



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

June 22, 2021

Mr. Peter Hastings
Vice President, Regulatory Affairs
and Quality
Kairos Power LLC
707 W Tower Ave
Alameda, CA 94501

SUBJECT: KAIROS POWER LLC - DRAFT SAFETY EVALUATION FOR TOPICAL
REPORT "KP-FHR FUEL PERFORMANCE METHODOLOGY" (REVISION 3)
(EPID: L-2019-TOP-0056/CAC NO. 000431)

Dear Mr. Hastings:

By letter dated December 18, 2019, Kairos Power LLC (Kairos) submitted for U.S. Nuclear Regulatory Commission (NRC) staff review, "KP-FHR Fuel Performance Methodology," (Agencywide Documents Access and Management System (ADAMS) Package Accession No. ML19352G703). By letter dated March 23, 2020, Kairos submitted Revision 1 of the report (ADAMS Accession No. ML20073M571) to address NRC staff comments provided during the acceptance review. On June 1, 2020, and June 9, 2020, the NRC staff and Kairos held closed meetings to discuss initial review questions. By letter dated November 13, 2020, Kairos submitted Revision 2 of the report (ADAMS Accession No. ML20318A223). On April 28, 2021, May 19, 2021, and May 26, 2021, the NRC staff and Kairos held closed meetings to discuss additional clarification questions. By letter dated June 10, 2021, Kairos submitted "KP-FHR Fuel Performance Methodology" (Revision 3) (ADAMS Accession No. ML21162A349).

Enclosed is a copy of the NRC staff's draft safety evaluation (SE) for "KP-FHR Fuel Performance Methodology" (Revision 3). This draft SE will be discussed with the Advisory Committee on Reactor Safeguards (ACRS) Kairos Power Subcommittee on July 6, 2021. The final SE will be issued and will be made publicly available after the NRC staff receives a letter from the ACRS.

Pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390 "Public inspections, exemptions, requests for withholding," the NRC staff believe that the enclosed draft SE may contain proprietary information. If you believe that any information in the enclosure is proprietary, please identify such information line-by-line and define the basis pursuant to the criteria of 10 CFR 2.390. Please provide comments on any proprietary aspects of the draft SE within twenty working days of the date of this letter. If the SE includes proprietary information,

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P. Hastings

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there will be both proprietary and non-proprietary versions of the SE, and the non-proprietary version will be made publicly available.

If you have any questions, please contact Stewart Magruder at 301-348-5766 or by email at Stewart.Magruder@nrc.gov.

Sincerely,



Signed by Kennedy, William
on 06/22/21

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

Docket No. 99902069

Enclosure:
Draft SE (Proprietary)

SUBJECT: DRAFT SAFETY EVALUATION FOR KAIROS POWER LLC TOPICAL REPORT
"KP-FHR FUEL PERFORMANCE METHODOLOGY" (REVISION 3)
(EPID: L-2019-TOP-0056/CAC NO. 000431) DATED: JUNE 22, 2021

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Gardner@Kairospower.com
Tomkins@Kairospower.com

ADAMS Accession Nos.: Pkg ML21161A193; Ltr ML21160A221; Encl.ML21161A213

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