



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

March 4, 2022

Larry Long  
NEPA Program Office  
USEPA Region 4  
61 Forsyth Street SW  
Atlanta, GA 30303

SUBJECT: REQUEST FOR PARTICIPATION IN THE ENVIRONMENTAL SCOPING  
PROCESS FOR THE PROPOSED KAIROS HERMES TEST REACTOR SITE,  
CONSTRUCTION PERMIT APPLICATION REVIEW (DOCKET NUMBER:  
50-7513)

Dear Larry Long:

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing an application submitted by Kairos Power, LLC (Kairos) for a Construction Permit (CP) for the proposed Hermes non-power demonstration reactor employing the Kairos Power Fluoride Salt-Cooled, High Temperature Reactor technology. Kairos is applying for a CP to construct the reactor on a site within the East Tennessee Technology Park (ETTP) in the City of Oak Ridge, Tennessee (See ER Figure 1.1-1). As part of the review of this CP application, the NRC staff is preparing an Environmental Impact Statement (EIS) as required by Title 10 of the *Code of Federal Regulations* (10 CFR) Part 51 "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions", the NRC's regulations that implement the National Environmental Policy Act (NEPA) of 1969, as amended. The EIS will include an analysis of pertinent environmental matters, including but not limited to possible effects on Federally protected species and habitats. The area of potential effect for the CP review is the ETTP and its immediate environs that may be affected by land disturbing activities, associated noise and human activity, and other activities part of building, operating, and decommissioning the subject research and test reactor and associated facilities.

Kairos submitted the application for a CP on September 29, 2021, pursuant to the NRC requirements in 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities". The application is available through the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible at <http://www.nrc.gov/readingrm/adams.html>. Additionally, by letter dated October 31, 2021, Kairos submitted an environmental report (ER) in support of its CP application. The ER portion of the application is listed under ADAMS Accession No. ML21306A131. The ER is also available on the Internet at <https://www.nrc.gov/docs/ML2130/ML21306A131.html>.

The proposed Kairos Hermes site comprises approximately 185 acres in Roane County, Tennessee within the ETTP that was formerly the location of the U.S. Department of Energy (DOE) K-31 and K-33 plants, which were part of the K-25 complex operated as the Oak Ridge Gaseous Diffusion Plant. DOE has decommissioned, decontaminated, and razed the K-31 and K-33 buildings. According to the ER, the site presently consists of approximately 88 acres of exterior land currently used for temporary outdoor industrial uses unrelated to the Hermes

project, approximately 72 acres of grassland typical of formerly disturbed lands, and approximately 25 acres of deciduous and mixed evergreen/deciduous forest along the site's perimeter. According to the ER, Kairos will temporarily disturb approximately 138 acres within previously disturbed areas on the site to build the proposed Hermes facilities, of which approximately 30 acres would remain permanently occupied by the new facilities over an anticipated 10-year operational life (See ER Figures 2.2-1 and 2.2-3). Kairos will then decommission the Hermes facilities. No forested areas or other areas of previously undisturbed natural soils would be temporarily or permanently disturbed. The entire area subject to temporary or permanent disturbance has a history of surface soil disturbance during the construction, operation, and decommissioning of the K-31 and K-33 facilities.

Kairos proposes to take advantage of existing roadways and utilities servicing the ETTP and does not propose any land disturbance outside of the 135 acres of previously disturbed land noted above. The water demands of the proposed Hermes facilities would be supplied by the City of Oak Ridge or truck deliveries of demineralized water, and wastewater from the Hermes facilities would be treated by the nearby existing Rarity Ridge Wastewater Treatment Plant. The applicant does not propose intake of surface water or groundwater or development of new intake or discharge structures. Stormwater would be managed using best management practices.

In accordance with 10 CFR 51.26(b), the scoping process for an EIS may include a public scoping meeting to help identify significant issues related to the proposed action and to determine the scope of issues to be addressed in the EIS. The NRC is planning to conduct a public outreach and scoping meeting for the Kairos Hermes EIS. The meeting is currently expected to be held on March 23, 2022. Meeting details will be available by March 11, 2022 at <https://www.nrc.gov/reactors/non-power/kairos-hermes.html> or at the NRC's Public Meeting Schedule website at <https://www.nrc.gov/pmns/mtg>. A court reporter will transcribe all comments received during the public meeting. To be considered, comments must be provided either at the transcribed public meeting or in writing. Please contact Ms. Tamsen Dozier at 301-415-2272 or by email at [Tamsen.Dozier@nrc.gov](mailto:Tamsen.Dozier@nrc.gov) no later than March 14, 2022 if accommodations or special equipment are needed to participate or to provide comments, so that the NRC staff can determine whether the request can be accommodated.

Please provide any information, comments, or concerns you feel are appropriate on the scope of the proposed action during the scoping comment period. Comments should be submitted either by mail to the Office of Administration, Mail Stop: TWFN-7-A60M, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, ATTN: Program Management, Announcements and Editing Staff or by e-mail to [Kairos-CPEIS.resource@nrc.gov](mailto:Kairos-CPEIS.resource@nrc.gov). When the

NRC staff completes the draft EIS on the proposed action, the staff plans to send the draft EIS to your office for comment. If you have any questions concerning the NRC staff's environmental review of this CP application, please contact Mr. Peyton Doub, Environmental Scientist at 301-415-6703 or by e-mail at [Peyton.Doub@nrc.gov](mailto:Peyton.Doub@nrc.gov).

Sincerely,

A handwritten signature in dark ink, appearing to read "Kevin T. Folk".

Folk, Kevin signing on behalf  
of Erwin, Kenneth  
on 03/04/22

Kenneth Erwin, Chief,  
Environmental Review New Reactor Branch  
Division of Rulemaking, Environment,  
and Financial Support,  
Office of Nuclear Material Safety  
and Safeguards

Docket No. 50-7513

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Dated: March 4, 2022

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**ADAMS Accession Nos: ML22033A246****\*via email**

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