

## SECTION A. Project Title: DEQ INL Oversight

## SECTION B. Project Description

The DEQ-INL Oversight Program's (OP) primary objective is to maintain an independent environmental monitoring program designed to verify and supplement DOE's environmental data and programs. To support this objective, DEQ-INL OP performs air monitoring, environmental radiation monitoring, terrestrial radionuclide monitoring, and water monitoring. DEQ-INL OP monitoring data is provided to the public through quarterly and annual reports, in real time on the DEQ INL OP website, or by special request.

The DEQ-INL OP currently maintains 11 radiological air monitoring stations. Samples collected from these monitoring stations include airborne particulate matter; gaseous radioiodine, precipitation, and water vapor. Four of these stations are located on the INL Site, and seven are located near the INL Site. The most distant of these stations is operated by the Shoshone-Bannock Tribes at Fort Hall. During the performance of this grant period, DEQ-INL OP anticipates the installation of two additional air monitoring stations.

Ambient penetrating radiation levels are monitored continuously using a network of 12 high pressure ion chambers (HPICs) and EcoGamma environmental monitors that provide realtime radiation exposure rate measurements on or near the INL Site. Data are collected by DEQ-INL OP via radio telemetry for HPIC, or mobile networks for EcoGammas, and are available online. During the performance of this grant period, DEQ-INL OP plans for the installation of two additional EcoGamma environmental monitors co-located with the two additional air monitors

DEQ-INL OP also maintains a network of passive electret ion chambers (EICs) to measure cumulative radiation exposure over quarter-year periods. DEQ-INL OP deploys EICs at 65 locations; 44 along roads crossing the INL Site, seven at INL facilities or onsite, and fourteen at distant locations including impacted communities in the region. EICs are collocated at all HPIC stations to verify HPIC measurement accuracy. The objectives of the DEQ-INL OP EIC network are to verify DOE contractors' environmental gamma radiation data and characterize background radiation baseline levels to determine any long-term changes in penetrating radiation exposure, potentially caused by INL or other DOE operations.

The DEQ-INL OP conducts terrestrial (soil and milk) monitoring to detect long-term deposition and migration of radionuclides in the environment and food chain. Soil samples are collected for laboratory analysis of gamma-emitting radionuclides. Field instrumentation is used for direct in-situ measurements of specific gamma-emitting radionuclides in soil and vegetation. Soil sampling and in-situ gamma spectrometric measurements are used to verify DOE contractor measurements. Milk samples are collected from four milk collection plants for regional monitoring purposes and from six specific dairies to verify DOE milk monitoring. Milk samples are analyzed for naturally occurring potassium-40 and man-made iodine-131.

The DEQ-INL OP performs water monitoring to identify INL and DOE impacts to the Eastern Snake River Plain Aquifer, evaluate trends of known INL contaminants and other water quality indicators, and verify DOE and USGS monitoring results. Groundwater samples are collected annually from 80-85 wells and springs, each of which is classified as an upgradient, facility, boundary, or distant site based on its proximity to INL facilities and known contaminant plumes (Figures 2 and 3). An additional 1-3 surface water sites and 1-3 wastewater sites are also sampled each year. Samples from all locations are analyzed for gross radioactivity, tritium, common ions, dissolved metals, and nutrients. Selected locations are also sampled for specific radionuclides and/or volatile organic compounds. All upgradient, facility, boundary, surface water, and wastewater sites and some distant sites are sampled concurrently with a DOE contractor and/or the USGS, and DEQ-INL OP annually compares its own analytical results with those obtained by co-samplers. Other distant sites, most of which are in the Magic Valley, are independently sampled by DEQ-INL OP on a rotating triennial schedule.

## SECTION C. Environmental Aspects / Potential Sources of Impact

**Radioactive Material Use** – Standards and check sources are used to calibrate and check instrument operation. Processes are performed in the DEQ offices under standard operating procedures (SOPS).

**Chemical Use/Storage** – Acids are used to preserve samples in the field. Acids are transported in compliance with standard safety protocols. Handling of acids is performed by trained DEQ personnel following SOPs.

**Water/Well Use** – Water samples are collected from wells located at the INL. DEQ staff work with trained INL Site employees or USGS and follow DEQ SOPs.

**Work Within a Flood Plain** – Sampling activities are conducted within floodplain areas. Historically, these areas are very dry.

# DOE-ID NEPA CX DETERMINATION

Cultural/Historical Resources – The INL has identified cultural and historical sites. There is the potential for unidentified sites to be identified. DEQ staff that collect samples/data on the INL are aware that the areas should not be disturbed and that any discovery of artifacts should be reported to the INL Cultural Resources staff.

Interaction with Wildlife/Habitat – Wildlife habitat and populations are common across the INL. DEQ staff is aware there should be no interference with wildlife or any actions that would impact the habitat.

**SECTION D. Determine the Level of Environmental Review (or Documentation) and Reference(s):** Identify the applicable categorical exclusion from 10 CFR 1021, Appendix B, give the appropriate justification, and the approval date.

Note: 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, including requirements of DOE orders; 2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities; 3) disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that pre-exist in the environment such that there would be uncontrolled or unpermitted releases; 4) adversely affect environmentally sensitive resources. In addition, no extraordinary circumstances related to the proposal exist which would affect the significance of the action, and the action is not “connected” nor “related” (40 CFR 1508.25(a)(1) and (2), respectively) to other actions with potentially or cumulatively significant impacts.

References: B3.1 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.) Specific activities include, but are not limited to: (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.

Justification: The activity consists of providing funding to Idaho DEQ to perform environmental monitoring on the INL Site.

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

Approved by Jason Sturm, DOE-ID NEPA Compliance Officer on 07/15/2020