



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

**KAIROS POWER, LLC – PLAN FOR A GENERAL AUDIT OF THE HERMES
CONSTRUCTION PERMIT APPLICATION
(CAC/EPID NO. 000955/05007513/L-2021-NEW-0011)**

Applicant: Kairos Power LLC
Applicant Address: 707 W. Tower Ave, Alameda, CA 94501
Plant Name(s) and Unit(s): Kairos – Hermes Test Reactor
Docket No(s).: 05007513

Background:

Kairos has submitted a Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50 construction permit (CP) application and corresponding preliminary safety analysis report (PSAR) (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21272A375) for its proposed Hermes test reactor. The U.S. Nuclear Regulatory Commission (NRC) staff is conducting a detailed review of the Hermes 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 Kairos' Preliminary Safety Analysis Report (PSAR) and application by providing an opportunity to review and discuss material used to support statements or conclusions in the PSAR. The audit achieves a more effective and efficient review by allowing the staff to review and discuss supporting material with the objective of improving communication and eliminating unnecessary requests for additional information. The 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.

Regulatory Audit Basis:

The bases for the audit are the regulations in 10 CFR pertinent to the NRC staff's review of the construction permit application, including 10 CFR 50.34(a), 50.35, 100.10, and 100.11.

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 NRC staff's

evaluation of the 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 and/or during a site visit if one is conducted.

Team Assignments

Ben Beasley	Project Manager, NRR/DANU/UARL, audit lead responsible for audit summary report preparation
Jeff Schmidt	Sr. Reactor Systems Engineer, NRR/DANU/UART, lead reviewer
Ed Helvenston	Project Manager, NRR/DANU/UNPL, responsible for audit logistics
Sam Cuadrado	Project Manager, NRR/DANU/UARL, responsible for audit logistics

Additional audit team members will be added as needed.

Logistics

Entrance Meeting	February 15, 2022
Exit Meeting	Late May, 2022, precise date and time are to be determined

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 February 15, 2022, and will continue for approximately four months, with activities occurring intermittently during that period. Informal interim reports on the status of topics being addressed by the audit will be provided to Kairos.

The audit period may be reduced or extended, dependent on the NRC staff and Kairos progress 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 application.

To improve the efficiency of the audit, Kairos and NRC staff discussed the use of an online reference portal, established by Kairos, that would allow NRC staff limited read-only access to the technical information provided by Kairos. 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 those listed in the "Team Assignments" section above. As needed, the NRC audit project managers may

provide Kairos with the names of additional NRC staff who are added to the audit team and should subsequently 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*.

Please contact Ben Beasley at 301-415-2062 or by email at benjamin.beasley@nrc.gov with any questions related to the conduct of the audit.

Date: February 10, 2022

/RA

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

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NAME	BBeasley	WKennedy
DATE	02/09/2022	02/10/2022

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