SECTION A. Project Title: INTEC - CPP-603 Large Cask Adaptability

SECTION B. Project Description

DOE is responsible for the safe storage of Spent Nuclear Fuel (SNF) in its possession as well as obtaining data to verify the condition of SNF currently being stored in large storage casks at the INL Site. To meet this responsibility, DOE needs to open and examine the low-burnup SNF currently in long-term dry storage to verify the condition of the fuel and look for degradation. DOE examined this fuel at the TAN Hot Cell in the 1980's and early 1990's. To obtain the necessary confirmatory data, DOE needs to examine the fuel in those casks again. However, the TAN Hot Cell has been demolished and a facility is needed with the capabilities to accommodate large storage casks. DOE is proposing to modify the CPP-603 Irradiated Fuel Storage Facility (IFSF) located at the Idaho Nuclear Technology and Engineering Center (INTEC) to accommodate these large casks, fabricate and/or procure specialized tools to handle and open/close the casks, and develop techniques to safely and efficiently perform the work on the casks.

Due to the larger physical size and weight of these casks, changes to the existing CPP-603 IFSF containment structure, transfer car, and overhead crane in the south corridor of building CPP-603 are needed to support this effort, including the necessary electrical and structural modifications required to support the new tandem crane system within CPP-603. The specific modifications to CPP-603 include:

- Evaluation of the facility structure and existing crane rails for installation of two new 75 Ton Tandem Cranes to work with the supporting spreader bar and pivoting yoke for handling the large casks. This action is complete.
- Procurement, detailed design, installation, and testing of two new 75 Ton Tandem Cranes and spreader beam for handling large casks.
- Existing permanent containment structure (PCS) will be replaced with a suitable PCS unit with larger moveable roof and west wall section allowing large casks and spreader beam to access the existing transfer car area.
- Existing southwest truck door into the building will be increased in height by raising existing door opening to allow taller casks to be moved to CPP-603.
- Existing ramp area adjacent to the southwest truck door will be back filled with gravel and an 'at grade' concrete surface installed to increase flat floor space. NOTE: A shallow injection well was discovered south of CPP-603 when reviewing drawings associated with the truck ramp area. This shallow injection well potentially received wastewater discharges from the truck ramp floor drains, which are currently plugged. The proposed action will prevent future access to the plugged truck ramp floor drains.
- Modifications and additions to handle large casks will include adding a Transfer Car adapter capable of large cask handling, designing and fabrication or procurement of new cask handling tools and equipment to address large cask operations in the PCS and fuel cave within the IFSF.
- Modifications and additions to the CPP-603 facility, including, but not limited to, modifications to current and abandoned utility services and facility structural modifications (strengthening existing structural components) to support the installation and operation of the new tandem cranes and operation of the larger casks.
- Removal and disposal of the CRN-SF- 001 crane.
- Design and build a temporary road from CPP-2707 to CPP-603 to allow transfer of large casks.

SECTION C. Environmental Aspects / Potential Sources of Impact

1. Air Pollutants – Project activities, such as facility modifications and other activities that will impact radiologically contaminated systems may generate fugitive emissions containing radioactivity. These activities will be conducted using the appropriate controls. Other fugitive dust emissions may be generated from soil disturbance and operating equipment and tools. All fugitive emissions should be controlled**.** Also, Diesel fueled construction equipment, mechanical cutting, and equipment to support potential hot work will be used. Construction equipment (trucks, forklifts, etc.) are exempted as mobile internal combustion engines per IDAPA 58.01.01.222.02.e.

Other sources of radionuclides within the proposed project area are contained within CPP-603 and are unlikely to be released to the environment due to radiological control practices (e.g., sealed floor drains, limiting access to the work area, radiological work practices, etc.).

Radionuclide emission 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 ae 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.

An Air Permitting Applicability Determination will be required prior to the cask opening demonstration.

2. Asbestos Emissions – Facility modifications could impact equipment and components with asbestos-containing material, such as pipe insulation, gaskets, flanges, walls, roofing, and flooring. Asbestos Removal Notification must be submitted prior to any asbestos removal. However, if abatement of regulated asbestos containing material over the threshold quantities (160 square feet or 260 linear feet or 35 cubic feet) is planned for the entire project, a renovation/demolition notification to the Department of Environmental Quality is required at least 10 working days prior to any activity that would disturb asbestos material.

NOTE: Asbestos removal over the threshold quantities will also require concurrence from the Fluor Corporate office and may have to be performed by a subcontractor. Therefore, it is crucial to determine the exact amount and type of asbestos to be removed as early as possible to minimize impact to project schedule.

