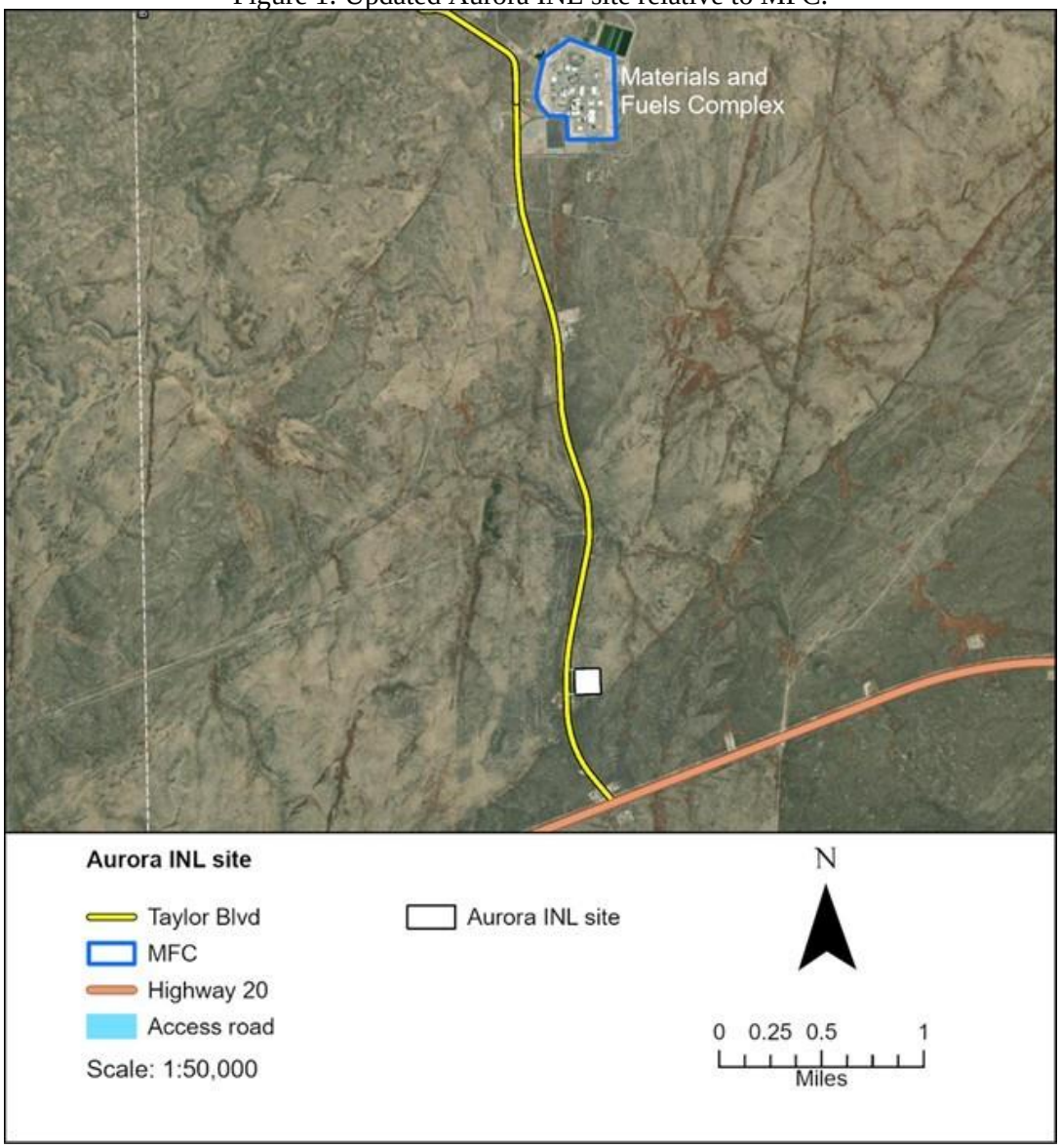
SECTION A. Project Title: Oklo Power Plant Site Characterization (Revision1)

SECTION B. Project Description and Purpose:

Revision 1

Subsequent to original planning for the Oklo Aurora site characterization efforts, Oklo worked with DOE and BEA to address outstanding uncertainties/potential future operational difficulties with locating the Aurora project at the previously identified site. Based on this additional coordination and evaluation, Oklo and DOE determined that an alternate site would be required. This alternative site is east of Taylor Boulevard and approximately ½ mile southeast of the previous site, as shown in Figure 1. This location maintains the majority of advantages of the previously identified location while also providing an additional distance between the Oklo Aurora INL site and the nearby Haul Road, removing the risk that Haul Road shipments could at time impact Oklo operations.

