Department of Energy
Idaho Operations Office
1955 Fremont Avenue
Idaho Falls, ID 83415

May 19, 2010

Mr. Dennis Faulk
INL Program Manager
USEPA Region 10 – Hanford Project Office
309 Bradley Blvd, Suite 115
Richland, WA 99352

Mr. Daryl Koch
FFA/CO Manager
Waste and Remediation Division
Idaho Department of Environmental Quality
1410 N. Hilton
Boise, ID 83706

SUBJECT: Addendum to Table 1 of the Action Memorandum for General Decommissioning Activities Under the Idaho Cleanup Project (EM-FMDP-10-051)

Dear Mr. Faulk and Mr. Koch:

The Idaho Cleanup Project (ICP) requests concurrence from the Idaho Department of Environmental Quality (DEQ) and the Environmental Protection Agency (EPA) for inclusion of the following buildings or structures with the list of structures to be decommissioned pursuant to the *Action Memorandum for General Decommissioning Activities under the Idaho Cleanup Project* (DOE/ID-11293, Revision 1, January 2009): Building TRA-636 Effluent Monitoring Station, ventilation equipment associated with CPP-603B Irradiated Fuel Storage Facility, CPP-694 Contaminated Solvent Storage Tanks, the NuPac 125B-1 Cask Inner Vessel, and those interior portions of MFC-704 associated with the casting furnace. This non-time critical removal action (NTCRA) approach is intended to simplify administrative processes for management of wastes generated during decommissioning. The potential for modifying the scope of the NTCRA subsequent to the signing of the Action Memorandum was addressed during the public review period of the *Engineering Evaluation/Cost Analysis for General Decommissioning Activities under the Idaho Cleanup Project* (DOE/ID-11291, August 2006). This provision to modify the list was memorialized in the Action Memorandum itself in Section 1., Statement of Basis and Purpose, which states,

> "ICP may be asked to decommission other Idaho National Laboratory (INL) buildings and structures with similar characteristics, contaminants, and complexity to those specifically identified in Section 2.1.10, Table 1. This Action Memorandum intends to allow the potential future inclusion of such buildings and structures under the scope of

this NTCRA, as appropriate. If additional buildings and structures are added to the list in Table 1, concurrence from DEQ and EPA will first be obtained, and a letter will be placed in the Administrative Record for this NTCRA identifying the building or structure and explaining why it is sufficiently similar to the facilities specifically identified in this Action Memorandum and appropriate for inclusion under the scope of the NTCRA."

Building TRA-636 is located in the southeastern portion of the Advanced Test Reactor Complex (ATRx). CPP-603B is located in the southwestern portion of the Idaho Nuclear Technology and Engineering Center (INTEC). CPP-694 is located in the northeastern portion of INTEC. The NuPac 125B-1 Cask is stored in the central portion of INTEC, and MFC-704 is located in the eastern portion of the Materials and Fuels Complex (MFC). Further descriptions of these buildings or structures are provided in the enclosure. The descriptions define the scope of the decommissioning activities and explain why these building and structures are similar in "characteristics, contaminants, and complexity" to the other buildings or structures identified for general decommissioning by Table 1., and are appropriate for inclusion under the scope of the NTCRA.

Please note that the scope of the NTCRA excludes completion of any activities covered by the Voluntary Consent Order (VCO), and the Action Memorandum states, "When the decommissioning involves management and/or generation of wastes subject to regulation under the Idaho Hazardous Waste Management Act/Resource Conservation and Recovery Act (HWMA/RCRA), these wastes will be addressed pursuant to the requirements of those regulations." Therefore, the removal, closure, and disposal of HWMA/RCRA hazardous waste at these buildings or structures will not be performed under the scope of the NTCRA. The scope of activities to be performed subject to the NTCRA will include the removal and disposal of radiological and asbestos wastes, as described by the applicable or relevant and appropriate requirements (ARARs) identified in the Action Memorandum. Upon receipt of your concurrence with this determination, this letter and enclosure, along with your concurrence letters, will be posted to the Administrative Record, and will serve as an addendum to Section 2.1.10, Table 1, of the Action Memorandum.

