROUND

In March 2020, Oklo submitted a COL application (Application) to build and operate a 4-megawatt thermal (MWth) micro-reactor called the Aurora on the site of the Idaho National Laboratory (INL).² Unlike the currently operating U.S. power reactor fleet, the Aurora would not use light water as a coolant or moderator.³ The NRC accepted the Application for docketing by letter on June 5, 2020 and noted at that time that it plans to complete the review of the Aurora design in a two-step process.⁴ A notice of hearing was subsequently published in the *Federal Register*, setting a deadline of August 31, 2020 for intervention petitions.⁵

² Oklo Power Combined Operating License Application for the Aurora at INL (Mar. 11, 2020) (ML20075A000 (package)) (Application). INL is owned by the U.S. Department of Energy.

³ Application, Part II at 2.

⁴ Letter from Jan Mazza, NRC, to Dr. Jacob DeWitte, Oklo, Inc. (June 5, 2020) (ML20149K616) (Docketing Letter); see also Oklo Power LLC, Combined license application; acceptance for docketing, 85 Fed. Reg. 36,427 (June 16, 2020).

⁵ Oklo, Inc.; Oklo Power LLC, Combined license application; notice of hearing and opportunity to petition for leave to intervene; order imposing procedures, 85 Fed. Reg. 39,214 (June 30, 2020) (Notice of Hearing).

DISCUSSION

The Petitioners request that the Commission revoke or suspend the docketing decision for the Aurora Application and the related notice of hearing, which would have the practical effect of terminating the Staff's review.⁶ However, they have failed to demonstrate that such extreme relief is warranted here. Below, the Staff first explains the two-step review process contemplated for the review of Oklo's application and why it remains consistent with the Commission's publicly stated intentions regarding the review of non-light water reactors. The Staff then explains why the Petitioners have failed to meet the high bar the Commission has deemed necessary to justify the "drastic action" of suspending a licensing review. For these reasons, the Commission should deny the Petition.

The NRC acknowledges that some regulations and guidance developed for large LWRs may not apply to non-light water reactors (non-LWRs) like the Aurora, and that to license such reactors under the NRC's existing regulatory framework, exemptions and new review strategies may be needed.⁷ The NRC has begun the process of developing a new regulatory framework for non-LWRs, as required by Section 103(a)(4) of NEIMA.⁸ However, the NRC expects to review the first non-LWR license applications under the current regulatory framework, with the

⁶ Petition at 8 & 31. In the event the docketing notice is revoked or suspended, the Staff's review would be effectively terminated because the Staff would no longer have an application before it for review or a docket for the submission of additional information.

⁷ See, e.g., Regulatory Guide (RG) 1.232, Guidance for Developing Principal Design Criteria for Non-Light-Water Reactors (Apr. 2018) (ML17325A611) (providing guidance on how the general design criteria in Appendix A of 10 C.F.R. Part 50 may be adapted for non-LWR designs). See *generally* A Regulatory Review Roadmap for Non-Light Water Reactors (Dec. 2017) (ML17312B567); NRC Vision and Strategy: Safely Achieving Effective and Efficient Non-Light Water Reactor Mission Readiness (Dec. 2016) (ML16356A670) (Vision and Strategy); see also U.S. NRC Report to Congress: Advanced Reactor Licensing (Aug. 2012) at 3 (ML12153A014); "Feasibility Study for a Risk-Informed and Performance-Based Regulatory Structure for Future Plant Licensing," NUREG-1860, at 1-3 (Dec. 2007) (ML073400763).

