

**SECTION A. Project Title: INL – Site Wide Well Abandonment Activities**

**SECTION B. Project Description**

The proposed action will abandon inactive wells and injection wells at the Idaho National Laboratory (INL) Site. Wells and injection wells will be abandoned as per MCP-1442, MCP-3480 and the Idaho Department of Water Resources (IDWR) requirements, as applicable. The wells to be abandoned are located both within the INL facility boundaries and outside of the INL facility boundaries. The proposed action will address all classes of wells including Class IV and V injection wells.

The wells will be abandoned in accordance with instructions provided in this Environmental Checklist, MCP-3480 and Section 4.5 in MCP-1442, Well Drilling, Maintenance, Surveillance, and Abandonment Activities. The MCPs identify the process to be followed for abandonment of wells, including injection wells. These wells will be abandoned in a manner to protect water resources, in accordance with the regulatory requirements associated with the well. This may be accomplished by filling in the wells with an appropriate material such as bentonite, grout, or cement. As needed, the well casings and cable may be cut near or below ground surface to eliminate potential obstructions. Soil disturbance associated with a typical well abandonment is anticipated to be less than 4 sq. ft at the surface to a depth of 1 ft at each location. Typically this type of excavation will be performed using a shovel. If removal of a shallow injection well is necessary, it is anticipated that mechanical methods such as a backhoe may be used. However, typical abandonments would use a backhoe or jack hammer to breakup existing concrete pads and have minimal excavation around the casing.

The scope of this project covers the entire Idaho National Laboratory Site, both inside facility boundaries and outside facility boundaries. Therefore, appropriate personnel must be contacted prior to initiating the work for coordination of facility specific requirements. For additional information, see Project-Specific Environmental Instructions in Section D.

The proposed action is planned to begin May 2010 and continue through September 30, 2012. The estimated cost for the project is approximately \$200K

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

**1. Air Pollutants** – Fugitive emissions will be generated from breaking up the concrete pads around the wells and soil disturbance. All fugitive emissions should be controlled using GDE 369 – Fugitive Dust Control. Project personnel anticipate some wells to be located in radiologically-contaminated areas.

Radiological emissions to the environment, including those from point and diffuse sources, must be determined for demonstrating compliance with the NESHAP Standard [see 40 CFR 61.93(a)] and submitted for reporting in the INL NESHAP Annual Report per 40 CFR 61.94. If any fugitive radiological emissions are released, the performing organization Project Manager or Source Owner/Manager shall ensure that the calendar year emissions are determined and reported (via signed memorandum) to Environmental Programs by March 15 for the preceding year.

**4. Chemical Use and Storage** – Chemicals, such as petroleum products, grout, and other concrete products will be used in support of the proposed action. Project personnel will use non-hazardous chemical substitutes in the place of hazardous chemicals as long as the non-hazardous substitutes meet the requirements/ specifications of the requester. Spill prevention/minimization measures will be employed during storage and use of chemicals/fuels. Affirmative Procurement (MCP-1185) will be used as guidance in procuring applicable chemicals and materials.

**5. Contaminated Site Disturbance** – Project personnel anticipate some wells to be located in radiologically-contaminated areas. Soil disturbance will be minimized at these locations. In those areas where subsurface contamination may be present, soil disturbance will be minimized, if possible, by leaving the concrete pad in place and cutting the casing at the top of the concrete pad and backfilling the casing.

Well abandonments that disturb CERCLA soils will be assessed to determine if a CERCLA notice of soil disturbance (NSD) is required per Appendix D of the INL Site-wide Institutional Controls Plan. If required, a NSD will be obtained.

**6. Cultural/Historical Resource Disturbance** – Prior to performing well abandonment activities in areas outside of INL facility boundaries, project personnel must obtain an archaeological clearance.

All vehicle travel will be restricted to existing roads and trails to prevent impact to cultural resources in unsurveyed areas (see Project Specific Instructions #3). The Stop Work will be evoked immediately should unusual materials (i.e., bones, flakes of obsidian, “arrowheads” or other artifacts, rusty cans, etc.) be encountered.

**7. Discharge to Wastewater Systems or Groundwater** – Work will involve the abandonment of inactive wells, including monitoring wells, injection wells, gas sampling ports, lysimeters, instrumented boreholes, and other wells regulated by the IDWR. Each well and associated groundwater will be protected from sources of contamination during abandonment. All well abandonments will follow the applicable regulatory requirements found at IDAPA 37.03.03, IDAPA 37.03.09, and company procedures. Abandonment of potable water wells will be in accordance with IDAPA 58.01.08. Regulatory reviews and approvals will be obtained prior to abandonment, as necessary, including the submittal of the appropriate closure documentation.