If you have any questions or concerns, please contact me at (208) 526-6442.

Sincerely,

RMShaw

R. Mark Shaw, Federal Project Director
Facilities Disposition Project

enclosures

UFC: 6000
Disposition Authority: A16-1.5-a
EM-FMDP-10-051

ID DISTRIBUTION:
DOE-ID Administrative Support Center
SHAW,ROBERT M
Scott Reno, CWI
Dave Eaton, CWI

CONCURRENCE:
FPD FDP RMS
AM FMDP J.R.C. 5/19/2010

RECORD NOTES:

1. This letter transmits the Addendum to Table 1. of the Action Memorandum for General Decommissioning Activities under the Idaho Cleanup Project (EM-FMDP-10-051) to the agencies for their concurrence.

2. This letter was written by R. Mark Shaw.

3. This letter/memo closes Pegasus number N/A

4. The attached correspondence has no relation to the Naval Nuclear Propulsion Program.

5. The attached correspondence relates to the ARRA stimulus funding.

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TRA-636 – Effluent Monitoring Station

The TRA-636 Effluent Monitoring Station is a one-story building approximately 10-foot square with a corrugated metal roof and sides and a concrete floor. A concrete pad on the east, north, and west sides of the building holds three metal hatch covers, several valve reach rod stems and handles, motor controls, and a 1 foot diameter metal vent stack approximately 20 feet high. This building is located directly on top of the TRA-712 retention basin inlet sump. This non-time critical removal action may include the replacement of sample monitoring lines and equipment to a new building to be constructed and located nearby. Once lines are rerouted and new monitoring equipment is operational, the existing building and equipment would be removed. Some of the interior equipment is radioactively contaminated and a small amount of asbestos is present in caulking along the roof edge and in the penetration compound along the edge of the air conditioner. The levels of radioactivity and the concentration of hazardous constituents are expected to be similar to other buildings decommissioned under the General D&D Action Memorandum. Waste from the D&D of this structure is expected to be acceptable for on-site disposal at the ICDF.

Figure 1. South Side of TRA-636

Figure 2. East Side of TRA-636

CPP-603B - Irradiated Fuel Storage Facility – Rooftop Ventilation Equipment

CPP-603 was built to store spent nuclear fuel. The wet side containing 3 storage pools is referred to as the CPP-603A Wet Fuel Storage area and is now out of service. The dry side, CPP-603B, is typically referred to as the Irradiated Fuel Storage Facility. This non-time critical removal action includes the removal of the out of service ventilation and ancillary equipment on roof of CPP-603B (Figure 1). Some of this equipment is shown in figure 2. Some of this equipment is radioactively contaminated. Replacement equipment was installed adjacent to CPP-603B in a new building (CPP-2710). The levels of radioactivity and the concentration of hazardous constituents are expected to be similar to other buildings decommissioned under the General D&D Action Memorandum. Waste from the removal of this equipment is expected to be acceptable for on-site disposal at either the ICDF or ICDWL.

