Project Title: Standard Nuclear: SNI Site Characterization

Project Description and Purpose:

PROJECT DESCRIPTION

Project Introduction

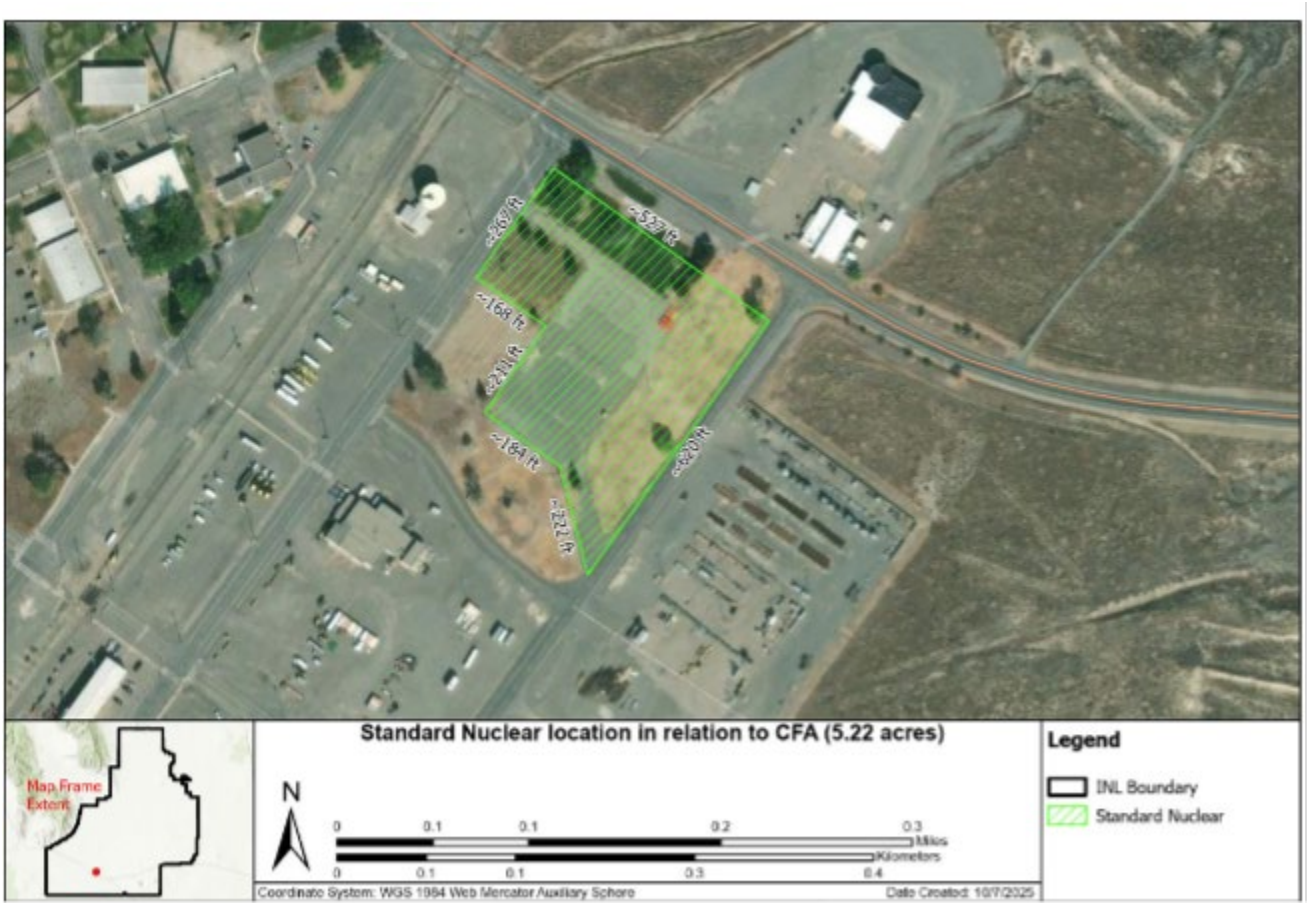
Standard Nuclear proposes to conduct site characterization activities in support of the planned Standard Nuclear–Idaho (SN-I) Pilot Facility. The SN-I Pilot Facility is anticipated to be a new Category II facility that will utilize the same TRISO fuel manufacturing processes currently demonstrated at Standard Nuclear's existing Tennessee facility. The future facility is intended to support the DOE Fuel Line Pilot Program and the DOE Reactor Pilot Program.

This document addresses site characterization activities only to support future facility siting and design. No facility construction, installation of process equipment, or fuel production activities are included in this scope.

Location

The Standard Nuclear–Idaho (SN-I) Pilot Facility site is planned within the Central Facilities Area (CFA), as shown in Attachment 1. Site characterization activities will occur within the proposed facility footprint and immediately adjacent areas as necessary to support geotechnical evaluation.

Temporary staging of subcontractor equipment may occur within the identified parcel. Staging of larger equipment, if required, will occur off-site at existing municipal locations to be determined.



