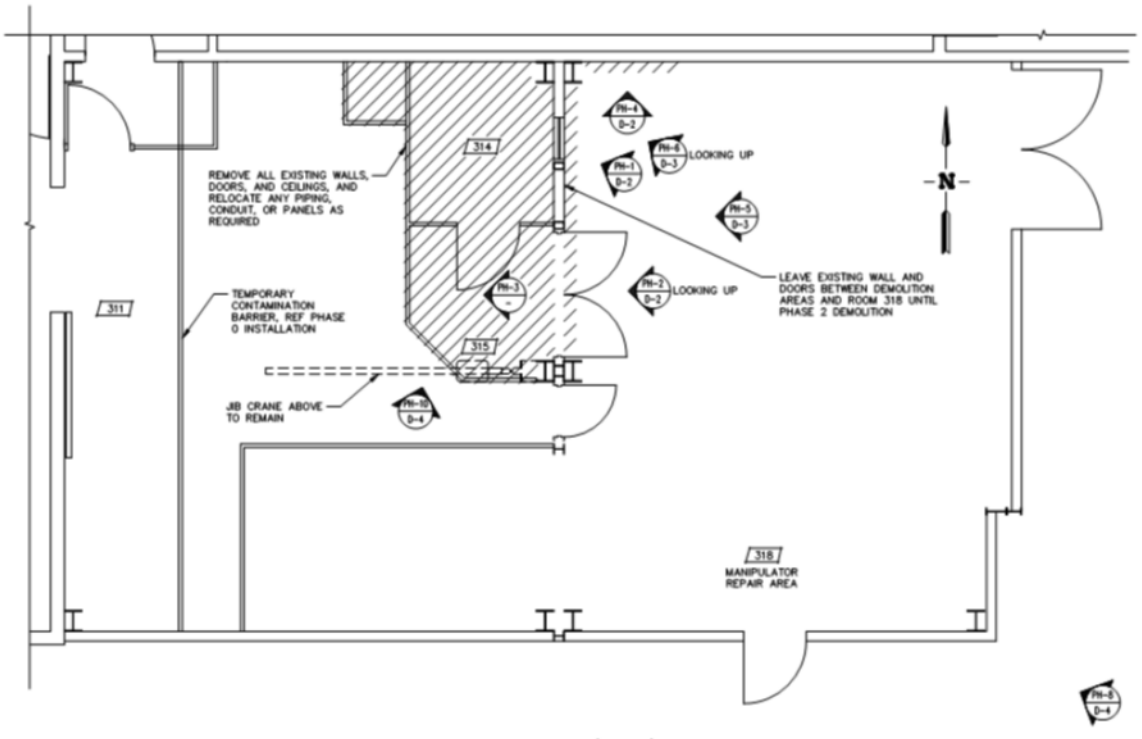
DOE-ID NEPA CX DETERMINATION
Idaho National Laboratory