3. Radionuclide Release/Protection of the Public and the Environment – Public dose limits and ALARA considerations of DOE.458.1 must be evaluated for potential radionuclide releases to the public and the environment.

4. Chemical Use and Storage – Chemicals may include those used during fabrication (welding rods, primers, paints, sealants etc.) and facility modifications to CPP-603. As applicable, project personnel will use non-hazardous chemical substitutes in place of hazardous chemicals as long as the non-hazardous substitutes meet the requirements/specifications of the project. Spill prevention/minimization measures will be employed during storage and chemical use.

5. Contaminated Site Disturbance – A Notice of Soil Disturbance must be completed and approved prior to any soil disturbances within the perimeter fence at INTEC. Soil disturbance work is being performed within SITE CPP-88.

6. Cultural/Historical Resource Disturbance - CPP-603 (Fuel Receiving and Storage Building) is eligible for nomination to the National Register of Historic Places and is considered a Category 2 historic property. Removal and/or changes of original features may adversely impact this historic property; as such, modifications must be mitigated through large format, archivally processed, black and white film photography, per the INL Cultural Resource Management Plan (Idaho National Laboratory Cultural Resource Management Office.

7. Discharge to Wastewater Systems to Groundwater – The floor drains in the truck ramp area are inactive and currently do not receive any discharge wastewater. The floor drains discharged to a shallow injection well (SIW) located south of CPP-603, but floor drains have previously been plugged. The truck ramp will be filled with gravel and covered with a concrete surface; thereby, the potential to discharge to the groundwater or wastewater systems are highly unlikely.

The CERCLA project has been notified of a potential Solid Waste Management Unit (SWMU) at INTEC (WAG-3). The shallow injection well/SWMU will be evaluated as a new site.

9. Waste Generation and Management – Hazardous waste may be generated from equipment and components containing hazardous materials. Hazardous wastes will be stored, treated, and or disposed in compliance with applicable RCRA regulations at an EPA permitted treatment, storage, and disposal facility in accordance with the facility's waste acceptance criteria.

Small quantities of mixed waste may be generated. This waste stream will be treated and/or disposed of through one of the contracted RCRA TSD facilities.

Activities performed inside contaminated areas will result in some radioactive waste. Typical types of waste will include anti-contamination clothing, radiation enclosures and barriers, contaminated materials and components, and contaminated

absorbent used to clean up small spills. The CRN-SF-001 Crane will be disposed of at the Idaho CERCLA Disposal Facility in compliance with the facility disposal criteria.

Typical maintenance wastes such as boxes, wood forms, wiring, piping, paper, insulation, and metal will be generated and disposed of as nonhazardous, nonradioactive waste to the INL Landfill Complex.

10. Material or Waste Handling and Transportation - A hazardous waste determination will be performed for all waste streams to develop the appropriate management practices. Waste streams will be evaluated to determine if any of the materials can be recycled or reused and to implement actions for minimizing waste entering the landfill.

11. Interaction with Wildlife/Habitat – – If any bats, birds, bird nests with chicks and/or eggs are discovered nearby, cease work and notify the facility Project Environmental Lead or Endangered Species Act/Migratory Bird Treaty Act Technical Resource.

12. Managing Surplus Property and Materials – Equipment and materials will be recycled or reused when practical.

13. PCB Contamination – PCBs may be encountered while performing the covered activities, such as applied coating and sealants (e.g., paints), gaskets, electric cabling, caulking and oils associated with small capacitors and electrical equipment manufactured prior to 1980.

14. Radioactive Materials Use and Storage – Fissile material is strictly controlled. Spent nuclear fuel movements will follow all applicable DOE Orders, company procedures, and applicable Safety Analysis documents.

16. Use, Reuse and Recycling of Resources – INL borrow sources may be used to provide backfill (soil and gravel). Backfill taken from INL borrow sources must be coordinated through the BEA Road and Grounds Manager.

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: B1.13, Construction/acquisition/relocation of onsite pathways, short onsite access roads/railroads, B1.31, Relocation/operation of machinery and equipment, and B3.6, Siting/construction/operation/ decommissioning of facilities for bench-scale research, conventional laboratory operations, small-scale research and development and pilot projects.

Justification: The work scope is to accept large scale casks into the CPP-603 IFSF located at the INTEC for opening and examining the cask interior to verify a concept. The action will not have a significant environmental impact.

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 12, 2017.