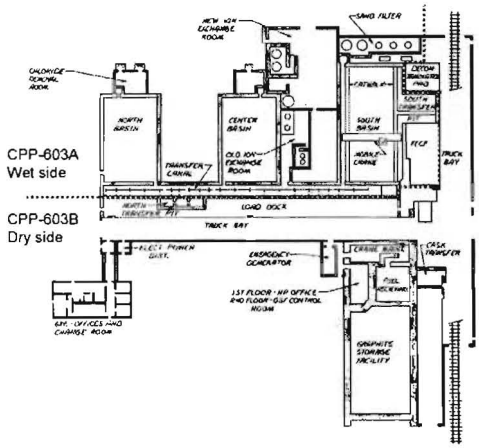


Figure 1. CPP-603A/603B

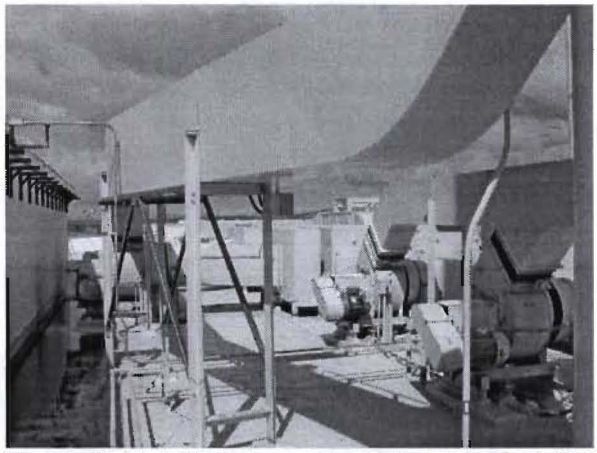


Figure 2. Ventilation equipment on roof of CPP-603B

CPP-694 – Contaminated Solvent Storage Tanks

CPP-694 was built in 1982 to store radioactively contaminated spent solvent from the uranium recovery process prior to its use as a fuel in the New Waste Calcining Facility. Figure 1 shows a picture of CPP-694. The facility is about 835 ft^2 and contains one 5,000 gallon and two 8,225 gallon stainless steel non-RCRA tanksThe facility is no longer in use. The tanks have been emptied to the extent practical although liquid heels may remain that will require removal. This non-time critical removal action will remove the building and tanks (including any remaining heels) for appropriate disposition. The removed material is expected to be radioactively contaminated. The levels of radioactivity and the concentration of hazardous constituents are not expected to be significantly different from other buildings decommissioned under the General D&D Action Memorandum. The majority of the waste from the removal of this equipment is expected to be acceptable for on-site disposal at the ICDF. Some of the waste (e.g. liquid solvent) removed may require off-site treatment and disposal.

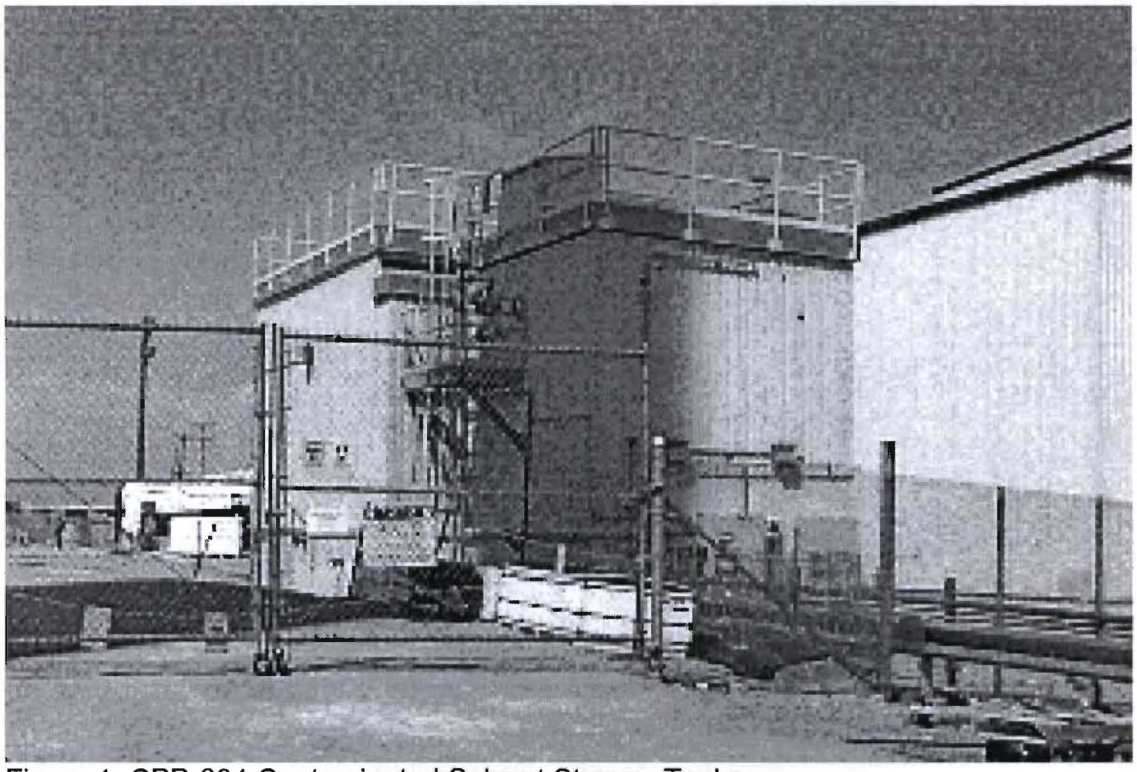
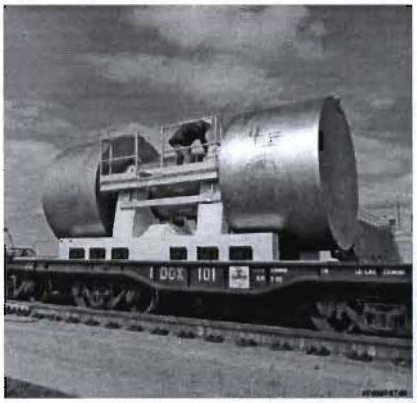
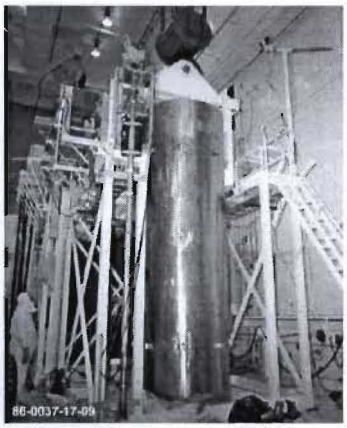


