



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

**KAIROS POWER LLC – PLAN FOR A GENERAL AUDIT OF THE HERMES 2  
CONSTRUCTION PERMIT APPLICATION  
(EPID NO. L-2023-CPS-0000)**

**Applicant:** Kairos Power LLC

**Applicant Address:** 707 W. Tower Ave.  
Alameda, CA 94501

**Plant Name and Units:** Hermes 2 Test Reactor Facility, Units 1 and 2

**Docket Nos.:** 50-611 and 50-612

**Background:**

By letter dated July 14, 2023, Kairos Power LLC (Kairos) submitted a construction permit (CP) application and corresponding preliminary safety analysis report (PSAR) (Agencywide Documents Access and Management System (ADAMS) Accession No. ML23195A121) under Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," for its proposed Hermes 2 test reactor facility. The U.S. Nuclear Regulatory Commission (NRC) staff is conducting a detailed review of the Hermes 2 CP application. This regulatory audit is intended to assist the NRC staff in its review of the CP application.

**Purpose:**

The purpose of this audit is for the NRC staff to gain a better understanding of the Hermes 2 CP application by providing an opportunity to review and discuss material used to support statements or conclusions in the PSAR. The audit is expected to facilitate a more effective and efficient review by allowing the NRC staff to review and discuss supporting material with the objective of improving communication and eliminating unnecessary requests for additional information. The NRC staff plans to audit material which may be needed to make a reasonable assurance finding that the preliminary design protects public health and safety. If the NRC staff identifies information that is needed to support a finding, Kairos will need to submit that information on the application docket(s).

**Regulatory Audit Basis:**

The bases for the audit are the regulations in 10 CFR pertinent to the NRC staff's review of the CP application, including 10 CFR 50.34, "Contents of applications; technical information," 10 CFR 50.35, "Issuance of construction permits," 10 CFR 100.10, "Factors to be considered when evaluating sites," and 10 CFR 100.11, "Determination of exclusion area, low population zone, and population center distance."

**Regulatory Audit Scope:**

This audit will focus on information provided by Kairos in the online reference portal and during virtual meetings. This audit will provide the NRC staff with information related to the review of the Hermes 2 CP application. Information subject to this audit, specific objectives, and topics to be discussed will be identified in subsequent correspondence, such as an email, and dates will be proposed for discussion of the information.

**Information and Other Material Necessary for the Regulatory Audit:**

Kairos should be prepared to provide documents, reports, calculations, computer code verification, and other material, as applicable, supporting the analyses documented in the PSAR. The NRC staff may request that Kairos make these additional materials available in the online reference portal or during a site visit, if one is conducted.

**Team Assignments:**

Mike Orenak	Project Manager, audit lead responsible for audit summary report preparation
Pravin Sawant	Senior Reactor Systems Engineer, lead reviewer
Ed Helvenston	Project Manager, responsible for audit logistics
Matt Hiser	Senior Project Manager, audit support

Additional audit team members will be added, as needed.

**Logistics:**

Entrance Meeting:      October 4, 2023

Exit Meeting:            January 2024, precise date and time are to be determined

The audit will follow the guidance in the Office of Nuclear Reactor Regulation’s (NRR) Office Instruction LIC-111, “Regulatory Audits,” (ML19226A274). Audit meetings will take place in a virtual format, using Microsoft Teams or other similar platform. Audit meetings will be scheduled on an as needed basis after the entrance meeting and once the NRC staff has had the opportunity to review any applicable documents placed in the online reference portal. If a site visit is needed, review topics will be provided to Kairos and mutually agreeable dates will be established. The audit will begin on October 4, 2023, and will continue for approximately four months, with activities occurring intermittently during that period.

The audit period may be reduced or extended, depending on the progress made by the NRC staff and Kairos in addressing audit questions. Additional audit activities may be planned as necessary to support the NRC staff’s understanding of information needed to complete the review of the Hermes 2 CP application.

An online reference portal, established by Kairos, would allow NRC staff access to technical information. Use of the online reference portal is acceptable provided that Kairos establishes measures to limit access to specific NRC staff (e.g., based on NRC e-mail addresses or the use of passwords which will only be assigned to NRC staff directly involved in the audit on a need-

to-know basis) and to make the documents view-only (i.e., prevent NRC staff from saving, copying, downloading, or printing any documents). The conditions associated with the online reference portal must be maintained throughout the audit process. The NRC staff who should initially be granted access to the portal are listed in the "Team Assignments" section above. The NRC audit project managers will provide Kairos with the names of additional NRC staff who should be granted access.

**Special Requests:**

None.

**Deliverables:**

At the completion of the audit, the audit team will issue an audit summary within 90 days after the exit meeting but will strive for a shorter duration. The audit summary will be declared and entered as an official agency record in ADAMS and be made available for public viewing.

**References:**

Title 10 of the *Code of Federal Regulations*  
NRR Office Instruction LIC-111, "Regulatory Audits"

Please contact Michael Orenak at 301-415-3229 or by email at Michael.Orenak@nrc.gov with any questions related to the conduct of the audit.

Date: October 3, 2023

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William Jessup, Chief  
Advanced Reactor Licensing Branch 1  
Division of Advanced Reactors and Non-Power  
Production and Utilization Facilities  
Office of Nuclear Reactor Regulation