Site Characterization Activities

Proposed site characterization activities will consist of non-radiological geotechnical investigations necessary to support future facility design and construction planning. Activities may include:

- Walkdowns of the proposed building footprint and limits of disturbance
- Soil borings within the building footprint and adjacent work areas
- Test pits to evaluate near-surface soils, frost depth, and proof-rolling conditions
- Cone penetration testing (CPT), as needed
- Rock coring, as needed

• Utility potholing at known or suspected utility conflict locations
• Laboratory testing of collected samples, including index testing, compaction testing, soil corrosivity testing, and pavement support testing

The number and depth of subsurface investigations will be limited to the minimum necessary to obtain required information. Anticipated activities include approximately:

• 6 to 10 soil borings to depths of 20 to 40 feet below ground surface or to competent bearing strata
• 2 to 4 test pits to depths of 6 to 12 feet
• 1 to 3 rock cores, if needed, with depths dependent on basalt encountered
• Utility potholing, as needed based on available utility information

Total ground disturbance is estimated to be approximately 0.25 acres. No vegetation removal is anticipated. Due to the developed nature of the leased land, off-road vehicle use, temporary access improvements, and temporary structures are not expected.

Equipment
Anticipated equipment to support site characterization includes a truck- or track-mounted drill rig, water truck or onboard water system, hydrovac truck, medium-duty excavator for test pits, light-duty pickup trucks for personnel transport, and temporary fencing and signage. No permanent or temporary site improvements are anticipated.

Schedule and Staffing
Site characterization activities are expected to occur during 10-hour workdays, up to 5 days per week, with overtime as necessary to meet project schedules. On-site staffing is anticipated to include one Standard Nuclear representative and six to nine geotechnical subcontractor personnel.

Water Use, Utilities, and Waste
Water may be required for hydrovac excavation and limited drilling activities, including rock coring if needed. Water will be supplied by the INL facility or subcontractor-provided trucks. Dry drilling methods are anticipated, with an estimated total water use of 2,000 to 5,000 gallons.

Hydrovac material will be contained within the hydrovac truck and disposed of at an approved off-site disposal facility. Dry drilling methods will not generate wastewater, drilling muds, or fluids requiring disposal. Limited wet cuttings may be generated if rock coring is required and will be managed as solid material.

Materials and Waste Management
Materials brought on site will be limited to fuels, lubricants, water, marking supplies, and mild cleaning agents necessary to support equipment operation. No materials will be stored on site beyond what is integral to equipment.

Site characterization activities will generate solid, non-hazardous waste, including soil cuttings and test pit material, estimated at 20 to 95 cubic yards. Material will be managed during work and either returned to boreholes and test pits or disposed of in accordance with applicable INL procedures. Hydrovac waste volumes are expected to range from 500 to 2,000 gallons and will be disposed of at an approved off-site facility.

Workforce and Transportation
The estimated on-site workforce includes one Standard Nuclear employee and six to nine subcontractor personnel. Four to twelve vehicle trips per day are anticipated depending on daily activities. No oversized vehicles are expected, although lowboy or step-deck trailers may be used if required for equipment transport.

Environmental Aspects or Potential Sources of Impact:

Air Emissions

Project activities have the potential to release fugitive dust.

Discharging to Surface-, Storm-, or Ground Water

NA

Disturbing Cultural or Biological Resources

NA

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).

Using, Reusing, and Conserving Natural Resources

NA

Determination

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); (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 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. 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. 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.

References: B3.1 "Site characterization and environmental monitoring"

Justification: For the DOE regulations regarding the application of categorical exclusions, including the full text of each categorical exclusion, see 10 CFR 1021.102 and Appendix B to 10 CFR Part 1021. Implementing guidance for categorical exclusions can be found in DOE's National Environmental Policy Act Implementing Procedures (June 30, 2025): (See full text in regulations and implementing procedures).

The proposal must fit within the classes of actions listed in Appendix B to 10 CFR Part 1021 and must satisfy the conditions that are integral elements of the classes of actions therein.

There are no extraordinary circumstances related to the proposal that may affect the significance of the environmental effects of the proposal. DOE or an applicant may modify the proposal to avoid reasonably foreseeable adverse significant effects such that the categorical exclusion would apply.

The proposal has not been segmented to meet the definition of a categorical exclusion.

B3.1 Site characterization and environmental monitoring. Site characterization and environmental monitoring (including, but not limited to, siting, construction, modification, operation, and dismantlement and removal or otherwise proper closure (such as of a well) of characterization and monitoring devices, and siting, construction, and associated operation of a small-scale laboratory building or renovation of a room in an existing building for sample analysis). Such activities would be designed in conformance with applicable requirements and use best management practices to limit the potential effects of any resultant ground disturbance. Covered activities include, but are not limited to, site characterization and environmental monitoring under CERCLA and RCRA. (This class of actions excludes activities in aquatic environments. See B3.16 of this appendix for such activities.) Specific activities include, but are not limited to: Geological, geophysical (such as gravity, magnetic, electrical, seismic, radar, and temperature gradient), geochemical, and engineering surveys and mapping, and the establishment of survey marks. Seismic techniques would not include large-scale reflection or refraction testing; Installation and operation of field instruments (such as stream-gauging stations or flow-measuring devices, telemetry systems, geochemical monitoring tools, and geophysical exploration tools);Drilling of wells for sampling or monitoring of groundwater or the vadose (unsaturated) zone, well logging, and installation of water-level recording devices in wells; Aquifer and underground reservoir response testing; Installation and operation of ambient air monitoring equipment; Sampling and characterization of water, soil, rock, or contaminants (such as drilling using truck- or mobile-scale equipment, and modification, use, and plugging of boreholes);Sampling and characterization of water effluents, air emissions, or solid waste streams; Installation and operation of meteorological towers and associated activities (such as assessment of potential wind energy resources);Sampling of flora or fauna; and Archeological, historic, and cultural resource identification in compliance with 36 CFR part 800 and 43 CFR part 7.

Approved by Robert Herzog, DOE-ID NEPA Compliance Officer on: 1/16/2026