DOE-ID NEPA CX DETERMINATION
IDAHO NATIONAL LABORATORY

CX Posting No.: DOE-ID-INL-11-002

SECTION A. Project Title: Facility Construction and Modification in Support of the Material Security and Consolidation Project.

SECTION B. Project Description:

Additional onsite storage capabilities that meet anticipated security requirements are needed to support the accelerated processing of Experimental Breeder Reactor-II (EBR-II) spent nuclear fuel (SNF) and the potential growth of research and development activities.

DOE is accelerating the processing of the highly enriched EBR-II SNF to reduce its liabilities with its continued storage and to meet the requirements of the 1995 Settlement Agreement between the State of Idaho and the Department of Energy (DOE). The increased EBR-II SNF processing is within the fuel disposition quantities analyzed in DOE/EIS-0306 (July 2000) "Final Environmental Impact Statement for the Treatment and Management of Sodium-Bonded Spent Nuclear Fuel" and is consistent with the associated Record of Decision. The processing campaign will disposition 2.3 metric tons of EBR-II fuel over the next 6-7 years. The processing will recover low enriched uranium (LEU) with a purity level and physical form that will facilitate disposition via the commercial fuel cycle.

The Idaho National Laboratory (INL) Site does not currently have adequate storage capacity to meet the needs of this campaign. Existing storage space is limited and collocated with R&D and material disposition activities associated with highly enriched uranium (HEU) . This HEU material disposition activity was analyzed in DOE/EIS-0240 (August 1996) “Disposition of Surplus Highly Enriched Uranium Final Environmental Impact Statement” and is consistent with the associated Record of Decision. Using existing storage facilities will hinder R&D activities and material disposition operations and stress space restrictions associated with special nuclear material (SNM) storage.

The Material Security and Consolidation Project will modify an existing structure (CPP- 651) to allow the safe and secure storage of SNM. In the past, CPP- 651 was used to store Safeguards Category 1 SNM. Although the existing CPP-651 protective system was adequate in the past, it was designed to protect against an old Design Basis Threat. The modification to CPP-651 will allow the facility to meet the requirements of the proposed DOE Order 470.3B Graded Security Protection Policy which ensures the storage of SNM would continue to be in a secure and DOE Order compliant facility that meets all existing and new security requirements.

As spent EBR-II driver fuel is processed through the Fuel Conditioning Facility electrorefiner, the product will be shipped to and stored in building CPP-651 which is located at the Idaho Nuclear Technology and Engineering Center (INTEC) on the INL Site.

The modifications to CPP-651 will allow the capability for drum storage and repackaging of up to and including Safeguards Category II quantities of nuclear material. Drum repackaging will consist of removing a convenience can (e.g. sealed food can) from the storage drum and placing it in another storage drum.

The scope of modifications to CPP-651 include creating a more robust security island around CPP-651 in addition to upgrading the building’s security, fire, HVAC (heating, ventilating, air conditioning) and electrical systems. The security island around CPP-651 will consist of a Protection Area (PA), Perimeter Intrusion Detection and Assessment System (PIDAS), and a Material Access Area (MAA). The new PIDAS will enclose several INTEC structures, CPP-651, CPP-1674, CPP-653, CPP-613, CPP-609, CPP-1634 and CPP-661 as part of the security island for spacing requirements. Access and egress will be through a new entrance guard station located on the southwest corner of the PIDAS. Other modifications will include adding a second exit to CPP-651 to meet current life safety codes along with hardening CPP-1674 to meet Vulnerability Assessment (VA) recommendations.

SECTION C. Environmental Aspects / Potential Sources of Impact:

Air Emissions: Project construction activities may involve the use of portable generators and equipment used by subcontractors. Environmental Support and Services (ES&S) will inspect generators for visible emissions during the quarterly visible emissions inspections. In addition, construction activities will disturb soil and would likely create fugitive dust that may require dust suppression by water or other means. If project activities include dust control measures, project personnel must record the method and frequency of those measures and place that information in the project record.

As identified above, the operational activities for CPP-651 is the storage of drums and drum repackaging of up to and including Hazard Category II quantities of nuclear material. Examples of drums being stored are the ES-3100 or the 6M drums. Drum repackaging will consist of removing a convenience can (e.g. sealed food can) from the storage drum and placing it in another storage drum. Storage and repackaging activities described above activities will not require an Air Permit Applicability Determination (APAD)

Disturbing Cultural / Biological Resources: Activities or actions associated with buildings and structures constructed after 1970 are exempt from review, with the following exceptions: A property built after 1970 may be subject to review if it has been determined that the exceptional historical importance of the property makes it eligible for inclusion on the National Register of Historic Places.

CPP-651 was constructed after 1970; however, the structure may be eligible for nomination to the National Register through its architecture. The project, as described, will have an impact on this potentially historic structure; however the project activities will allow its reuse and will, therefore, be beneficial.

Generating and Managing Waste: During the construction phase of the project, subcontractors will use chemicals such as lubricants, fuels, adhesives, weld rods, paints, compressed gases, etc. Subcontractors will submit chemical inventory lists with corresponding Material Safety Data Sheets for approval in the vendor data system before bringing chemicals on site. The Construction Chemical

Coordinator will track chemicals using the 'Comply Plus' Chemical Tracking System. Project personnel will work with Waste Generator Services (WGS) to dispose of waste generated from chemicals.

Construction activities may also result in the generation of small amounts of hazardous waste in the form of adhesives, paints, or solvents. Construction activities will generate industrial waste. Project personnel shall contact Materials and Fues Complex (MFC) ES&S and WGS before waste generation to properly plan, manage, characterize, store, and dispose of hazardous, radioactive or industrial waste. Project personnel will coordinate all waste disposal activities through WGS.

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: 10 CFR 1021, Appendix B to Supart D, B 1.15 and B1.30;
DOE/EIS-0306 (July 2000) "Final Environmental Impact Statement for the Treatment and Management of Sodium-Bonded Spent Nuclear Fuel";
DOE/EIS-0240 (August 1996) "Disposition of Surplus Highly Enriched Uranium Final Environmental Impact Statement."

Justification: The additional storage capability provided at CPP-651 will support accelerated processing of EBR-II spent nuclear fuel and the potential growth of research and development activities. Modifications to CPP-651 are appropriately covered under CX categories B1.15 "…construction (or modification), and operation of support buildings and support structures…security…; fire protection; and similar support purposes,… and B1.30 "Transfer actions, in which the predominant activity is transportation, and in which the amount and type of materials, equipment or waste to be moved is small and incidental to the amount of such materials, equipment, or waste that is already a part of ongoing operations at the receiving site."

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 1/27/2011.