⁸ "Rulemaking Plan on 'Risk-Informed, Technology-Inclusive Regulatory Framework for Advanced Reactors (RIN-3150-AK31; NRC-2019-0062)," Commission Paper SECY-20-0032, at 2 (Apr. 13, 2020) (ML19340A056); see also NEIMA, Pub. L. No. 115-439, § 103, 132 Stat. 5565, 5571 (2019).

use of exemptions, as necessary, as well as standard regulatory tools such as audits and Staff requests for additional information (RAIs).⁹

The Staff will address four topics in Step 1 of this application review process: the Applicant's use of a maximum credible accident (MCA) in its safety case; the Applicant's classification of structures, systems, and components (SSCs); the applicability of NRC regulations to a non-LWR reactor design like the Aurora; and certain aspects of the Applicant's quality assurance program.¹⁰ At the end of Step 1, the Staff will develop a review schedule for Step 2 and complete the remainder of its technical review. In both review steps, the Staff may conduct public meetings, carry out regulatory audits, and, where necessary, issue RAIs to obtain additional information on the docket to serve as the basis for regulatory findings.¹¹

The Staff acknowledges that the deadlines specified in 10 C.F.R. § 2.309(b) do not address this two-step process. During consultation with the Petitioners, the Staff therefore expressed that it would not oppose a request to extend the deadline for intervention petitions until after the Staff's completion of Step 1 as a way to address the Petitioners' concerns regarding public availability of information about the application.¹²

A. Suspension or Revocation of the Docketing Decision is a Drastic Action

The Petitioners request that the Commission revoke or suspend the docketing decision for the Aurora Application and the related notice of hearing, but they have failed to demonstrate

⁹ See RG 1.232 at 1, 9, & 18-19; Vision and Strategy at 7.

¹⁰ Docketing Letter at 2-3.

¹¹ *Id.* at 2.

¹² The Staff has addressed the Petitioners' complaint that certain documents, including the Application and documents related to an April 2020 audit, were not viewable by docket number in the Agencywide Documents Access and Management System (ADAMS). Although the documents were in ADAMS and accessible from the NRC's public website, and the Petitioners obtained access to them, the Petitioners correctly noted that the documents were not yet profiled by docket number in ADAMS. The Staff has corrected the electronic information associated with these files so that the docket number is included.

a basis for such extreme relief.¹³ The Commission has previously found that a request to suspend a licensing proceeding is “a drastic action that is not warranted absent immediate threats to public health and safety, or other compelling reason.”¹⁴ Here, the Petitioners assert that the docketing decision and the two-step review process create a proceeding “in which it will be impossible for interested members of the public to get a fair hearing because there is no complete license application to evaluate or challenge,” and they also contend that the Oklo review is “potentially precedent-setting, and could affect” other future potential proceedings.¹⁵ But the Petitioners have not demonstrated that the Staff’s docketing of the Application, its two-step review process, or beginning the technical review presents an immediate threat to public health and safety or presents a compelling reason to suspend the docketing decision or terminate the review. The Commission should, therefore, deny the Petition. The Staff addresses several specific points raised in the Petition below.

1. *The Staff has discretion in conducting its reviews.*

The Staff has discretion in how to structure and conduct its reviews, and the hearing process is not directed at “supervising the NRC staff’s independent safety review.”¹⁶ As the Commission has stated previously, the Staff’s decision to docket an application “is simply a screening process—a determination whether the license application contains sufficient information for the NRC to *begin its safety review*.”¹⁷ The Petitioners have argued that the Staff

¹³ See Petition at 8 & 31.

¹⁴ *Union Elec. Co.* (Callaway Plant, Unit 2), CLI-11-5, 74 NRC 141, 158 (2011) (internal citations and quotations omitted); *see also AmerGen Energy Co.* (Oyster Creek Nuclear Generating Station), CLI-08-23, 68 NRC 461, 484 (2008); *Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), CLI-00-20, 52 NRC 151, 173-74 (2000).

¹⁵ Petition at 4-5.

¹⁶ Changes to Adjudicatory Process, 69 Fed. Reg. 2182, 2202 (Jan. 14, 2004); *see also Oyster Creek*, 68 NRC at 476 (“The NRC has not, and will not, litigate claims about the adequacy of the Staff’s safety review in licensing adjudications.”).

