

December 22, 2023

Docket No. 50-611

Docket No. 50-612

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

Subject: Kairos Power LLC
Transmittal of Changes to Hermes 2 Construction Permit Application – PSAR Chapter 13
and KP-TR-022


References: 1. Letter, Kairos Power LLC to Document Control Desk, “Submittal of the Construction Permit Application for the Hermes 2 Kairos Power Fluoride Salt-Cooled, High Temperature Non-Power Reactor,” July 14, 2023 (ML23195A122)
2. Audit Plan, Nuclear Regulatory Commission, “Plan for a General Audit of the Hermes 2 Construction Permit Application,” October 3, 2023 (ML23268A446)

In July 2023, Kairos Power submitted Revision 0 of the Preliminary Safety Analysis Report (PSAR) and the Hermes 2 Postulated Event Analysis Methodology technical report (KP-TR-022) as part of the Construction Permit Application (CPA) for the Hermes 2 non-power reactor (Reference 1). This letter transmits changes to the pages of the PSAR to address NRC feedback received on PSAR Chapter 13 in the General Audit (Reference 2), and corresponding changes to the technical report. Changes to the pages of the PSAR are provided in Enclosure 1. Changes to the pages of the technical report are provided in Enclosure 2. 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 (505) 218-7013, 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 December 22, 2023

Sincerely,



Peter Hastings, PE
Vice President, Regulatory Affairs and Quality

Enclosure: (1) Changes to PSAR Chapter 13
(2) Changes to KP-TR-022

xc (w/enclosure):

William Jessup, Chief, NRR Advanced Reactor Licensing Branch

Michael Orenak, Project Manager, NRR Advanced Reactor Licensing Branch

Matthew Hiser, Project Manager, NRR Advanced Reactor Licensing Branch

Edward Helvenston, Project Manager, NRR Advanced Reactor Licensing Branch

Samuel Cuadrado de Jesus, Project Manager, NRR Advanced Reactor Licensing Branch

Cayetano Santos Jr., Project Manager, NRR Advanced Reactor Licensing Branch