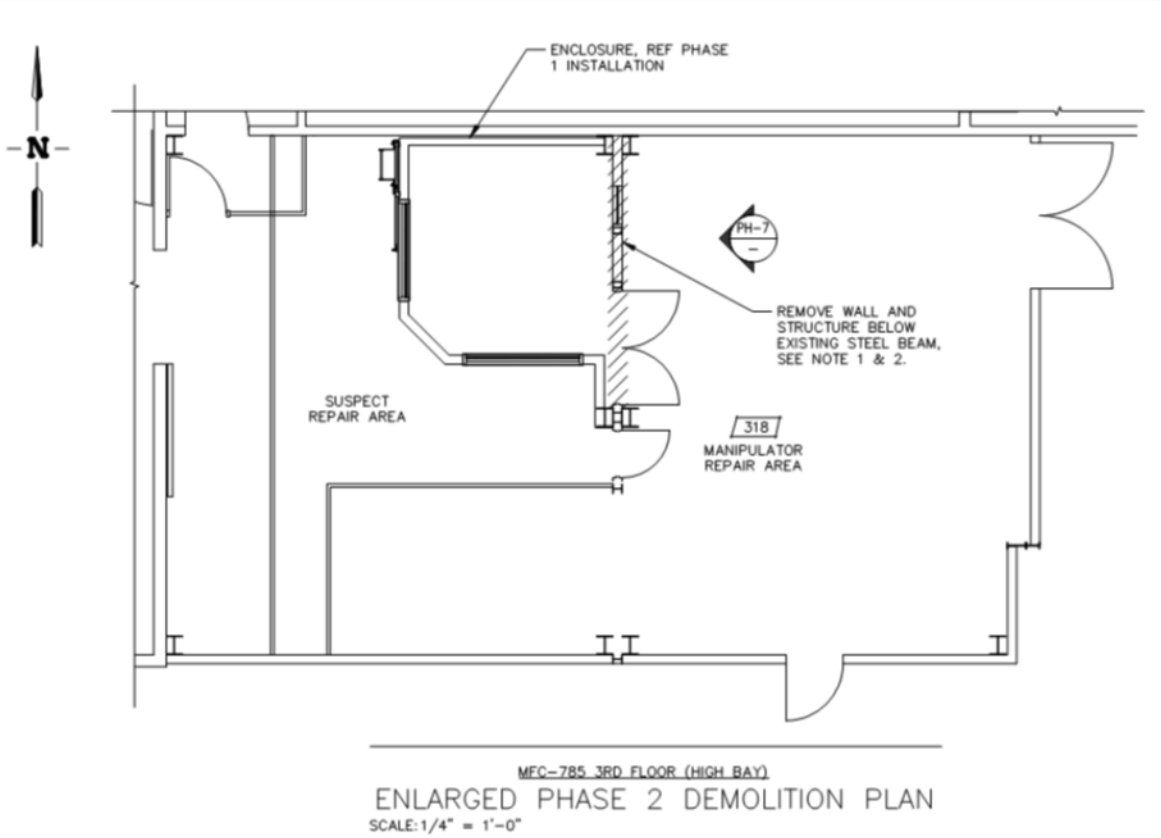
CX Posting No.: DOE-ID-INL-21-116

SECTION A. Project Title: HFEF Second Manipulator Repair Glovebox

SECTION B. Project Description and Purpose:

HFEF has a series of remote operating hot cell systems. Research and maintenance in these hot cells is performed using remote manipulators. These manipulators involve a complex system of cables, tapes, motors, and equipment to operate. Regular maintenance is needed for these manipulators. HFEF currently does not have sufficient capacity to maintain and repair the manipulators. Increased capacity is envisioned through modification of the HFEF Hot Repair Area (HRA) to install a glovebox system similar to the existing manipulator repair glovebox. To accomplish this plan, Rooms 314, 315, & 318 of the Hot Repair Area (HRA) of HFEF will be renovated for installation of a 2nd HFEF Manipulator Repair glovebox, see diagrams below for demolition plan. This will require removing existing rooms 314 & 315 and providing a new room which is open on one end connected to room 318. New walls will be constructed for the 3 sides of the new room. A window will be provided in two walls of the room. Electrical power will be routed to the glovebox. The HFEF ventilation system will be rerouted to provide greater negative pressure in the Hot Repair area room 306. The air conditioning system in the new room and existing alcove in room 318, in the general work area of room 318, and in room 311 will be renovated. In addition, the HRA crane will be modified/upgraded to simplify installation of the new glovebox room alcove as well as future repair/trouble shooting. In the end, the new glovebox and support system will enhance the ability of HFEF to maintain and repair the manipulators needed to operate the facility and facilitate research. Reference FOR-472 for system modifications and TFR-1004 for glovebox requirements.





SECTION C. Environmental Aspects or Potential Sources of Impact:

Air Emissions

Demolition of existing rooms and equipment will result in the generation of potentially contaminated air bearing particulate. The air would be discharged through the facility exhaust which is ran through several series of HEPA filter banks prior to its emission. In addition, operation of the glovebox system will also result in the generation of potentially contaminated air-borne particulate. These emissions would also be filtered/controlled in the same manner as previously described. Air emissions are anticipated to be minor, and all emissions associated with this project will be recorded as part of the HFEF continuous stack monitor.