¹⁷ *Dept. of Energy* (High Level Waste Repository: Pre-Application Matters), CLI-08-20, 68 NRC 272, 274 (2008) (emphasis added).

has cited NEIMA as a justification for “knowingly and intentionally disregard[ing] NRC docketing regulations.”¹⁸ Their argument lacks merit, however, because the Staff “does not violate any clear legal duty by proceeding first to docket an application and thereafter to request additional information.”¹⁹ While the two-step review process is innovative, it is consistent both with the requirements in 10 C.F.R. § 2.101(a) and NEIMA.²⁰

2. *Use of audits and RAIs follows normal practice and does not support the Petitioners’ requested relief.*

The Petitioners describe concerns regarding the use of audits and whether information relevant to the Application will be submitted on the docket.²¹ The use of audits in NRC licensing is well established, and the Commission has confirmed the audit process to be “entirely consistent with sound regulatory practice.”²² For reactor licensing, audits are conducted according to guidance in NRC Office of Nuclear Reactor Regulation (NRR) Office Instruction LIC-111, “Regulatory Audits,” which states that materials examined during an audit may inform the Staff’s technical review but cannot be used to support a regulatory finding on an application.²³ The Staff conducted one audit during the docketing review of Oklo’s Application, and it held a Category 2 public meeting related to the audit on April 15, 2020.²⁴ Additional audits may be conducted as part of the Staff’s review, and the Staff will make information regarding

¹⁸ See Petition at 4.

¹⁹ *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 336 (1999) (internal quotations omitted).

²⁰ See NEIMA § 103, 132 Stat. at 5571.

²¹ Petition at 10-13.

²² *Exelon Generation Co.* (Early Site Permit for Clinton ESP Site), CLI-07-12, 65 NRC 203, 208 (2007).

²³ NRR Office Instruction LIC-111, “Regulatory Audits,” Rev. 1 (Oct. 31, 2019) at 3-4 (ML19226A274).

²⁴ Public Meeting Announcement, Notice of Meeting With Oklo, Inc. (Apr. 15-16, 2020) (ML20105A282). The Petition references the audit plan for this audit. Petition at 10-13, citing Audit Plan for the Oklo Power LLC. Aurora Reactor Combined License Application Acceptance Review (Apr. 1, 2020) (ML20079L202). The audit summary report for this audit is in concurrence at the time of this filing and will be released publicly.

these audits public as plans are confirmed. Because the use of audits is a routine part of NRC licensing, the concern the Petitioners express regarding the Staff's use of audits is misplaced and does not justify the extreme remedies they request.

Similarly, the Staff's use of RAIs has been upheld by the Commission and does not warrant terminating the docketing or review of the Application.²⁵ Regulatory findings must be based on information on the docket and when additional information is necessary, RAIs are the means by which the Staff obtains information on the docket to support a regulatory finding.²⁶ The Staff may identify information during an audit that it subsequently requests in an RAI;²⁷ however, the April-May 2020 audit was part of the docketing review of the Aurora Application, conducted before a docket was established, and no RAIs were issued at that time. The Staff may issue RAIs following future audits, and, as in other licensing reviews, RAIs and RAI responses will be docketed. As with audits, the routine use of the RAI process does not justify the novel and unprecedented remedies the Petitioners seek.

3. *Specific items to be resolved in Step 1 do not support the relief requested.*

The Petitioners make several claims related to the specific issues the Staff's Docketing Letter identified for resolution in Step 1 of the technical review.²⁸ The Staff has not yet made its findings on any Step 1 issues and the Petitioners have not explained why the Staff's plan to

²⁵ The Commission has upheld RAIs as a normal part of the Staff's review process. See, e.g., *Oconee*, 49 NRC at 336 (stating RAIs "are a routine means for our Staff to request clarification or further discussion of particular items in the application."); *Baltimore Gas & Elec. Co.* (Calvert Cliffs Nuclear Power Plant, Units 1 and 2), CLI-98-25, 48 NRC 325, 349 (1998) (stating "RAIs are a standard and ongoing part of NRC licensing reviews"). The Staff also clearly stated in its *Federal Register* notice announcing the docketing of the Application that additional information may be requested from the Applicant. 85 Fed. Reg. at 36,427 (stating that "[d]ocketing of the application does not preclude the NRC from requesting additional information from the applicant as the review proceeds, nor does it predict whether the Commission will grant or deny the application.").

