

DOE-ID NEPA CX DETERMINATION

Idaho National Laboratory

SECTION A. Project Title: Off-Site Monitoring & Natural Resource Activities at INL

SECTION B. Project Description and Purpose:

The Department of Energy (DOE) has evaluated options for continuing the Environmental, Surveillance, Education, and Research (ESER) Program and determined that it will be transferred from DOE management to the Idaho National Laboratory (INL) under Battelle Energy Alliance's (BEA) management. The transition of ESER scope will be transferred over to BEA by September 30, 2021. The ESER Program performs a diversity of scope in areas of environmental surveillance, wildlife and land management, and public education and outreach. The scope of work will be encompassed in the Environmental Support & Services organization in the newly named sub organization called 'Monitoring & Natural Resources' (H530). Below is an overview of each area:

Off-Site Environmental Surveillance

The purpose of this task is to conduct the offsite environmental surveillance program for the INL Site. The task includes the collection of samples of air, offsite drinking water, animal tissues, precipitation, milk, wheat, potatoes, lettuce and soil. Ambient radiation levels are measured with optically stimulated luminescent dosimeters (OSL). Tissue samples are obtained from game animals killed accidentally onsite or harvested at specific areas on the INL Site. Bats which have been collected at key INL Site facilities are analyzed for radionuclides. Samples are submitted for gross alpha, beta, and gamma analyses and radiochemistry. Quarterly reports of the offsite surveillance program that discuss trends and interpret results are documented. These reports will be used as a basis for developing the Annual Site Environmental Report (ASER).

Ambient Air and Air Moisture Sampling

Air samples are collected at offsite, replicates, and onsite air samplers.

EPA RadNet Program

BEA will participate in the EPA RadNet program by collecting rainwater samples and air filters at the Idaho Falls location. The precipitation samples are collected after rain events and shipped to EPA whenever 2 L is accumulated.

Precipitation Sampling

Precipitation samples will be collected weekly at one onsite and three offsite locations (the same locations where air moisture samples are collected). The weekly samples will be composited for each location and analyzed monthly for tritium.

Animal Sampling

Big game animals accidentally killed on INL Site roads will be sampled and analyzed. Liver and muscle tissues will be analyzed for gamma-emitting nuclides and thyroids analyzed for iodine-131.

Waterfowl accessing the Advanced Test Reactor waste disposal ponds will be collected annually and analyzed for gamma-emitting nuclides and a smaller subset of the samples will be analyzed for strontium-90 and transuranic radionuclides. The birds will be divided into three portions: external (skin and feathers), edible (muscle), and remainder. At least two control samples from offsite locations will be collected and analyzed also.

Dead bats will be collected from INL Site facilities during the year and composited by facility or groups of facilities. The composited samples will be freeze-dried and processed for analysis by the laboratory. The number of samples analyzed will depend on the number and mass of bats collected at each facility. Samples will be analyzed for gamma-emitting radionuclides, strontium-90, and plutonium isotopes.

Drinking Water

BEA will collect routine regional surface and drinking water samples. All water locations will be co-sampled with the State of Idaho Department of Environmental Quality INL Oversight Program and will be analyzed for gross alpha and gross beta activities, as well as for tritium.

The Big Lost River will also be sampled, depending on the availability of surface water. All samples will be analyzed for gross alpha and beta activities, tritium, and gamma-emitting radionuclides.

Food Sampling

Milk samples are collected weekly and monthly. Milk samples will be collected weekly from Reed's Dairy because they have historically represented a reliable source of samples. Weekly milk samples will also be collected at various dairies, while other milk samples will be collected monthly from commercial dairies and/or single-family farms and one nonlocal control sample (organic) obtained from the grocery. The samples will be analyzed for I-131. One sample from each location will be analyzed annually for Sr-90 and one sample from each location for tritium.