Figure 1: Updated Aurora INL site relative to MFC.



A cultural resource survey and initial biological work were conducted in June 2024 for the alternate site location, along with an updated MRAAN evaluation and report that was issued in early July 2024. These initial survey/evaluation activities by BEA confirmed that the alternative site would not pose significant additional impacts to the environment or Oklo activities and operations.

It is possible that some type of improved access may be needed to allow vehicles and equipment to access the alternative site from Taylor Boulevard. If needed, this would likely be no more than installation of a culvert and road base materials only to the extent needed for easy access off of Taylor Boulevard.

In addition, based on continuing interactions with the Nuclear Regulatory Commission (NRC), Oklo has refined its geotechnical investigations scope of work. Environmental impacts are likely to be similar to those for the original geotechnical investigations. The refined geotechnical investigations work requires a similar number of people and days on the site as the original geotechnical investigations scope of work. This refined geotechnical testing strategy includes the following:

- A walkdown of the 10-acre area and the access roads – This would be a pedestrian walkdown by 5 or less people over 1 to 2 days.
- Non-invasive geophysical testing including:
- Multi-channel Analysis of Surface Waves (MASW) testing.
- Performance of two-dimensional multi-channel analysis of surface waves (2-D MASW) profiles. A hammer and plate will be used as a seismic source.
- Electrical Resistivity Tomography testing.
- Performance of high-resolution multi-electrode electrical resistivity tomography (ERT) traverses crossing portions of the study area.
- Invasive testing:
- Gathering soil samples at depths up to 10 feet.
- The soil samples are collected with a hollow stem auger drilling. Ultimately the soil samples are used for laboratory testing for soil and rock characterization. The number and location of soil samples is not yet known. The soil sampling will be performed by a qualified Oklo subcontractor.
- Drilling of approximately 2 to 20 hollow stem auger boreholes to depths ranging from 100 ft to 300 ft.
- Deep boreholes will be used to identify potential subsurface geologic considerations, such as lava tubes and fault locations. The borehole samples may be used for additional laboratory tests for rock and soil characterization. The exact location of any boreholes at this time is unknown. The drilling for the boreholes will be performed by a qualified Oklo subcontractor.
- Standard Penetration Testing.
- Standard penetration tests to be performed continuously to a depth of 25 feet, and every 5 feet beyond that depth.
- Downhole testing.
- Downhole testing to determine compressional and shear wave downhole velocities - seismic velocity measurements through surface to downhole seismic methods.

The staff onsite may range between 1 and 25 people throughout the site investigations work. The work is anticipated to require between 2-12 weeks of onsite field work. One or two portable toilet units may be needed during onsite activities - the unit(s) are planned to be located as close as practical to Taylor Boulevard for ease of servicing, with weekly/bi-weekly servicing likely. Field activities would require the creation of temporary two-track access roads in order for truck mounted equipment to reach the desired location. On-site field work activities will be conducted in a manner to minimize impacts to surrounding vegetation/habitat to avoid as much as practical impacts to biological data collection efforts and reduce the need for future revegetation.

BEA's Natural Resources Group plans to conduct environmental data characterization activities at the Oklo site beginning early October 2024 and continuing through July 2025. Oklo field characterization activities are planned to begin in late 2024. To minimize the potential for Oklo's field characterization activities to impact BEA's environmental data characterization activities, Oklo plans to continue coordinating closely with BEA to limit possible impacts.
Oklo soil disturbing activities may impact the biological baseline characterization surveys conducted thereafter.

