

April 1, 2024

Project No. 99902069

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

Subject: Kairos Power LLC
Application of the 10 CFR Part 21 and 10 CFR 50.55(e) Basic Component Definition to
Hermes and Hermes 2 Non-Power Test Reactors

The purpose of this letter is to confirm Kairos Power's understanding of the definitions of the term "basic component" for NRC-licensed facilities and activities other than power reactors as they will be applied to equipment and activities associated with design, procurement, construction, and operation of the Hermes non-power test reactors to support compliance with 10 CFR Part 21 and 10 CFR 50.55(e) requirements.

As a company, Kairos Power is vertically integrated to design, license, manufacture, and operate the Hermes non-power test reactors. This strategy is atypical in that Kairos Power will be the designer of the Hermes facilities, the manufacturer of most safety-related components for the Hermes facilities, and the licensee/operator of the Hermes facilities.

Enclosure 1 provides the white paper, "Basic Component Definition For The Hermes Non-Power Test Reactors." This white paper explains Kairos Power's understanding of the regulatory definitions of the term "basic component" as it applies generally to NRC-licensed facilities and activities other than power reactors, and as it applies specifically to the Hermes facilities taking into consideration Kairos Power's vertically-integrated strategy of performing most safety-related design and manufacturing work internally.

Kairos Power requests that the NRC review the enclosed white paper and provide written confirmation or other feedback, both technical and legal, on Kairos Power's understanding of the definitions of the term "basic component" as it applies to the Hermes non-power test reactor facilities to support compliance with 10 CFR Part 21 and 10 CFR 50.55(e) requirements. Kairos Power respectfully requests that NRC review of the enclosed white paper be completed within 3 months and not exceed 100 billable staff hours. Kairos Power intends to begin implementation of these regulations, as described in the enclosed white paper, as part of construction and procurement activities associated with the Hermes facility construction permit.

If you have any questions or need any additional information, please contact Michael Ellett at ellettmic@kairospower.com or (704) 247-6310, or Darrell Gardner at gardner@kairospower.com or (704) 769-1226.

Sincerely,

A handwritten signature in black ink, appearing to read 'Peter Hastings', written over the printed name.

Peter Hastings, PE
Vice President, Regulatory Affairs and Quality

Enclosure:

- 1) Basic Component Definition For The Hermes Non-Power Test Reactors

xc (w/enclosure):

William Jessup, Chief, NRR Advanced Reactor Licensing Branch
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Enclosure 1

**Basic Component Definition For The Hermes Non-Power Test Reactors
(Non-Proprietary)**