Per recommendations of the DOE HSS, alfalfa grown downwind of the INL Site, which is consumed by cows, will be collected after first cutting in the summer and analyzed for gamma-emitting radionuclides. In addition, we will collect alfalfa from the Idaho Falls area as a control sample.

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BEA will obtain samples annually of potatoes, wheat, and lettuce. Sample numbers will vary based on availability. The samples will be analyzed for gamma-emitting nuclides and Sr-90. At least one duplicate of each food type will also be analyzed. The lettuce sample locations include four-five portable planters that BEA will operate and harvest samples from if the growing season is successful. These are placed in locations where lettuce has been difficult or impossible to obtain, including an onsite location at EFS. In addition, one nonlocal control sample will be obtained from the grocery for each produce type.

Soil Sampling

Soils are collected in even years (and were collected in 2018). The soil samples are analyzed by gamma spectroscopy and for specific radionuclides (90Sr, plutonium isotopes, and 241Am).

Direct Radiation Sampling

BEA will collect Direct Radiation measurements on and off the INL Site. BEA will utilize Optically Stimulated Luminescent Dosimeters (OSLDs) for analysis and tracking in trending.

Access to INL Site

In most cases monitoring and sampling activities require access to remote backcountry areas on the INL Site via two track roads. Travel into the backcountry will be limited to the two track roads. Any travel to locations off of the two track roads will be conducted on foot and have minimal impact to natural resources. Access to and around INL facilities may also be needed.

Natural Resources Monitoring and Sampling

Many actions performed by project personnel can be described as monitoring through non-destructive, or occasionally destructive sampling of natural resources. Natural resources monitored by the ESER program include soil, wildlife, and vegetation. Non-destructive sampling for vegetation is used for estimating abundance and may include point interception, line interception, density counts, and height measurements. Destructive vegetative sampling is used for estimating biomass and/or physiological performance and may include clipping, collection of stem cross-sections, leaf area index measurements, sampling water potential, and root biomass distribution estimates. Soil and soil moisture sampling and monitoring occasionally accompany vegetation sampling and they are conducted to estimate nutrients, water movement in the unsaturated zone, mycorrhizal abundance, etc. Soil sampling techniques may include excavating small pits, removal of soil cores, placement of time-domain reflectometry probes, and introduction of biomarkers into various subsurface layers. Monitoring wildlife populations will consist of nondestructive techniques such as audio and/or visual point counts, track counts, pellet counts, live trapping, acoustical monitoring, and photo documentation. Destructive sampling of wildlife species may be needed to determine population diversity and abundance. Methods used in this type of sampling may include snap traps and pitfall traps. All wildlife monitoring and sampling will be conducted in compliance with appropriate state and federal permits.

Sampling methods include the establishment of both temporary and permanent locations. Permanent locations are maintained and revisited across an established timeframe to provide data in order to assess the presence, use, abundance, composition, condition, function, and importance of natural resources these areas and across the INL Site. Permanent plots are often marked with rebar, t-posts, or similar monuments. Occasionally these markers have been damaged or removed and need to be replaced. Data from the locations are used to support INL Site mission through assessment of natural resource conditions on the INL Site and are used to support NEPA documentation, required regulatory reporting, agency stakeholder interactions, siting new projects and associated infrastructure, and planning for stewardship initiatives.

Projects requiring sampling and monitoring include but are not limited to, Long-Term Vegetation Transects Project, Sage-grouse Habitat Monitoring, Vegetation community classification, Post fire vegetation/invasive species monitoring, sagebrush disturbance assessments, Sage-grouse Lek counts, Mid-winter Raptor counts, Raven Surveys, Breeding Bird Counts, sagebrush seed collection, rare and sensitive species surveys, and Bat monitoring, which includes fixed and driving acoustical data collection, winter cave population counts, and logging of cave environmental conditions,.

The INL Site is designated a National Environmental Research Park (NERP) and the Monitoring and Natural Resources suborganization will continue to facilitate access for biological/ecological research by university partners. University research typically involves the same type of non-destructive or destructive sampling described above for programmatic-level monitoring of natural resources. All new proposed NERP research will be evaluated to ensure that all sampling is conducted in a manner that is consistent with the conditions identified in this ECP.

