

**U.S. Department of Energy-Idaho Operations Office
National Environmental Policy Act
Categorical Exclusion Determination**

Page 1 of 6

Categorical Exclusion Posting No.: DOE-ID-INL-25-040

Project Title: National Library for Iron Ore

Project Description and Purpose:

Idaho National Laboratory (INL) is collaborating with Oak Ridge National Laboratory (ORNL), National Laboratory of the Rockies (NLR), and ArcelorMittal, to establish a National Library for both iron ore and steel scraps. This project aims to collect, characterize, and store various types of iron ore and steel scraps with the primary goal of providing well-characterized samples to researchers nationwide for advanced studies in these materials. The project involves characterizing and storing samples at the INL's facilities, with some activities occurring at partner sites. As many as 20 storage containers may be located on the site for an indefinite amount of time.

Location:

- INL Facilities: INL Research Center (IRC), Energy Systems Laboratory (ESL), Energy Innovation Laboratory (EIL).
- Partner Facilities: ORNL, NLR, ArcelorMittal.
- Potential locations at IRC for all-weather access to shipping containers are identified in Figures 1-3.

Tasks:

Sample Collection and Storage:

- Collect iron ore and steel scrap samples at the tons scale. It is estimated that approximately 4,000 lbs of early-stage iron ore may be received that could contain naturally occurring radioactive material (NORM). The estimated NORM concentration is approximately 0.1% by mass, resulting in approximately 4 lbs of NORM contained within the total material. Of this amount, approximately 0.5 lbs may be generated as waste during characterization and handling activities, with the remaining NORM-bearing material stored as part of the library inventory.
- In addition, approximately 4,000 lbs of tailings may be received. Most of the tailings will be stored as part of the sample library, with approximately 5 lbs anticipated to be disposed of as waste following characterization or processing.
- Store iron ore in drums inside shipping containers located at IRC. A concrete pad and or rail road ties may be needed to allow all-weather access to the shipping containers.
- Store steel scrap in 30-yard dumpsters.

Sample Characterization:

- Sample preparation.
- Use of acids and solvents for sample preparation.
- Conduct x-ray diffraction, scanning electron microscopy, optical microscopy, and inductively coupled plasma analysis.
- Sorting, subdividing, and sizing operations require transportation of materials to ESL.
- Purchase and house sorting and sizing equipment at ESL.

Sample Distribution:

- Distribute samples in 5-gallon buckets (for iron ore) or small boxes (for scrap) to researchers.
- Maintain a portion of the samples on-site for at least three years.
- Sample Collection and Storage.
- This activity will generate SiO₂ dust and some lead dust which will be collected by appropriate air filtering equipment.

Location options shown in the figures below:



Figure 1: Conex box locations A and B. Location B is the preferred location.



Figure 2: IF-611 possible location for Conex box (location A).

Constraints of Location A:

1. Uneven ground and existing protruding foundations.
2. Limited access for vehicles.
3. Future asphalt replacement project in the alternate area.



Figure 3: Area of second potential Conex box location placed near the SMC Building (IF-699) (location B).

Constraints of Location B:

1. The boxes cannot be stored within 20' of the SMC facility, and
2. The boxes should be placed outside of the overhead power (10' from center, which is roughly 20' from the fence) and underground utility easements – these easements belong to the City of Idaho Falls and cannot have objects of this nature within or on top of their locations.

Waste Details:

- Packaging Waste: ~1 lb of industrial packaging waste.
- Dust: ~ 1 lb of lead dust and ~ 5lbs of SiO₂ dust.
- Hazardous Waste: ~1 liter of hazardous chemical waste (acid) per year at IRC/EIL.
- NORM Waste: Approximately 0.5 lbs per year associated with iron ore characterization activities.
- Tailings Waste: Approximately 5 lbs associated with characterization or processing of received tailings.
- PPE and Wipes: ~1 lb per year of wipes and personal protective equipment (PPE).
- Wastewater: Less than one gallon of rinse/cleaning water discharged to the sewer system.

INL waste will be managed according by Waste Generator Services in accordance with laboratory procedures. All off-site partners will comply with their local procedures and state/federal regulations as identified in contract agreements.

Environmental Aspects or Potential Sources of Impact:

Air Emissions

NA

Discharging to Surface-, Storm-, or Ground Water

**U.S. Department of Energy-Idaho Operations Office
National Environmental Policy Act
Categorical Exclusion Determination**

NA

Disturbing Cultural or Biological Resources

There is the potential for this work to impact vegetation and for project personnel to interact with various wildlife species. A Biological Resource Review will be arranged within two weeks prior to the initiation of any activities that might disturb soil or vegetation and again following completion of project activities. A nesting bird survey is included with the Biological Resource Review for actions occurring between April 1 - October 1 per compliance with the Migratory Bird Treaty Act. Bat surveys are also included with the Biological Resource Review in accordance with the INL Bat Protection Plan.

