

SECTION A. Project Title: Radiant Microreactor Testing Project – HALEU Fuel Storage

SECTION B. Project Description and Purpose:

This Idaho National Laboratory (INL) project is supporting Radiant Industries, Inc. (Radiant) with fuel storage prior to be sent off for fuel fabrication. Radiant's fuel will be of foreign origin (Russia) and will be received at INL as High-Assay Low-Enriched Uranium (HALEU) feedstock. Radiant has been unable to find an industry storage solution and is looking to INL to provide that capability. The fuel procurement is in support of future microreactor fueled demonstration.

Radiant will ship uranium oxide (U3O8) bulk density of between 5.0 and 6.54 g/cm³. There will be 191.11 kg of U3O8 (162 kgU) at 19.75% enrichment. Up to 14 containers are anticipated to ship this quantity of U3O8. Radiant anticipates a total critical safety index (CSI) value of 0.0 to 3.2.

Once the shipment of fuel is received at the INL, INL will store the fuel for a period not to exceed 12 months. If after the 12 months of storage Radiant does not have a final destination for the fuel, Radiant will be responsible for all costs and other burdens associated with additional storage, repackaging, and/or moving to another location.

Tasks:

1. Receipt of Radiant Supplied HALEU at INL: The Radiant owned HALEU will be shipped to INL. The containers of HALEU will arrive at Chemical Processing Plant (CPP)-651 ready for INL facilities personnel to move containers off the trucks with a forklift and move into storage at CPP-651.
2. Storage of Radiant Supplied HALEU at INL: INL will store Radiant supplied HALEU containers at CPP-651. INL will follow standard facility storage and periodic inspection procedures during fuel storage.
3. Prepare Radiant Supplied HALEU for Shipping: When requested by Radiant or at the end of the period of performance (whichever comes first), INL will load the Radiant supplied HALEU containers on shipping trucks supplied by Radiant.

No waste will be associated with this project.

All off-site partners will comply with their local procedures and state/federal regulations as identified in contract agreements.

SECTION C. Environmental Aspects or Potential Sources of Impact:

Air Emissions

NA

Discharging to Surface-, Storm-, or Ground Water

NA

Disturbing Cultural or Biological Resources

Cultural: Pursuant to the 2023 Programmatic Agreement, the proposed action does not meet the threshold of a federal undertaking and there is no effect to historic properties.

Generating and Managing Waste

NA

Releasing Contaminants

When chemicals are used during the project there is the potential for spills that could impact the environment (air, water, soil).

Using, Reusing, and Conserving Natural Resources

NA

Environmental Justice

According to the CEQ Climate and Economic Justice Screening Tool, the INL site as well as the Research and Education Campus in Idaho Falls, ID are located in U.S. Census tracts that are identified as disadvantaged communities. Census tracts identified as disadvantaged meet or exceed socioeconomic, environmental, health, or demographic thresholds identified by CEQ. Given that activities analyzed in this document will happen within the boundaries of existing DOE/INL land and/or facilities where there are no permanent residents, any impacts to Environmental Justice in surrounding communities are anticipated to be negligible.

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SECTION D. Determine Recommended Level of Environmental Review, Identify Reference(s), and State Justification: Identify the applicable categorical exclusion from 10 Code of Federal Regulation (CFR) 1021, Appendix B, give the appropriate justification, and the approval date.

For Categorical Exclusions (CXs), the proposed action must not: (1) threaten a violation of applicable statutory, regulatory, or permit requirements for environmental, safety, and health, or similar requirements of Department of Energy (DOE) or Executive Orders; (2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment or facilities; (3) disturb hazardous substances, pollutants, contaminants, or Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)-excluded petroleum and natural gas products that pre-exist in the environment such that there would be uncontrolled or unpermitted releases; (4) have the potential to cause significant impacts on environmentally sensitive resources (see 10 CFR 1021). In addition, no extraordinary circumstances related to the proposal exist that would affect the significance of the action. In addition, the action is not "connected" to other action actions (40 CFR 1508.25(a)(1) and is not related to other actions with individually insignificant but cumulatively significant impacts (40 CFR 1608.27(b)(7)).

References: B1.24 "Property transfers"

Justification: B1.24 Transfer, lease, disposition, or acquisition of interests in personal property (including, but not limited to, equipment and materials) or real property (including, but not limited to, permanent structures and land), provided that under reasonably foreseeable uses (1) there would be no potential for release of substances at a level, or in a form, that could pose a threat to public health or the environment and (2) the covered actions would not have the potential to cause a significant change in impacts from before the transfer, lease, disposition, or acquisition of interests.

Is the project funded by the American Recovery and Reinvestment Act of 2009 (Recovery Act) Yes No

Approved by Robert Douglas Herzog, DOE-ID NEPA Compliance Officer on: 7/31/2024