Animal Capture and Handling

To further the understanding of the ecology of the INL and to protect sensitive species from development or high activity areas that may harm the species, project personnel may be required capturing, handling, marking, banding, and radiotelemetry of wildlife. Various non-destructive capture methods may be used including but not limited to live traps, catch poles and netting.

Revegetation Support

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Project personnel will support ongoing revegetation efforts taking place on the INL. Where restoration efforts impact soils or vegetation they will contact CRMO for recommendations for minimizing impacts to cultural resources and will comply with CERCLA requirements for submitting a Notice of Soil Disturbance where appropriate.

The Monitoring and Natural Resources suborganization will continue lead sagebrush restoration efforts to address baseline sagebrush recovery goals, post-fire sagebrush habitat improvement, and compensatory mitigation for damage to current or recovering sagebrush habitat incurred during infrastructure development. Current sagebrush restoration techniques include collection of sagebrush seed local to the INL Site via hand stripping, using seed to grow seedling in a commercial greenhouse, and planting seedlings in a priority restoration area on foot using hand tools.

SECTION C. Environmental Aspects or Potential Sources of Impact:

Air Emissions

Activities have the potential to contribute to air emissions through generating hazardous emissions, such as by operation of fuel burning equipment, decontamination work, and use of products that contain hazardous constituents. Other activities that have the potential to contribute to air emissions include acquiring and dispositioning chemicals and generating fugitive dust or other fugitive emissions.

Discharging to Surface-, Storm-, or Ground Water

N/A

Disturbing Cultural or Biological Resources

Activities have the potential to disturb cultural and biological resources by management of migratory birds and bird nests on the INL and in-town facilities and potential to disturb vegetation and soil.

Generating and Managing Waste

Activities have the potential to generate industrial and low-level waste.

Releasing Contaminants

Activities have the potential to release contaminants to air, water, or soil through acquiring, using, storing and dispositioning chemicals, managing and dispositioning excess property and materials.

Using, Reusing, and Conserving Natural Resources

Activities have potential to impact 'using, reusing, and conserving natural resources' by generating greenhouse gases, building energy use, generating landfill waste or construction and demolition wastes, generating recyclable materials, and engaging in sustainable acquisition practices.

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: 10 CFR 1021, Appendix B, B3.1 "Site characterization and environmental monitoring" and B3.3 "Research related to conservation of fish, wildlife, and cultural resources."

Justification: Project activities are consistent with 10 CFR 1021, Appendix B, B3.1 "Site characterization and environmental monitoring (including, but not limited to, siting, construction, modification, operation, and dismantlement and removal or otherwise proper closure

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(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:

- a) Geological, geophysical (such as gravity, magnetic, electrical, seismic, radar, and engineering surveys and mapping, and the establishment of survey marks. Seismic techniques would not include large-scale reflection or refraction testing;
- b) Installation and operation of field instruments (such as stream-gauging stations or flow-measuring devices, telemetry systems, geochemical monitoring tools, and geophysical exploration tools);
- c) 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;
- d) Aquifer and underground reservoir response testing;
- e) Installation and operation of ambient air monitoring equipment;
- f) 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);
- g) Sampling and characterization of water effluents, air emissions, or solid waste streams;
- h) Installation and operation of meteorological towers and associated activities (such as assessment of potential wind energy resources);
- i) Sampling of flora or fauna; and
- j) Archeological, historic, and cultural resource identification in compliance with 36 CFR part 800 and 43 CFR part 7.", and

10 CFR 1021, Appendix B3.3 "Field and laboratory research, inventory, and information collection activities that are directly related to the conservation of fish and wildlife resources or to the protection of cultural resources, provided that such activities would not have the potential to cause significant impacts on fish and wildlife habitat or populations or to cultural resources."

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: 09/16/2021