Figure 1. CPP-694 Contaminated Solvent Storage Tanks

NuPac 125B-1 Inner Vessel at CPP-666

The NuPac 125B casks were built to transfer nuclear material from Three Mile Island (TMI) to the Idaho National Laboratory (INL) in the 1980's. Only two of the three cask built had liners installed and were used for that purpose. The inner vessel of 125B-1 cask has been removed and has been determined to have no further use. The 125B-1 inner vessel has not been used for storage or transport of materials since it was used in conjunction with outer cask to transport TMI material to Idaho. That inner vessel is now in storage at CPP-666. The three outer casks and the one other inner vessel are currently in use for storage of nuclear materials.





Figures 1, 2, and 3. NuPac 125B cask receipt at CFA, preparing for shipment to TAN, and inside TAN Hot Shop. Photos show outer cask.

The NuPac 125B-1 cask consisted of an inner vessel and outer (lead-shielded) cask. The inner structure of the inner vessel is a hub, spoke, and wheel arrangement, consisting of a Type 304 stainless-steel containment boundary made up of seven individual tubes (14.5 in. ID) with 1.81 -in.-thick bottom plates, a top forging to which the tubes are welded, and a 5-in.-thick closure lid, complete with two neoprene O-ring seals. See Figure 4. This inner vessel is nominally 52" in diameter and 192" long. No lead is present in the inner vessel. The inner vessel weighs approximately 40,000 lbs. Neutron absorbing material (boron) was placed in the inner vessel during construction. The inner vessel does not meet the definition of a hazardous waste and therefore no treatment is required prior to receipt at ICDF. As the inner vessel is approximately 50% void space, the issue of removing that void space (grout filling) vs. structural integrity will need to be addressed.

The TMI materials transported to Idaho in the NuPac 125B-1 cask were appropriately packaged in a canister prior to being placed within the inner vessel. Therefore, the actual radioactive material did not come in direct contact with the walls of the inner vessel. The inner walls are radioactively contaminated, predominantly by fission products such as Sr-90 and Cs-137. The concentration of these radionuclides is not significantly different than many other waste streams accepted at ICDF. The concentration of TRU isotopes is approximately 0.001 nCi/g.