**8. Drinking Water Contamination** – Abandonment of potable water wells will be in accordance with IDAPA 58.01.08. Regulatory reviews and approvals will be obtained prior to abandonment, as necessary, including the submittal of the appropriate closure documentation.

**9. Hazardous /Mixed Waste Generation and Management** – Project personnel do not anticipate generating hazardous or mixed wastes. However, should hazardous or mixed waste be generated from the well abandonment activities, the waste streams will be segregated, packaged, and stored in a temporary accumulation area or a permitted storage area until it is transported to an off-site permitted disposal facility.

**10. Hazardous /Rad. Material or Waste Handling and Trans.** - A Hazardous Waste Determination will be performed on all generated waste to apply the appropriate management practices. Waste streams will be evaluated to determine if any of these materials can be recycled or reused and will be evaluated to implement actions for minimizing waste generation.

**11. Industrial Waste Generation and Management** - The estimated quantity of industrial waste is 50 gallons and will include materials used to clean hydraulic spills, personal protection equipment, and other miscellaneous waste. All industrial waste will be disposed of in the INL Landfill Complex.

**12. Interaction with Wildlife/Habitat** - All the well locations have been previously disturbed during the initial well drilling activities. Soil disturbance is anticipated to be minimal. Vegetation at the work locations will be mowed, as necessary prior to well abandonment. Revegetation will be implemented, if necessary. The majority of the well locations outside of facility boundaries are near or on established roads. No new roads will be created and all vehicles will remain on existing road ways and parking areas.

A nesting bird survey is required for any vegetation removal between April 15 and September 1.

**16. Radioactive Waste Generation and Management** – Project personnel anticipate generating limited quantities of radioactive waste. Radioactive waste generated from the well abandonment activities will be disposed of at the Idaho CERCLA Disposal Facility or at an approved off-Site facility through Waste Generator Services.

**19. Work within areas Subject to Flooding** – Since the well abandonment work is planned to occur in several unidentified locations throughout the INL site, the potential exists for well abandonment to occur within the 100-year floodplains of the Big Lost River, Birch Creek, or the overland flow 100-year floodplains of INTEC and RWMC. The Big Lost River 100-year floodplain is defined in the report entitled “Big Lost River Flood Hazard Study,” (D. A. Ostenaar and D. H. O’Connell, 2005, Report 2005-2). The Birch Creek 100-year floodprone area is identified in the study entitled "Simulation of Water-Surface Elevations for a Hypothetical 100-Year Peak Flow in Birch Creek at the INEEL", by Berenbrock and Kjelstrom (USGS, 1997). The overland flow 100-year floodplain at INTEC is discussed and mapped in the report "100-year Floodplain and 25-Year Runoff Analyses for the Idaho Nuclear Technology and Engineering Center at the INEEL" INEEL-EXT-03-01174, by Clear Creek Hydrology and Hutten (2003). The overland flow 100-year floodplain at RWMC is discussed and mapped in the report "100-Year Floodplain and 25-Year Runoff Analyses for the RWMC at the INEEL," (Mitchell, et. al., 2001) (INEEL/EXT-02-00093).

The well abandonment work described in this EC is not expected to have a significant impact on the 100-year floodplains described above and the work is not expected to disrupt floodplain dimensions, elevations, flow volumes, or velocities of the Big Lost River, Birch Creek or the INTEC or RWMC watersheds. If the hypothetical flood(s) was (were) to occur, access to the work areas may be temporarily interrupted. Work can resume after floodwaters subside as access allows.

**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.

**DOE-ID NEPA CX DETERMINATION  
IDAHO NATIONAL LABORATORY**

References: Categorical Exclusions B2.5, Safety and environmental improvements of a facility, replacement/upgrade of facility components and B3.1, Site characterization/environmental monitoring.

Justification: B2.5 addresses abandonment of the Class IV and V Injection Wells. Closing the wells will provide protection to the environment.

B3.1 addresses abandonment of the monitoring wells. "Onsite and offsite site characterization and environmental monitoring, including siting, construction (or modification), operation, and dismantlement or closing (abandonment) of characterization and monitoring devices and ..."

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

Approved by Jack Depperschmidt, DOE-ID NEPA Compliance Officer on April 16, 2010