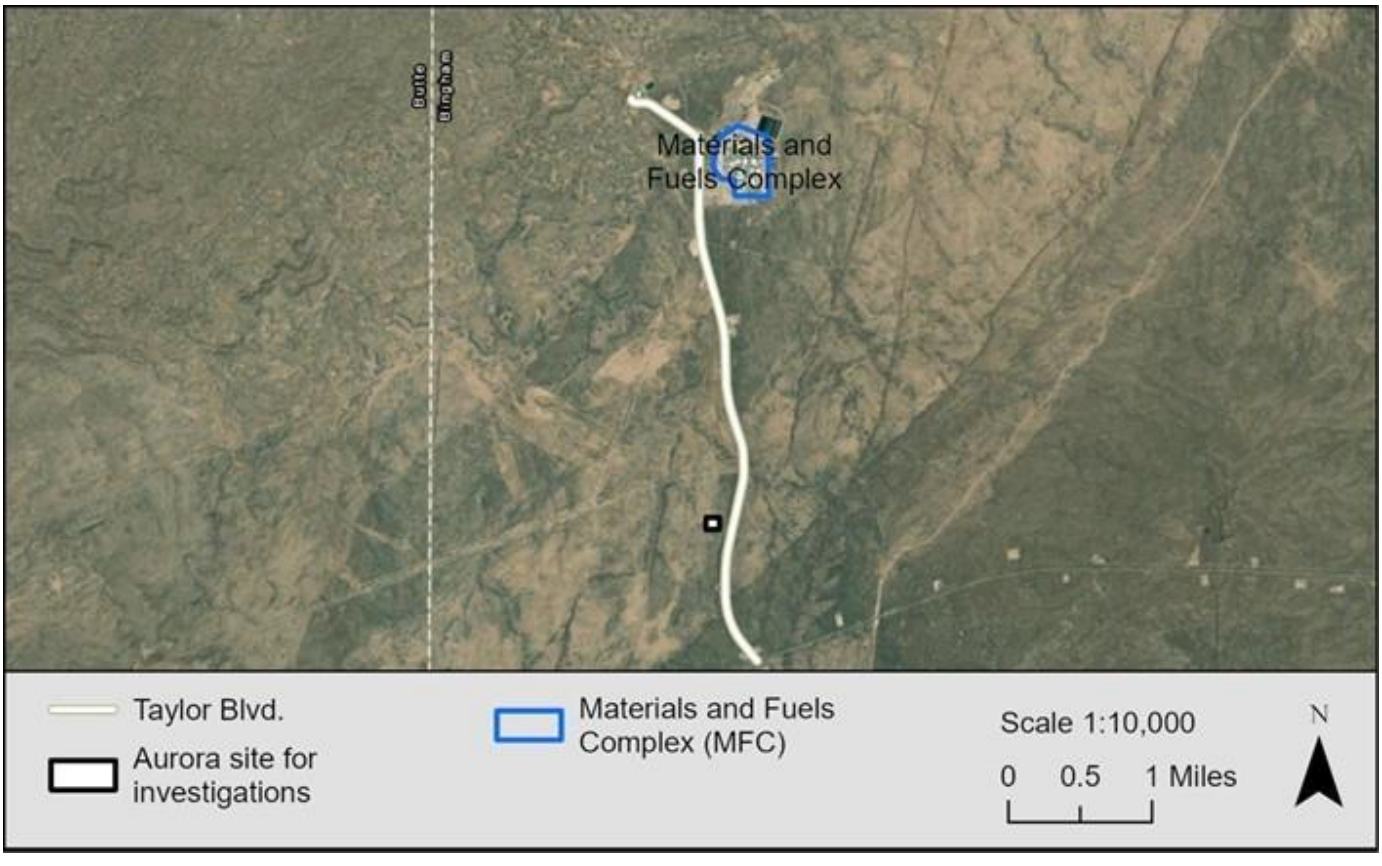
Original ECP

Oklo is developing next-generation fission power plants to produce abundant, affordable, clean energy. In 2019, Oklo obtained a site use permit from the U.S. Department of Energy to construct and operate their first Aurora Powerhouse at the Idaho National Laboratory (INL). The mission of DOE is to, "ensure America's security and prosperity by addressing energy, environmental and nuclear challenges through transformative science and technology solutions." Similarly, INL's mission describes the laboratory's commitment to energy research, development, demonstration, and deployment to support, "the nation's energy security with safe, competitive and sustainable energy systems and unique national and homeland security capabilities." Siting of the Aurora to support Oklo's commitment to rapid commercialization is in direct support of