The inner vessel of the NuPac 125B-1 cask is similar in nature and contamination levels to many other wastes managed under the *Action Memorandum for General Decommissioning Activities under the Idaho Cleanup Project.* The management of the inner vessel as CERCLA waste is similar to the CERCLA management of the ILTSF waste vaults at RWMC that contained waste from ANL-E and Bettis Naval Reactors Program. Both projects are managing containers that were incidentally contaminated from the management of off-site generated waste rather than the off-site waste itself.

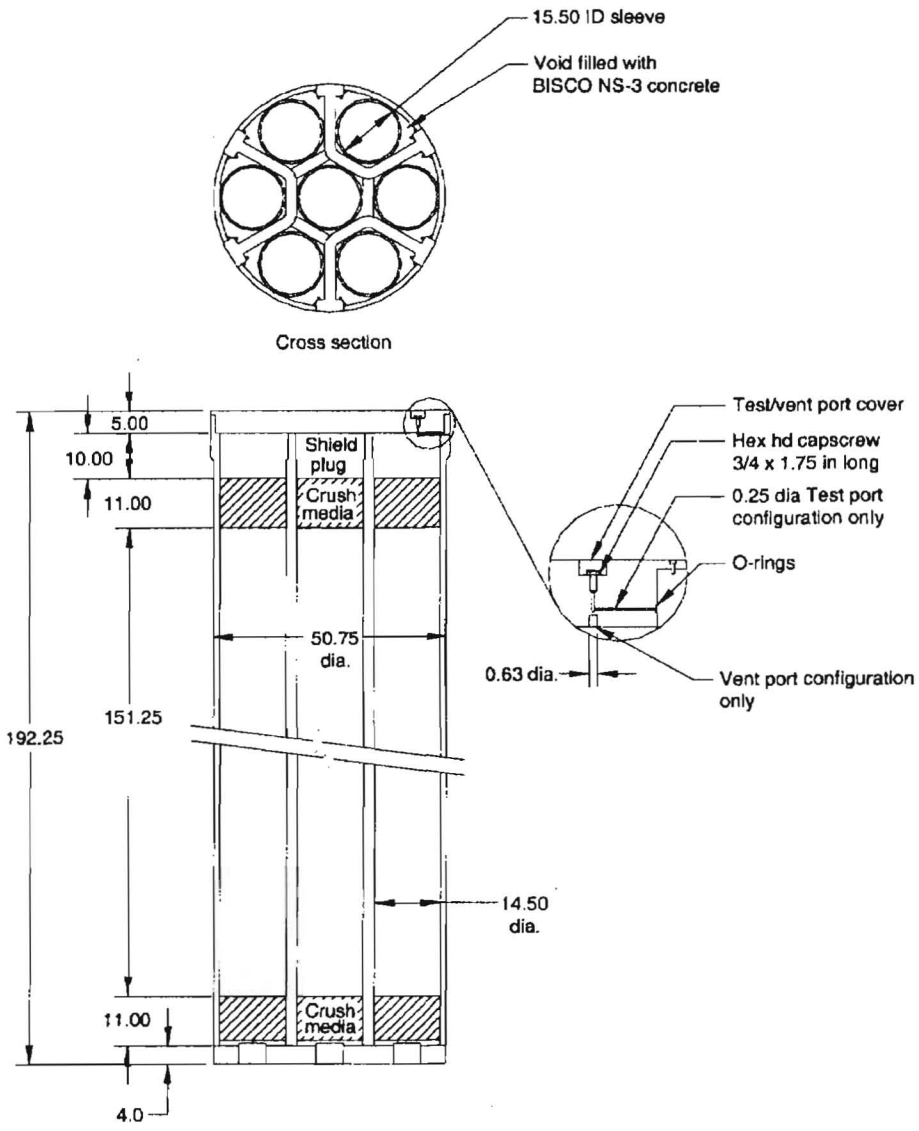


Figure 4. NuPac 125B-1 Inner Vessel (dimensions in inches)