CULTURAL: A Section 106 review was completed under CRMO project number (BEA-26-032) and resulted in No Historic Properties Affected. Please refer to Holds Points and Project Specific Instructions.

Generating and Managing Waste

When wastes are generated, how they are disposed can adversely affect the environment. Managing wastes appropriately and responsibly and implementing recycling or reuse practices, where feasible, during project activities can reduce the potential impact on the environment.

Releasing Contaminants

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

Please ensure all acids are neutralized to a pH of 5.0-9.0 prior to disposing of via the INL sewer system. Ensure waste pathways are identified with WGS prior to disposal.

Using, Reusing, and Conserving Natural Resources

Project activities have the opportunity to reduce the impact on our natural resources by recycling or diverting materials from disposal in the landfill.

Determination:

References: B1.15 "Support buildings", B3.6 "Small-scale research and development, laboratory operations, and pilot projects"

B1.15 Support buildings. Siting, construction or modification, and operation of support buildings and support structures (including, but not limited to, trailers and prefabricated and modular buildings) within or contiguous to an already developed area (where active utilities and currently used roads are readily accessible). Covered support buildings and structures include, but are not limited to, those for office purposes; parking; cafeteria services; education and training; visitor reception; computer and data processing services; health services or recreation activities; routine maintenance activities; storage of supplies and equipment for administrative services and routine maintenance activities; security (such as security posts); fire protection; small-scale fabrication (such as machine shop activities), assembly, and testing of non-nuclear equipment or components; and similar support purposes, but exclude facilities for nuclear weapons activities and waste storage activities, such as activities covered in B1.10, B1.29, B1.35, B2.6, B6.2, B6.4, B6.5, B6.6, and B6.10 of this appendix.

B3.6 Small-scale research and development, laboratory operations, and pilot projects. Siting, construction, modification, operation, and decommissioning of facilities for small-scale research and development projects; conventional laboratory operations (such as preparation of chemical standards and sample analysis); and small-scale pilot projects (generally less than 2 years) frequently conducted to verify a concept before demonstration actions, provided that construction or modification would be within or contiguous to a previously disturbed or developed area (where active utilities and currently used roads are readily accessible). Not included in this category are demonstration actions, meaning actions that are undertaken at a scale to show whether a technology would be viable on a larger scale and suitable for commercial deployment.

Justification: The proposal fits within the classes of actions listed in Appendix B to 10 CFR Part 1021 or Appendix B and C of DOE's NEPA Implementing Procedures and satisfies the conditions that are integral elements of the classes of actions therein. The proposal does not: (1) threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, or similar requirements of DOE or Executive Orders; (2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities (including incinerators), but the proposal may include categorically excluded waste storage, disposal, recovery, or treatment actions or facilities; (3) disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that preexist in the environment such that there would be uncontrolled or unpermitted releases; (4) have the potential to cause significant impacts on environmentally sensitive resources, including, but not limited to, those listed in paragraph B(4) of 10 CFR Part 1021, Appendix B; (5) involve genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species, unless the proposed activity would be contained or confined in a manner designed

**U.S. Department of Energy-Idaho Operations Office
National Environmental Policy Act
Categorical Exclusion Determination**

Page 6 of 6

Categorical Exclusion Posting No.: DOE-ID-INL-25-040

and operated to prevent unauthorized release into the environment and conducted in accordance with applicable requirements, such as those listed in paragraph B(5) of 10 CFR Part 1021, Appendix B.

There is no extraordinary circumstance related to the proposal that is likely to cause a reasonably foreseeable significant adverse effect or for which DOE does not know the environmental effect. Extraordinary circumstances are unique situations presented by specific proposals, including, but not limited to, scientific controversy about the environmental effects of the proposal; uncertain effects or effects involving unique or unknown risks; and unresolved conflicts concerning alternative uses of available resources.

The proposal has not been segmented to meet the definition of a categorical exclusion. Segmentation can occur when a proposal is broken down into small parts in order to avoid the appearance of significance of the total action. However, segmentation does not include proposals that are developed and potentially implemented over multiple phases where each phase results in a decision whether to proceed to the subsequent phase.

Based on my review of the proposed action, I have determined that the proposed action fits within the specified class(es) of action, the other regulatory requirements set forth above are met, and the proposed action is hereby categorically excluded from further NEPA review.

Approved by Robert Douglas Herzog, DOE-ID NEPA Compliance Officer on: 5/11/2026