

June 20, 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 – PSAR Chapters 6 and 8

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 a General Audit of the Hermes Construction Permit Application," February 10, 2022 (ML22039A336)

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. This letter transmits changes to the pages of the PSAR to address NRC feedback received on PSAR Chapter 8 in the General Audit (Reference 2). Changes to the pages of the PSAR (including conforming changes to Chapter 6) are provided in Enclosure 1. 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](mailto:simmons@kairospower.com) or at (605) 838-5132, or Darrell Gardner at [gardner@kairospower.com](mailto:gardner@kairospower.com) or (704) 769-1226.

I declare under penalty of perjury that the foregoing is true and correct.  
Executed on June 20, 2022



Peter Hastings, PE  
Vice President, Regulatory Affairs and Quality

Enclosures:

1) Changes to PSAR Chapters 6 and 8

**Kairos Power LLC**

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xc (w/enclosure):

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**Enclosure 1**  
**Changes to PSAR Chapters 6 and 8**  
**(Non-Proprietary)**