



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

March 4, 2020

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

SUBJECT: DRAFT SAFETY EVALUATION FOR KAIROS POWER LLC TOPICAL REPORT
"PRINCIPAL DESIGN CRITERIA FOR THE KAIROS POWER FLUORIDE SALT-
COOLED, HIGH TEMPERATURE REACTOR" (REVISION 1) (EPID: L-2019-TOP-
0002/CAC NO. 000431)

Dear Mr. Hastings:

By letter dated December 21, 2018, Kairos Power LLC (Kairos) submitted for U.S. Nuclear Regulatory Commission (NRC) staff review, "Principal Design Criteria for the Kairos Power Fluoride Salt-Cooled, High Temperature Reactor Topical Report" (Agencywide Documents Access and Management System (ADAMS) Package Accession No. ML18355B067). The NRC staff sent a preliminary set of questions to Kairos on May 23, 2019 (ADAMS Accession No. ML19144A315). By letter dated July 31, 2019, Kairos submitted "Principal Design Criteria for the Kairos Power Fluoride Salt-Cooled, High Temperature Reactor" (Revision 1) (ADAMS Accession No. ML19212A756).

Enclosed for Kairos review and comment is a copy of the NRC staff's draft safety evaluation (SE) for "Principal Design Criteria for the Kairos Power Fluoride Salt-Cooled, High Temperature Reactor" (Revision 1).

Pursuant to Section 2.390 of Title 10 of the *Code of Federal Regulations* (10 CFR), we 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. Twenty working days are provided for you to comment on the proprietary aspects and identify any factual errors or clarity concerns with the SE. The final SE will be issued after making any necessary changes and a non-proprietary version will be made publicly available. The NRC staff's disposition of your comments on the draft SE will be discussed in the final SE.

To facilitate the NRC staff's review of your comments, please provide a marked-up copy of the draft SE showing proposed changes and provide a summary table of the proposed changes.

NOTICE: Enclosure transmitted herewith contains SUNSI. When separated from Enclosure, this transmittal document is decontrolled.
--

P. Hastings

- 2 -

If you have any questions, please contact Stewart Magruder at 301-348-5766.

Sincerely,

/RA/

Benjamin Beasley, 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)

P. Hastings

- 3 -

SUBJECT: DRAFT SAFETY EVALUATION FOR KAIROS POWER LLC TOPICAL REPORT
“PRINCIPAL DESIGN CRITERIA FOR THE KAIROS POWER FLUORIDE SALT-
COOLED, HIGH TEMPERATURE REACTOR” (REVISION 1) (EPID: L-2019-
TOP-0002/CAC NO. 000431) DATED: MARCH 4, 2020

DISTRIBUTION:

PUBLIC (cover letter)

RidsOgcMailCenter

OMikula, OGC

NON-PUBLIC (draft SE)

RidsACRS_MailCTR

WWang, ACRS

SMagruder, NRR

RidsNrrDanu

BBeasley, NRR

RidsNrrDanuUarl

LCandelario, NRR

MHayes, NRR

**ADAMS Accession Nos.: Pkg ML20015A424; Letter ML20015A502; Enclosure
ML20015A501**

OFFICE	NRR/DANU/UARL/PM	NRR/DNRL/NLRB/LA	NRR/DANU/UART/BC	OGC	NRR/DANU/UARL/BC
NAME	SMagruder	CSmith	MHayes	OMikula	BBeasley
DATE	01/13/2020	01/10/2020	01/17/2020	01/27/2020	3/4/2020

OFFICIAL RECORD COPY