²⁶ The RAI process is described in NRR Office Instruction LIC-115, "Processing Requests for Additional Information," Rev. 0 (Nov. 6, 2019) (ML19242B237).

²⁷ See LIC-115 at 11.

²⁸ Docketing Letter at 2-3.

review these issues before it reviews the rest of the Application justifies the drastic remedies they seek.

As the Petitioners note,²⁹ the Application includes a list of regulations that the Applicant identified as not applicable to the Aurora design.³⁰ However, while the Petitioners appear to assume that this approach renders the application incomplete, they do not distinguish between regulations that apply only to LWRs, and those that may also apply to other reactor technologies.³¹ Some of the listed regulations apply only to LWRs; for example, 10 C.F.R. § 50.46, "Acceptance criteria for emergency core cooling systems for light-water nuclear power reactors," states that it applies only to boiling and pressurized light-water nuclear power reactors with specific fuel types.³² In this example, the plain language of the regulation excludes non-LWRs such as the Aurora, while other listed regulations do not include language restricting applicability to specific reactor technologies. As part of its technical review, the Staff is evaluating the extent to which these other listed regulations are technically relevant to the Aurora design and the extent to which they are not technically relevant such that exemptions under 10 C.F.R. § 50.12 would be required.

The Petitioners also note that Step 1 of the technical review will include review of the Applicant's use of a Maximum Credible Accident as part of its safety case, but they do not demonstrate why the Staff's approach to the review of Aurora's MCA and related Step 1 issues (safety requirements for plant SSCs and quality assurance) warrants reversal of the docketing decision or termination of the review.³³ As the Staff has explained, an important part of the reactor design process is the identification of events that could challenge key safety functions

²⁹ Petition at 2, 14-15.

³⁰ See Application, Part V at 6-13.

³¹ Petition at 7.

³² 10 C.F.R. § 50.46(a)(1)(i).

³³ Petition at 14-15.

and layers of defense against the release of radioactive materials.³⁴ For example, the Aurora Application relies on identification of an MCA that, according to the Applicant, bounds all other events.³⁵ The Petitioners object to the amount of information in the Application but fail to explain why the Staff's use of a two-step review process or its decision to review the Applicant's MCA before developing a schedule for reviewing the remainder of the application warrant reversing the docketing decision or terminating the review.

B. Standing

Although the Commission has held that NRC regulations do not provide for a motion to dismiss a licensing proceeding, the Staff has out of an abundance of caution treated the Petition as a motion for purposes of this answer.³⁶ While a demonstration of standing to file a motion is not specifically required under 10 C.F.R. § 2.323,³⁷ the Commission has suggested that petitioners who seek to suspend a licensing proceeding must address standing.³⁸ Recently, the Commission directed a Licensing Board to review a petitioner's "motion to dismiss" a license

³⁴ See, e.g., Regulatory Guide 1.233, Rev. 0, Guidance for a Technology-Inclusive, Risk-Informed, and Performance-Based Methodology to Inform the Licensing Basis and Content of Applications for Licenses, Certifications, and Approvals for Non-Light-Water Reactors at 11 (June 2020) (ML20091L698).

³⁵ See Application, Part II at 239.

