

SECTION A. INTEC – Firewater Distribution Activities

SECTION B. Project Description

Investigate and upgrade the Idaho Nuclear Technology and Engineering Center (INTEC) fire water distribution system to establish a reliable and adequate system. This work will be completed in accordance with the Department of Energy (DOE) Order 420.1 C, Facility Safety.

The upgrade addresses the testing of system valve isolation condition, representative inspections of underground pipe condition, analysis of options for the changing the operating pressure of the firewater system, and re-establishment of a fire water loop to service CPP-666. The proposed action will be completed in two phases.

Phase 1 actions:

- Evaluate and inspect INTEC underground fire water mains using “leak-by” testing. Testing will identify the quantity, condition and sizes of valves which are considered critical for isolation and control of firewater and need to be replaced or repaired.
- Excavate four areas at INTEC with the older underground fire water piping/carbon steel fire water piping to determine condition of piping.
- Test the pipe thickness.
- Evaluate the entire fire water distribution system with the objective of lowering the system pressure. Identify changes with new system set points and identify the appropriate testing to be done to confirm proper setting and equipment operation.
- Replace/reroute the existing Bondstrand underground fire water distribution piping located east side & reestablish underground loop south side CPP-666 using C900 PVC pipe. Vacuum excavation subsurface evaluation will be required in some areas. Impact of some critical building access will be encountered. Therefore, extended work periods will be required to minimize operational impacts to waste handling and fuel transfer operations. Abandonment of existing Bondstrand pipe in place is planned for most areas. Where necessary the existing Bondstrand pipe will be removed and disposed of under appropriate controls. Isolation of the existing Bondstrand pipe will require removal of isolation of a main valve and addition of a thrust block at that location. The work will be accomplished using a trench box, backhoe and vacuum excavation process.

Note: Routing of the new CPP-666 Firewater loop will require movement of existing stored materials.

Phase 2 actions:

Replace valves identified from the leak-by testing of the INTEC firewater main valves.

The work necessary to reduce firewater system pressure such as adding relief valves or anti-surge bladder tanks.

SECTION C. Environmental Aspects / Potential Sources of Impact

Air Pollutants - Petroleum-fueled mobile and portable equipment will be used to support project activities. Nonroad engines are not stationary sources and not subject to permitting, but if they remain in the same location and perform the same function longer than 1 year from start-up, they are considered stationary sources and are therefore subject to Air Permitting Analysis Determination analysis for determining potential permitting requirements. Mobile equipment such as backhoes and forklifts are exempted as mobile internal combustion engines per IDAPA 58.01.01.222.02.e.

Water or applicable dust suppression materials/equipment will be used, as conditions warrant, to control fugitive dust emissions during excavation activities. If necessary, radiological emissions from disturbed, contaminated soils will be estimated and included in the annual NESHAP INL report for radionuclides.

Asbestos Emissions: Several areas where Bondstrand pipe will be replaced, the pipe will be cut using wet methods and removed. Bondstrand pipe is known to contain asbestos. Prior to removal of any Bondstrand pipe sections, an asbestos NESHAP renovation notification will be submitted to the US Environmental Protection Agency no less than 10 working days prior to the start of the removal activities if the asbestos is friable and the quantity of asbestos containing material

(piping) to be removed is 260 or more linear feet. If the asbestos is nonfriable or if the quantity of ACM is less than 260 linear feet, then an internal asbestos notification needs to be submitted and approved prior to performing work. Any asbestos-containing pipe removed during the project will be disposed at an appropriate on or off-site disposal facility. Bondstrand pipe abandonment in place will be accomplished where it is removed from service and replaced with a new firewater service line reroute configuration. The abandoned pipe is still regulated under the asbestos NESHAP if it is determined to be friable and is disturbed in the future.

Radionuclide Release/Protection of the Public and the Environment – The soil disturbance actions could release radionuclides to the environment however, the potential is very low. Releases would not exceed as low as reasonably achievable goals as the releases are far below applicable regulatory standards (e.g., NESHAPS) and satisfy the exemption criteria.

Chemical Use and Storage - Fuels and other petroleum products will be used in support of project activities. Other chemical products such as PVC pipe adhesives will be used as required to meet project objectives. 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 activity. Spill prevention/minimization measures will be used during storage and use of chemicals/fuels.

Contaminated Sites Disturbance – Soil disturbances at INTEC require completion of a Notice of Soil Disturbance. In addition, if any of the water line (asbestos wrapped) is abandoned in place, a New Site Identification (NSI) process will be initiated to capture the line segment(s) as a new CERCLA site. Soil disturbance and the NSI process will be coordinated with appropriate personnel.

Discharge to Wastewater Systems or Groundwater - This project scope has the potential to generate water when isolating and removing firewater piping, which may require discharge to existing wastewater conveyance systems or directly to the ground surface.

Material or Waste Handling and Transportation - Appropriate methods will be used to prevent leaks and spills during waste handling and transportation.

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

Waste Generation and Management - A hazardous waste determination will be performed for all waste streams to identify 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.

Industrial waste such as asphalt, old hydrants and isolation valves and ACM waste will be generated and managed through Waste Generator Services and will be disposed of at the INL Landfill Complex. All soils not returned to excavated areas will require management as Low-level waste and be disposed of at the Idaho CERCLA Disposal Facility.

Managing Property and Material - Should equipment or chemicals be excessed at the end of the project, all applicable procedures and processes will be followed including opportunities for reuse or recycling.

Use, Reuse and Recycling of Resources – Backfill sources will be taken from existing borrow sources within the Idaho National Laboratory (INL). INL borrow sources must be coordinated through appropriate personnel.

Work within areas Subject to Flooding – The location of the INTEC Firewater Distribution Activities is within the Big Lost 100-year floodplain as discussed and mapped in the report entitled “Big Lost River Flood Hazard Study,” (D.A. Ostenaar

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and D. H. O'Connell, 2005, Bureau of Reclamation Report, 2005-2). However, since these activities will not involve RCRA regulated constituents, none of the procedures discussed in 40 CFR 264.18(b) need to be in effect for this activity.

The work is not expected to have a significant impact on the 100-year floodplain discussed above and the work is not expected to disrupt floodplain dimensions, elevations, flow volumes, or velocities of the Big Lost River. If the hypothetical flood occurs, access to the work areas may be temporarily interrupted. Work can resume after floodwater 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.

References: B1.16, Asbestos removal and B2.5, Facility safety and environmental improvements

Justification: The firewater distribution system upgrades will ensure a viable system

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 June 16, 2020.