**Enclosure**
**Presentation Slides for the April 18, 2025 Public Meeting Regarding**
**Applicability of 10 CFR Part 21 and 10 CFR 50.55(e) to the Hermes Non-Power Reactors**
**(Non-Proprietary)**

Kairos Power

# 10 CFR PART 21 AND 10 CFR 50.55(e)

# FOR HERMES CONSTRUCTION


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Kairos Power's mission is to enable the world's transition to clean energy, with the ultimate goal of dramatically improving people's quality of life while protecting the environment.

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In order to achieve this mission, we must prioritize our efforts to focus on a clean energy technology that is *affordable* and *safe*.

# Background

- Kairos Power is the construction permit holder for the Hermes non-power reactor facility. Part 21 and 10 CFR 50.55(e) apply to Kairos Power.
- Kairos Power's vertical integration strategy also makes Kairos responsible for the design, construction, and manufacture of most safety-related SSCs for the Hermes non-power reactor.
- For non-power reactor facilities, **Basic Component** is defined as an SSC, or part thereof, that affects their safety function, that is directly procured by the licensee of the facility and in which a defect or failure to comply could create a substantial safety hazard. This includes services associated with the basic component that are provided directly to the licensee.
- For non-power reactors, Part 21 and 10 CFR 50.55(e) applicability is limited to the licensee and first-tier suppliers to the licensee.
- **Procurement document** is defined as a contract that defines the requirements which facilities or basic components must meet in order to be considered acceptable by the purchaser.
- It is not clear how these and other Part 21 and 10 CFR 50.55(e) definitions apply to Kairos Power's strategy for Hermes.
  - Kairos Power submitted a position paper to the NRC explaining our understanding of how these definitions would apply to Hermes in April 2024.
  - The NRC Staff disagreed with Kairos Power's position and issued their final assessment of our position paper in February 2025.


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# Key Points from the NRC Final Assessment

- Current NRC-endorsed guidance for power reactors (NEI 14-09) addresses Kairos's vertical integration strategy.
  - Kairos Power does not agree with this conclusion because NEI 14-09 does not analyze the impact of the differences in regulatory applicability and regulatory definitions for non-power reactors on the concept of delivery.
- The scope of basic components would include SSCs constructed/manufactured by Kairos.
  - Kairos Power does not agree with this conclusion because it does not clearly address the "directly procured" portion of the basic component definition for non-power reactor facilities.
- Procurement documents for the purpose of Part 21 and 10 CFR 50.55(e) may include internal Kairos documents that define technical requirements of SSCs that could create a substantial safety hazard.
  - Kairos Power does not use internal procurement documents (contracts) to define requirements on hardware projects.
- Kairos should establish the point of delivery consistent with the point of delivery for components received from external suppliers. In all cases, the point of delivery for SSCs "is when the organization authorized to use it as a basic component has taken control of the item." After delivery, identified failures to comply and defects must be evaluated to determine if they represent a potential substantial safety hazard and, if so, reported under 10 CFR Part 21 and 10 CFR 50.55(e).
  - Kairos Power does not agree that this guidance (based on the power reactor guidance in NEI 14-09), applies to non-power reactor facilities. However, in order to support timely resolution of these issues in support of on-going construction activities, Kairos Power is using this artificially defined point of delivery with equivalent definitions on the next slide to trigger evaluations under 10 CFR Part 21 and 10 CFR 50.55(e).


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# Implementing 10 CFR Part 21 and 10 CFR 50.55(e)

To implement Part 21 and 10 CFR 50.55(e) during the construction of the Hermes non-power test reactor facility using the NRC's feedback, the following equivalent definitions of key regulatory terms are implemented:

- **Licensee**: A yet-to-be defined operations portion of the Kairos Power organization that is authorized by Kairos Power to use the Hermes facility and basic components is the licensee.
- **Procurement document (equivalent)**: One or more yet-to-be-defined internal requirement documents will serve as the equivalent of first-tier procurement documents that define the quality-affecting requirements which the Hermes facility or basic components must meet to be acceptable to the licensee.
- **First-tier supplier**: The portion of the Kairos Power organization that is responsible for constructing the facility or basic component is the first-tier supplier to the **licensee**. The responsibility for meeting the quality-affecting requirements defined in the **procurement document (equivalent)** belongs to the portion of the Kairos Power organization that is responsible for constructing the Hermes facility or basic component.


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# Implementing 10 CFR Part 21 and 10 CFR 50.55(e)

(cont'd) To implement Part 21 and 10 CFR 50.55(e) during the construction of the Hermes non-power test reactor facility using the NRC's feedback, the following equivalent definitions of key regulatory terms are implemented:

- **Sub-tier suppliers**: Procurements from suppliers that are necessary to meet the quality-affecting requirements in the **procurement document (equivalent)** are considered sub-tier procurements and are delivered to the **first-tier supplier**. Part 21 and 10 CFR 50.55(e) responsibilities do not extend to the sub-tier suppliers for non-power reactor facilities.
- **Delivery**: A portion of the Hermes facility or a basic component for use in the Hermes facility has been delivered when the **licensee** has taken control over the item. This occurs after the **first-tier supplier** has assembled, reviewed, and approved the quality-affecting documentation package that demonstrates the requirements defined in the **procurement document (equivalent)** have been met, and turned over both the hardware and the associated quality-affecting documentation package to the **licensee**. This is the trigger point for the applicability of Part 21 and 10 CFR 50.55(e) evaluation and reporting requirements to Kairos Power.


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Questions