³⁶ See *Holtec International* (HI-STORE Consolidated Interim Storage Facility), CLI-20-4, 91 NRC ___ (Apr. 23, 2020) (slip op. at 4 n.15). The petitioners in *Holtec* sought to have an application dismissed by challenging whether certain underlying conditions of the application were lawful. Here, the Petitioners seek similar relief by challenging the Staff's decision to docket the application under 10 C.F.R. § 2.101(a). As in *Holtec*, the Staff interprets this filing as a motion under 10 C.F.R. § 2.323, one that seeks relief that, as the Commission explained, is not contemplated by NRC regulations.

³⁷ See 10 C.F.R. § 2.323(b).

³⁸ In its decision on a petition to suspend a licensing action following the terrorist attacks on September 11, 2001, the Commission stated that one petitioner had "no legitimate place in [the] proceeding" because that petitioner had not filed an intervention petition or sought permission to participate in the proceeding in other ways. The Commission did address a different petitioner's similar motion because that petitioner had addressed standing in an earlier petition to intervene. *Duke Cogema Stone & Webster* (Savannah River Mixed Oxide Fuel Fabrication Facility), CLI-01-28, 54 NRC 393, 398 (2001).

application as a hearing request under 10 C.F.R. § 2.309, which also requires a petitioner to establish standing.³⁹

The Petitioners include twenty-eight organizations from various parts of the country,⁴⁰ but the Petition does not explain how any of the organizations listed meet the standing requirement in 10 C.F.R. § 2.309(d). In fact, the Petition does not mention standing at all except to provide a general statement that the various organizations joining in the Petition are “potential neighbors of new non-LWRs and SMRs.”⁴¹ The Commission has previously stated that a “generalized grievance” is not sufficient to establish standing.⁴² Whether the Petition is evaluated as a motion under 10 C.F.R. § 2.323 or a petition to intervene under 10 C.F.R. § 2.309, the Petitioners’ general statement about being “potential neighbors” of potential new reactors at various locations in the United States is not a sufficient demonstration of standing to challenge a license application for a potential new reactor at INL, and therefore, the Petition should be denied.

CONCLUSION

The remedies the Petitioners request are drastic and not warranted by the nature of the Staff’s review of the Application for the Aurora or the process the Staff has established to conduct its technical review of the Application. To the extent the Commission chooses to respond to the Petitioners’ concerns regarding the two-step review process and the availability of information about the Aurora design, the Commission may wish to consider extending the deadline for petitions challenging the Application to the completion of Step 1 of the Staff’s review, as an alternative and more narrowly tailored means of addressing those stated

³⁹ *HI-STORE*, CLI-20-4, 91 NRC__ (Apr. 23, 2020) (slip op. at 4 n.15); see also 10 C.F.R. § 2.309(d) (listing the standing requirements a petitioner must meet).

⁴⁰ Petition at 1.

⁴¹ *Id.* at 4-5.

⁴² *Metro. Edison Co.* (Three Mile Island Nuclear Station, Unit No. 1), CLI-83-25, 18 NRC 327, 333 (1983).

concerns. However, the Petitioners have failed to demonstrate that the Staff's docketing or two-step review of the Application presents an immediate threat to public health and safety, and they offer no other compelling reason for terminating the Staff's review of the Application. Their Petition should therefore be denied.

/Signed (electronically) by/

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Executed in Accord with 10 CFR 2.304(d)

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Dated in Gaithersburg, MD
this 10th day of August 2020

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

In the Matter of

OKLO POWER, LLC.

(Aurora Reactor)

Docket No. 52-049-COL

Certificate of Service

Pursuant to 10 C.F.R § 2.305, I hereby certify that copies of the foregoing “NRC STAFF ANSWER OPPOSING EMERGENCY PETITION TO SUSPEND DOCKETING DECISION AND HEARING NOTICE,” dated August 10, 2020, have been served upon the Electronic Information Exchange (the NRC’s E-Filing System), in the captioned proceeding, this 10th day of August 2020.

/Signed (electronically) by/

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Dated in Gaithersburg, MD
this 10th day of August 2020