MFC-704 Interior Portions Associated with the Casting Furnace

The Fuel Manufacturing Facilty (MFC-704) Casting Furnace was installed in 1986 and originally used to cast metallic uranium fuel slugs for the Experimental Breeder Reactor II and later to cast highly enriched uranium from the Zero Power Physics Reactor. The furnace is no longer in use and the equipment in the area is proposed for decommissioning to allow new missions to occur at the location. The scope of the decommissioning activities for inclusion into the NTCRA is removal of the casting furnace with its glovebox and associated control systems, power and heating, ventilating, and air conditioning ductwork and controls. The wall enclosures surrounding the FMF casting furnace must be also be removed. The levels of radioactivity and the concentration of hazardous constituents is not expected to be significantly different from other buildings decommissioned under the General D&D Action Memorandum. The majority of the waste from the removal of this equipment is expected to be acceptable for on-site disposal at the ICDF.

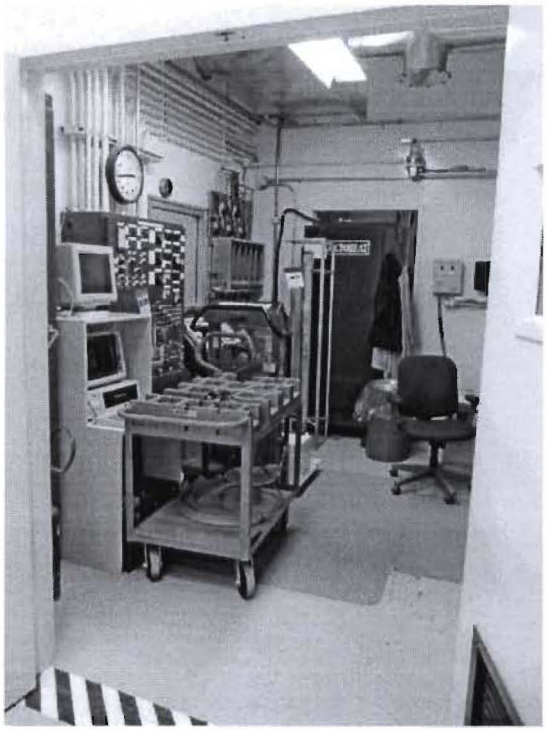


Figure 1. Furnace Control Room

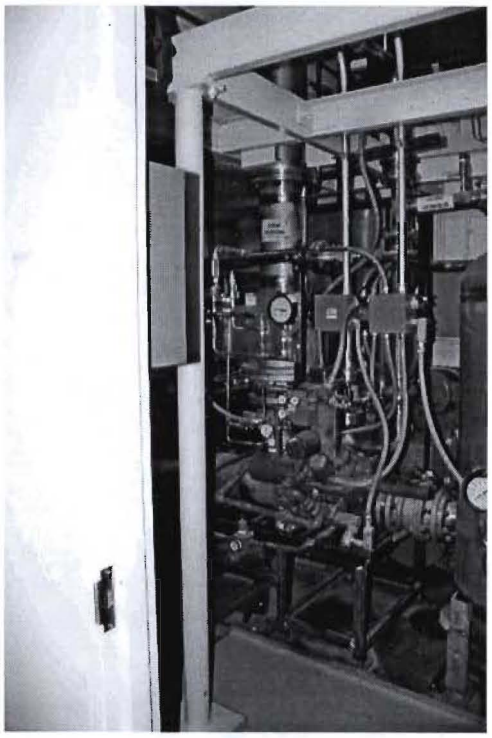


Figure 2. Casting Furnace

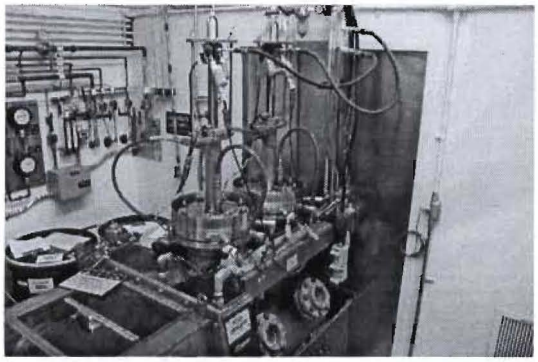


Figure 3. Casting Furnace Glovebox