

August 12, 2022

Docket No. 50-7513

US Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Subject: Kairos Power LLC
Transmittal of Changes to Construction Permit Application – KP-TR-018 and PSAR
Chapter 13

References: 1. Letter, Kairos Power LLC to Document Control Desk, “Submittal of the Preliminary Safety Analysis Report for the Kairos Power Fluoride Salt-Cooled, High Temperature Non-Power Reactor (Hermes),” September 29, 2021 (ML21272A376)
2. Audit Plan, Nuclear Regulatory Commission, “Plan for an Audit of the Hermes Construction Permit Preliminary Safety Analysis Report Chapters 4 and 13,” February 23, 2022 (ML22041B665)

In September 2021, Kairos Power submitted a Preliminary Safety Analysis Report (PSAR) (Reference 1) as part of the Construction Permit Application (CPA) for the Hermes non-power reactor. The submittal included a Postulated Event Analysis Methodology Technical Report (KP-TR-018). This letter transmits changes to the pages of the Postulated Event Analysis Methodology Technical Report and PSAR to address NRC feedback received in the PSAR Chapter 4 and 13 Audit (Reference 2). Changes to the pages of the technical report and the PSAR are provided in Enclosure 1 and Enclosure 2, respectively. Kairos Power requests NRC review of these changes as part of the continued review of the Hermes CPA.

If you have any questions or need any additional information, please contact Delaney Simmons at simmons@kairospower.com or (605) 838-5132, or Darrell Gardner at gardner@kairospower.com or (704) 769-1226.

I declare under penalty of perjury that the foregoing is true and correct.
Executed on August 12, 2022

Sincerely,



Peter Hastings, PE
Vice President, Regulatory Affairs and Quality

Enclosure: (1) Changes to Postulated Event Analysis Methodology Technical Report (KP-TR-018)
(2) Changes to PSAR Chapter 13

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xc (w/enclosure):

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Enclosure 1

**Changes to Postulated Event Analysis Methodology Technical Report (KP-TR-018)
(Non-Proprietary)**

Enclosure 2
Changes to PSAR Chapter 13
(Non-Proprietary)