mission statements for both the DOE and INL. The proposed Aurora Powerhouse is a compact fast reactor capable of producing up to 40 MWth and 15 MWe. Oklo is currently proceeding with Nuclear Regulatory Commission application for the Aurora Powerhouse.

Oklo, working with INL and DOE-ID, identified a preferred location to site the proposed Aurora Powerhouse. Through the site selection process, it was determined that Site 31 is the preferred site. Site 31 is a 40-acre site located south of the Materials and Fuels Complex (MFC) and north of Highway 20 (Figure 1). Site 31 is the preferred location because of the ability to avoid transporting fuel on Highway 20, minimize disturbance to sagebrush and Greater sage-grouse habitat, and minimize the need for access roads. The proposed reactor would only occupy an approximately 2-acre portion of the 40-acre provisionally accepted site.

Figure 1. Site 31 in relation to MFC.



Oklo is proposing to perform site characterization activities within and surrounding Site 31 in preparation for construction and operation of the Aurora powerhouse and support the NRC licensing application process. All activities are intended to conform with all applicable requirements and use best management practices to limit the potential effects of any resultant ground disturbance. The following activities are proposed to support site characterization:

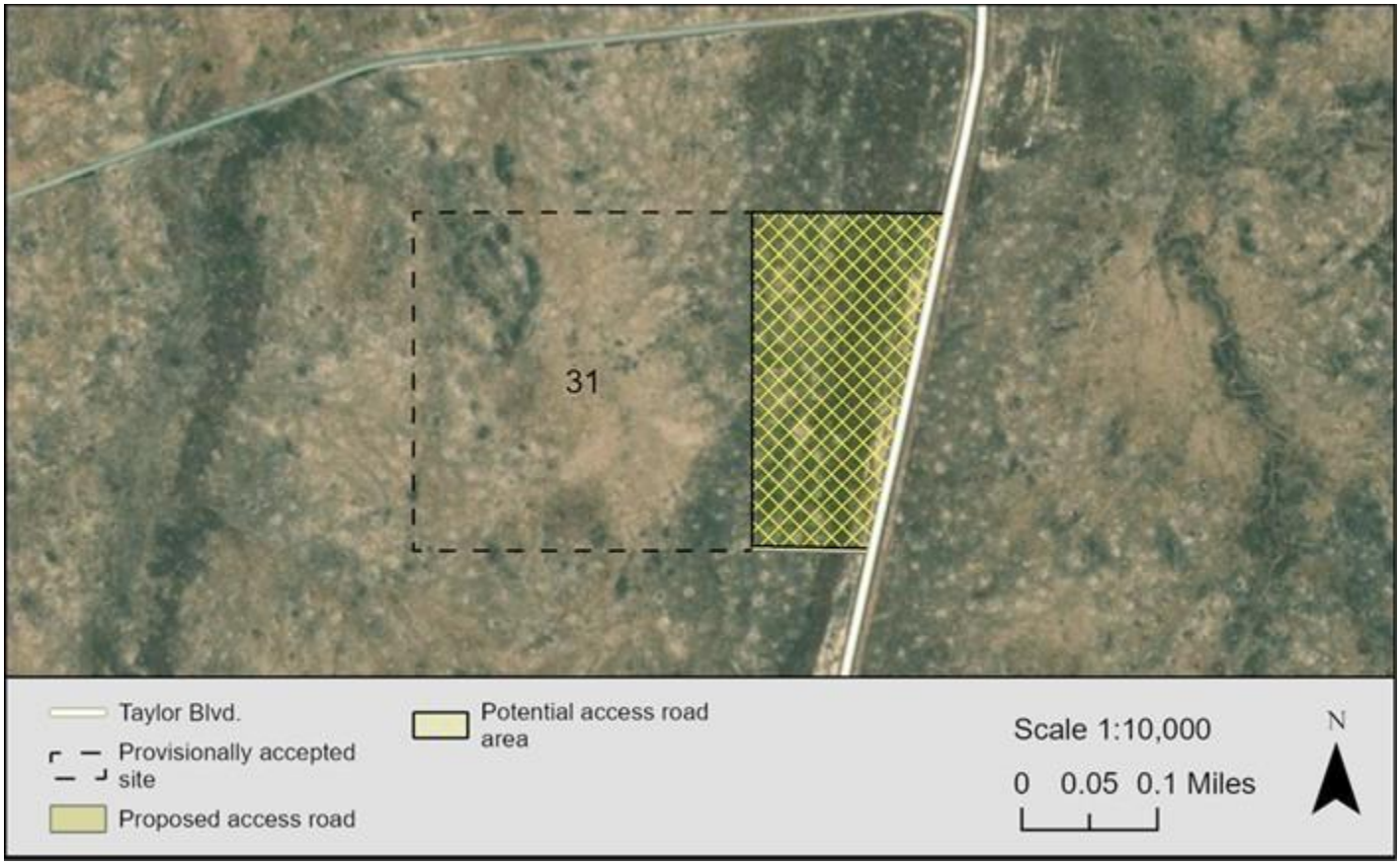
- Cultural Resource Survey – In anticipation that cultural resources may be present within Site 31 a pedestrian survey is proposed. The initial cultural resource survey is intended to identify:

- A 5-acre portion of Site 31 to perform greater site investigations to arrive at the ultimate 2 acres needed for operation, and

- A short (0.1 mile) access road from Taylor Blvd. to the site where proposed activities would have the least potential impact to those resources.

The cultural resource survey would occur within the entirety of the provisionally accepted Site 31 and area between Site 31 and Taylor Blvd (Figure 2). It is anticipated that the cultural surveys would be conducted by the BEA Cultural Resource Management Office. Additionally, survey activities would not require significant ground disturbance and or the use of vehicles. The cultural resource survey is intended to be a pedestrian survey. There are no anticipated emissions, discharges, waste generation, waste disposal, or chemical use associated with this activity.

Figure 2. Survey area is the provisionally accepted Site 31 and potential access road area.



Biological Resource Survey – In anticipation that significant biological resources (i.e. Greater Sage-grouse habitat) may be present within Site 31 and the area between Site 31 and Taylor Blvd, a pedestrian survey is proposed. The initial biological resource survey is intended to identify:

- A 5-acre portion of Site 31 for performing further site investigations to identify the 2 acres needed for operation, and
- The 0.1 mile access road from Taylor Blvd. to the site where proposed activities would have the least potential impact to those resources.

The biological resource survey would occur within the entirety of the provisionally accepted Site 31 and area between Site 31 and Taylor Blvd (Figure 2). It is anticipated that the biological surveys would be conducted by the BEA Natural Resource Program. Additionally, survey activities would not require significant ground disturbance or the use of vehicles. There are no anticipated emissions, discharges, waste generation, waste disposal, or chemical use associated with this activity.

In addition to biological and cultural resources surveys, the following characterizations will also be completed:

- Ground Penetrating Radar – Based on the results of the cultural and biological surveys, a preferred 5-acre site within Site 31 will be chosen for additional investigation to identify the ultimate 2 acres required for operation. Ground penetrating radar (GPR) will be used to characterize soil conditions. Depending on the soil conditions, GPR can characterize soil down to approximately 100 feet below the preferred 5-acre site. GPR is a non-invasive approach to identifying potential geologic challenges presented by the site. The GPR will also inform the location for soil samples. This activity will be performed by a qualified Oklo subcontractor and be completed in 3 – 10 days. Temporary restrooms may be needed during GPR activities. Additionally, it is anticipated that minimal ground disturbances would occur during this activity. The selected 5-acre site for further site investigations to identify the ultimate 2 acres for operation may need to be mowed to ensure that the GPR can function appropriately.

