

DOE-ID NEPA CX DETERMINATIO

Idaho National Laboratory

SECTION A. Project Title: Materials and Fuels Complex (MFC)-752 Analytical Laboratory Water System Upgrade Project

SECTION B. Project Description:

The proposed project will remove and replace the current demineralized water system and backflow preventers with an air-gap system. The purpose of the project is to comply with Environmental Support and Services Technical Interpretation (ES&S-TI)-027, Idaho National Laboratory (INL) Technical Interpretation, Potable Water Protection from Radioactive Contamination.

The new air gap system will come as a complete factory assembled package requiring only field piping connections, and required electrical connections. The system will be a Metro-ISO Pac as manufactured by Metropolitan Industries, Inc., Romeoville, IL (800) 323-1665 or equivalent, certified and labeled by Underwriters Laboratory, under category QCZJ for packaged pump systems. Project design will tie the internal control system that controls the water-pressure-booster system to INL's Site-wide Environmental & Energy Control System (SEECs), a building automation and control network (bacnet/mstp).

The pump system package will mount on a skid with load rated lifting lugs; each lifting lug designed to carry one-half the total load of the skid. The air gap system will include:

- Package system (skid mounted) not to exceed a footprint of 6' 6" by 8' 6"
- Storage tank capacity: (quantity 1) 100 gallon (poly)
- Local controls with remote monitoring capability via bacnet/mstp (i.e., ability to network with a computer)
- Monitoring and alarms: storage tank low level, storage tank high level, flow
- Flow of 25 gpm at 50 psi to non-potable water system
- Dual pumps to be controlled lead-lag
- Loaded lifting lugs (Quantity four)
- Power 208/3/60
- Leak detection and remote monitoring.

In addition to the air gap system, INL will add a point-of-use water purification system to lab B141 in the analytical laboratory and will use the laboratory sink for drainage to the suspect waste system. The point-of-use water purification system will include:

- Thermo Scientific Barnstead Smart2Pure 12 UV System, or equivalent
- Smart2Pure 30 L Reservoir, or equivalent
- Sterile overflow for storage tank 30-100 liters
- Pre-filter housing with 1 uM Filter
- CO2 Adsorber and vent filter for storage tank 30-100 liters
- American Society for Testing and Materials (ASTM) D1193 Type 1 water, 20 liters per day with a flow rate of 1 lpm, and Type III water (or higher quality) 40 to 60 liters per day.

SECTION C. Environmental Aspects or Potential Sources of Impact:

Disturbing Cultural or Biological Resources: MFC-752 is eligible for nomination to the National Register of Historic Places. The activities described in the project description are exempted from cultural resource review ("INL Cultural Resource Management Plan" Table 2, exemptions 6 [Department of Energy Idaho Operations Office (DOE/ID)-10997 rev. 5]). Therefore, the project could proceed as described without further cultural resource review. The Cultural Resource Management Office concurs that the described activity is exempt from a cultural resource review.

Generating and Managing Waste: Project activities will generate typical construction debris waste such as wood, wire, scrap metal piping, packaging material, Resource Conservation and Recovery Act (RCRA) empty chemical containers. Project personnel do not anticipate generating hazardous waste, however, there is a potential for generating hazardous waste from chemical spills. Waste will be containerized and turned over to Waste Generator Services (WGS) for disposal. WGS will direct waste characterization and disposition activities.

Releasing Contaminants: Project activities will use typical construction chemicals such as adhesives, lubricants, and paints. The Subcontractor will submit all chemicals and associated material safety data sheets (MSDS's) in the vendor data system for approval. The Construction Chemical Coordinator will track these chemicals in the INL Comply Plus Chemical Management System. Chemical use has a potential for small amounts of air emission and spills. Project personnel will report any spills that occur from these chemicals to the Spill Notification Team. The subcontractor will clean up any spill.

Using, Reusing, and Conserving Natural Resources: All materials would be reused or recycled where economically practicable and as accepted by the customer. Project personnel will divert all applicable waste from disposal in the landfill where conditions allow. New equipment would meet the Energy Star or Significant New Alternatives Policy (SNAP) requirements as appropriate (see <https://sftool.gov/green-products/0/hvacmechanical?agency=0>). In addition, the project would practice sustainable acquisition, as practicable, by procuring construction materials that are energy efficient, water efficient, bio-based in content, environmentally preferable, non-ozone depleting, recycled content, or are non-toxic or less-toxic alternatives.

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SECTION G. Determine the Recommended Level of Environmental Review (or Documentation) and Reference(s): Identify the applicable categorical exclusion (CX) from 10 Code of Federal Regulations (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 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 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 to Subpart D item B1.31 'installing or relocating machinery and equipment'

Justification: Project activities in this Environmental Checklist (EC) are consistent with 10 CFR 1021 Appendix B to Subpart D, Categorical Exclusion B1.31, 'installing, relocating, and operating machinery and equipment (including, but not limited to, laboratory equipment, electronic hardware, manufacturing machinery, maintenance equipment, and health and safety equipment)', verify that uses of the installed or relocated items are consistent with the general missions of the receiving structure. Covered actions include modifications to a building, within or contiguous to a previously disturbed or developed area, that are necessary for equipment installation and relocation. Such modifications would not appreciably increase the footprint or height of the building or have the potential to cause significant changes to the type and magnitude of environmental impacts."

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: 11/6/2014