

NUCLEAR REGULATORY COMMISSION

[Docket Nos. 50-611 and 50-612; NRC-2023-0138]

Kairos Power, LLC

Hermes 2

AGENCY: Nuclear Regulatory Commission.

ACTION: Construction permit application; acceptance for docketing.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) staff accepts and docketed an application for a construction permit for the Hermes 2 test reactor facility to be built in Oak Ridge, Tennessee.

DATES: This action becomes effective on September 11, 2023.

ADDRESSES: Please refer to Docket ID **NRC-2023-0138** when contacting the NRC about the availability of information regarding this document. You may obtain publicly available information related to this document using any of the following methods:

- **Federal Rulemaking Website:** Go to <https://www.regulations.gov> and search for Docket ID **NRC-2023-0138**. Address questions about Docket IDs in Regulations.gov to Stacy Schumann; telephone: 301-415-0624; email: Stacy.Schumann@nrc.gov. For technical questions, contact the individual listed in the "For Further Information Contact" section of this document.

- **NRC's Agencywide Documents Access and Management System**

(ADAMS): You may obtain publicly available documents online in the ADAMS Public Documents collection at <https://www.nrc.gov/reading-rm/adams.html>. To begin the search, select "Begin Web-based ADAMS Search." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-209, at 301-415-4737, or by email to PDR.Resource@nrc.gov. The ADAMS accession number

for each document referenced (if it is available in ADAMS) is provided the first time that it is mentioned in this document.

- **NRC's PDR:** The PDR, where you may examine and order copies of publicly available documents, is open by appointment. To make an appointment to visit the PDR, please send an email to PDR.Resource@nrc.gov or call 1-800-397-4209 or 301-415-4737, between 8 a.m. and 4 p.m. eastern time (ET), Monday through Friday, except Federal holidays.

- **NRC's Public Website:** The construction permit application is available under the NRC's Hermes Construction Permit Application public website at <https://www.nrc.gov/reactors/non-power/new-facility-licensing/hermes2-kairos.html>.

FOR FURTHER INFORMATION CONTACT: Michael Orenak, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; telephone: 301-415-3229; email: Michael.Orenak@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. Discussion

On July 14, 2023, Kairos Power LLC (Kairos) filed, pursuant to part 50 of title 10 of the *Code of Federal Regulations* (10 CFR), "Domestic Licensing of Production and Utilization Facilities," an application (ADAMS Package Accession No. ML23195A121) for a construction permit for the Hermes 2 test reactor facility (a "testing facility" as defined in 10 CFR 50.2), which would be located in Oak Ridge, Tennessee. The Hermes 2 facility would contain two fluoride-salt cooled, high-temperature reactors that use solid tri-structural isotropic fuel in pebble form, intermediate liquid-sodium loops, and a common power conversion unit. A notice of receipt and availability was published in the *Federal Register* on August 4, 2023 (88 FR 51876).

The Hermes 2 construction permit application consists of the following information:

- The general information required by 10 CFR 50.33,
- The Preliminary Safety Analysis Report required by 10 CFR 50.34(a),
- The Environmental Report required by 10 CFR 50.30(f),
- Exemption requests to support issuance of a construction permit,
- Two technical reports, KP-TR-017 and KP-TR-022,
- A summary of the deletions from the Hermes Preliminary Safety Analysis

Report, and

- A request to invoice the filing fee required by 10 CFR 50.30(e) and 10 CFR 170.21.

The NRC staff determined that the application is acceptable for docketing under Docket Nos. 50-611 and 50-612. The NRC staff provided Kairos notice of the acceptance and docketing determinations by letter dated September 11, 2023 (ADAMS Accession No. ML23233A167).

The NRC staff will perform a detailed technical review of the construction permit application and document its safety findings in a safety evaluation report. Also, the NRC staff will perform an environmental review and document its findings in accordance with 10 CFR part 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," and the National Environmental Policy Act.

Docketing 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. The construction permit application will be referred to the Advisory Committee on Reactor Safeguards for review and report consistent with 10 CFR 50.58, "Hearings and report of the Advisory

Committee on Reactor Safeguards.” If, after holding an evidentiary hearing, the Commission finds that the construction permit application meets the applicable standards of the Atomic Energy Act and the Commission’s regulations, and that any required notifications to other agencies and bodies have been made, the Commission will issue a construction permit, in the form and containing conditions and limitations that the Commission finds appropriate and necessary.

The Commission will announce, in a future *Federal Register* notice, the opportunity to petition for leave to intervene in a proceeding on the construction permit application.

Dated: September 11, 2023.

For the Nuclear Regulatory Commission.

/RA/

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