

From: Beasley, Benjamin
Sent: Friday, April 8, 2022 8:57 AM
To: Drew Peebles
Cc: Darrell Gardner; Martin Bryan; Cuadrado de Jesus, Samuel; Helvenston, Edward
Subject: Questions on Emergency Planning for the General Audit

Drew,

Below are some questions on emergency planning for the General Audit. We would like to schedule an audit meeting when you are ready to discuss these.

Regards,
 Ben

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| <p><b>12.2.7-1</b></p>  | <p>As required in Title 10 of the Code of Federal Regulations (10 CFR) Part 50 Appendix E, Section II, "The Preliminary Safety Analysis Report" (PSAR), the PSAR shall describe the site layout and location, consideration of access routes, surrounding population distribution, land use, and jurisdictional boundaries. The guidance contained in NUREG-0849, "Standard Review Plan for the Review and Evaluation of Emergency Plans for Research and Test Reactors" (ADAMS Accession No. ML062190191), Section 1.0, "Introduction," calls for the emergency plan to briefly introduce items such as a description of the reactor facility access routes. The NRC staff was not able to identify reactor facility access route details and features such as site boundaries showing fences, gates, and parking lots on site in the Hermes PSAR, Chapter 12, Appendix A, "Description of the Emergency Plan," or in PSAR Figure 2.1-2, "Prominent Features in Site Area," or Figure 2.1-3, "Project Site Area and Zones Associated with the Facility."</p> <p>Additional information is needed to meet the requirement of 10 CFR Part 50, Appendix E, Section II, and address the guidance of NUREG-0849, Section 1.0. Provide additional design descriptions, figures, or electronic copies of the Hermes reactor facility access route details and features.</p> |
| <p><b>12.2.7-2a</b></p> | <p>For non-power reactors, the need for compliance with 10 CFR Part 50, Appendix E is determined on a case-by-case basis. Appendix E, Section II.A, requests a description of the onsite and offsite organizations for coping with emergencies and the means for notification, in the event of an emergency, of persons assigned to the emergency organizations. The</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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|                         | <p>guidance contained in NUREG-0849, Section 3.0, "Organization and Responsibilities," and ANSI/ANS-15.16, Section 3.3, "Organization and Responsibilities," calls for the emergency plan to describe:</p> <ul style="list-style-type: none"> <li>• The reactor's emergency organization, including augmentation of the reactor staff to provide assistance for coping with the emergency situation, recovery from the emergency, and maintaining emergency preparedness.</li> <li>• The capability of the emergency organization to function around the clock for a protracted period of time following the initiation of emergencies that have or could have radiological consequences requiring around the clock emergency response.</li> <li>• A block diagram that illustrates the interrelationship of the facility emergency organization to the total emergency response effort. Interfaces between reactor and other onsite emergency organization groups and offsite local support organizations and agencies should be specified.</li> </ul> <p>Hermes PSAR, Chapter 12, Appendix A provides very short descriptions of the emergency organization and of the relationship with other support organizations. Please provide additional descriptions and/or figures that will address the guidance above.</p> |
| <p><b>12.2.7-2b</b></p> | <p>The guidance contained in NUREG-0849, Section 2.0, "Definitions," states that terms that have a special meaning when used in the plan should be defined in the plan and that the emergency plan should include definitions of words or phrases with meanings specific or unique to the plan.</p> <p>Please provide the definitions of the emergency plan terms "normal staff" and "on-shift staff" and their relation to the emergency plan's descriptions of the responsibilities and duties of these emergency response staff members.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <p><b>12.2.7-2c</b></p> | <p>The guidance contained in NUREG-0849, Section 3.0, "Organization and Responsibilities," and ANSI/ANS-15.16, Section 3.3, "Organization and Responsibilities," calls for the emergency plan to:</p> <ul style="list-style-type: none"> <li>• Describe the 24-hour on-shift staff positions designated and trained to perform the initial responsibilities for the Emergency Director, Emergency Coordinator, Radiation Safety Officer, and Radiological Assessment Team positions, until these positions are filled by responding emergency personnel.</li> <li>• Describe the lines of succession for the senior individual on-shift if the senior individual on-shift is acting as the ED.</li> <li>• Describe a line of succession for the responsibilities of the Radiation Safety Officer including his/her responsibilities and authority for onsite and offsite dose assessments and recommended protective actions.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                |

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|                        | <p>Hermes PSAR, Chapter 12, Appendix A provides very short descriptions of organizational responsibilities. Please provide additional descriptions that will address the guidance above.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <p><b>12.2.7-3</b></p> | <p>For non-power reactors, the need for compliance with 10 CFR Part 50, Appendix E is determined on a case-by-case basis. Appendix E, Section II.B, requests a description of contacts and arrangements made with local, State, and Federal governmental agencies with responsibility for coping with emergencies, including identification of the principal agencies. The guidance contained in NUREG-0849, Section 3.0, and ANSI/ANS-15.16, Section 3.3, calls for the emergency plan to describe the arrangements and agreements, confirmed in writing with local support organizations, to augment and extend the capability of the facility's emergency organization.</p> <p>Hermes PSAR, Chapter 12, Appendix A identifies local support organizations. However, contacts and arrangements with local support organizations that would augment and extend the capability of the facility's emergency organization have not been described. Submit or clarify whether confirmed agreements or letters of arrangements and agreements with local emergency response agencies that would augment and extend the capability of the Hermes facility's emergency organization have been made or would be submitted with the Kairos Hermes operating license application. Also identify any procedures developed for emergency response coordination.</p> |
| <p><b>12.2.7-4</b></p> | <p>For non-power reactors, the need for compliance with 10 CFR Part 50, Appendix E is determined on a case-by-case basis. Appendix E, Part II.C, requests a description of protective measures to be taken within the site boundary and within each emergency planning zone to protect health and safety in the event of an accident and the procedures by which these measures are to be carried out (e.g., in the case of an evacuation, who authorizes the evacuation, how the public is to be notified and instructed, how the evacuation is to be carried out) and the expected response of offsite agencies in the event of an emergency. The guidance of NUREG-0849, Section 4.0, "Emergency Classification System," and ANSI/ANS-15.16, Section 3.4, "Emergency Classification System," state that the emergency plan should contain an emergency classification system that is consistent with the NUREG-0849, Section 4.0, planning standard.</p> <p>Please provide the Hermes emergency classification descriptions to address the NUREG-0849, Section 4.0, planning standard guidance or explain why this information is not necessary for a construction permit application.</p>                                                                                                                                                            |

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