- Deep Boreholes – Based on the results of the GPR, deep boreholes will be used to identify potential subsurface geologic considerations, such as lava tubes and fault locations. The borehole samples may be used for additional laboratory tests for soil characterization. The number and location of any boreholes at this time is unknown, but it is assumed, based on the size of the site, that six boreholes would be needed. It is anticipated that the drilling for the boreholes would be performed by a qualified Oklo subcontractor. Temporary restrooms may be needed during drilling activities. These activities would require the creation of temporary two-track access roads and the clearing of vegetation at the borehole location in order for truck mounted boring equipment to reach the desired location. Any temporary ground disturbance would be restored, to the best ability, to pre-activity conditions.

- Soil Samples – Based on the results of the GPR, soil samples will be collected as part of the geotechnical investigation of the site. The number and location of soil samples is not yet known, but it is assumed, based on the size of the site, that 20 boreholes averaging 10 feet deep using auger drilling would be used to collect soil samples. It is anticipated that the soil sampling would be performed by a qualified Oklo subcontractor and be completed in 2 – 20 days. Temporary restrooms may be needed during drilling activities. These activities would require the creation of temporary two-track access roads and the clearing of vegetation at the borehole location in order for truck mounted boring equipment to reach the desired location. Any temporary ground disturbance would be restored, to the best ability, to pre-activity conditions.

- Soil Testing – Based on the results of the GPR, physical soil testing will be done to inform the overall geotechnical investigation. The number and location of soil testing is not yet known, but it is assumed, based on the size of the site, that 40 testing locations would be needed. It is anticipated that the soil testing would be performed by a qualified Oklo subcontractor and be completed in 2 – 10 days. Temporary restrooms may be needed during drilling activities. These activities would require the creation of temporary two-track access roads and the clearing of vegetation at the borehole location in order for truck mounted boring equipment to reach the desired location. Any temporary ground disturbance would be restored, to the best ability, to pre- activity conditions.

The soil samples, soil tests, and deep boreholes would be performed in parallel. Dust suppression will be implemented as needed. Emissions from operation of heavy equipment are not regulated as stationary sources, and thus, it is anticipated that no emission reporting is required. Any waste generated during activities would be disposed of by the contractor as required by Waste Generator Services using established plans and procedures. Additionally, any chemical use (i.e., bentonite) would be used per the manufacturer instructions and reported as required by INL Chemical Services. There are no anticipated long-term emissions, discharges, waste generation, waste disposal, or chemical use associated with these activities. The use of testing equipment with any radiological source will need to be cleared through the appropriate BEA representative.

SECTION C. Environmental Aspects or Potential Sources of Impact:

Air Emissions

Project activities have the potential to create dust. Suppression will occur as needed.

Discharging to Surface-, Storm-, or Ground Water

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-20-35 R1) and resulted in No Historic Properties Affected.

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

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.

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:

B3.1 "Site characterization and environmental monitoring"

Justification:

Based on the purpose and need and description of the proposed action and potential environmental impacts, the proposed action fits within the class of actions that is listed in Appendix B CX B3.1. There are no extraordinary circumstances related to the proposed action that may affect the significance of the environmental effects of the proposal. The proposed action has not been segmented to meet the definition of a categorical exclusion. This proposal is not connected to other actions with potentially significant impacts (40 CFR 1508.25(a)(1)), is not related to other actions with individually insignificant but cumulatively significant impacts (40 CFR 1508.27(b)(7)) and is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211 concerning limitations on actions during preparation of an environmental impact statement.
Authorizing the proposed action will not (1) threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, including DOE and/or Executive orders; (2) require siting of new facilities or expansion of existing facilities; (3) disturb hazardous substances, pollutants, or contaminants; (4) adversely affect environmentally sensitive resources; or (5) involve genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species.

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

Approved by Jason L. Anderson, DOE-ID NEPA Compliance Officer on: 09/24/2024