Also, asbestos may be generated associated with demolition of the walls. All asbestos work must be conducted by properly trained personnel using appropriate abatement methods. Quantities of asbestos that are to be disturbed will be communicated to the Construction Environmental Support and Services (ES&S) representative in order to file the Asbestos Removal Notification Form (450.04). Asbestos work will not take place until the project has received approval from the Asbestos National Emission Standards for Hazardous Air Pollutants (NESHAPs) Technical Point of Contact (TPOC) Brad Andersen at bradley.anderson@inl.gov.

Discharging to Surface-, Storm-, or Ground Water

N/A

Disturbing Cultural or Biological Resources

HFEF is eligible for listing on the National Register of Historic Places (NRHP), and all project activities associated with the building must undergo cultural resource review (CRR). Contact INL CRMO (Reese Cook, 208.526.4029 or reese.cook@inl.gov) to initiate cultural resource review.

Generating and Managing Waste

The proposed action will generate a variety of waste streams, including industrial, radioactive and/or mixed waste. Industrial waste may include scrap metal, wiring, adhesives, and common trash. Scrap metal will be recycled to the extent possible. Demolition of existing rooms and equipment will result in the generation of contaminated waste, which could include mixed hazardous waste (i.e., lead paint). Radioactive waste will also be generated and would include personal protective equipment (PPE) involved in entering radiation areas. Type of radioactive waste generated will be LLW. This waste will be dispositioned in coordination with Waste Generator Services and existing procedures/processes. It is estimated that approximately 288 cubic feet of radiological waste would be generated, which could include hazardous waste based on waste determination of lead based paint. If determined LLW will be sent off site to NNSS and if mixed waste will be shipped off-site to a treatment storage and disposal facility.

Releasing Contaminants

All chemicals typically used will be managed in accordance with laboratory procedures. All chemicals and associated Safety Data Sheets (SDS's) must be submitted in the vendor data system for approval. The Chemical Coordinator would track these chemicals in the INL Comply Plus Chemical Management System. Chemical use has a potential for small air emissions and spills. In the event of a spill, notify MFC Environmental staff If the MFC Environmental Manager cannot be contacted, report the release to the Spill Notification Team (208-241-6400). Clean up the spill and turn over spill cleanup materials to Waste Generator Services.

Using, Reusing, and Conserving Natural Resources

All material will be reused and/or recycled where economically practicable. All applicable waste would be diverted from disposal in the landfill when possible. Project personnel would use every opportunity to recycle, reuse, and recover materials and divert waste from the landfill when possible. The project would practice sustainable acquisition, as appropriate and practicable, by procuring materials that are energy efficient, water efficient, are bio-based in content, environmentally preferable, non-ozone depleting, have recycled content, and are non-toxic or less toxic alternatives.

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 to Subpart D, Item B1.31, "Installation or relocation of machinery and equipment" and B3.6 "Small-scale research and development, laboratory operations, and pilot projects."

Justification:
The installation of a 2nd Manipulator Repair Glovebox is consistent with CX B1.31: Installation or relocation and operation of machinery and equipment (including, but not limited to, laboratory equipment, electronic hardware, manufacturing machinery, maintenance equipment, and health and safety equipment), provided that uses of the installed or relocated items are consistent with the general missions of the receiving structure. Covered actions include modifications to an existing 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 existing building or have the potential to cause significant changes to the type and magnitude of environmental impacts, and
CX B3.6: Siting, construction, modification, operation, and decommissioning of facilities for small-scale research and development projects; conventional laboratory operations (such as preparation of chemical standards and sample analysis); and small-scale pilot projects (generally less than 2 years) frequently conducted to verify a concept before demonstration actions, provided that construction or modification would be within or contiguous to a previously disturbed or developed area (where active utilities and currently used roads are readily accessible). Not included in this category are demonstration actions, meaning actions that are undertaken at a scale to show whether a technology would be viable on a larger scale and suitable for commercial deployment.

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: 8/9/2021