Idaho
Department of Environmental Quality

AMWTP HWMA/RCRA Permit

Idaho National Laboratory
EPA ID No. ID4890008952

Issued: June 04, 2008
Revised: June 26, 2014

Volume II of V

TABLE OF CONTENTS

ATTACHMENT 1

FACILITY DESCRIPTION

LIST OF EXHIBITS

B. FACILITY DESCRIPTION

B-1 General Description [Idaho Administrative Procedures Act (IDAPA) 58.01.05.012; Title 40 of the Code of Federal Regulations (CFR) 270.14(b)(1)]

The Advanced Mixed Waste Treatment Project (AMWTP) is located at the Radioactive Waste Management Complex (RWMC) on the Idaho National Laboratory (INL). Exhibit B-1 is a map of the INL showing the major area locations and buildings. The Transuranic (TRU) Storage Area (TSA), also located at the RWMC, includes the following mixed waste (MW) management units (MWMUs):

- Seven Type II Modules [Waste Management Facility (WMF) – 628 through WMF-634] (up to three more Type II Modules may be built),
- A Type I Module (commonly known as WMF-635),
- The Stored Waste Examination Pilot Plant (SWEPP) (commonly known as WMF-610),
- The Advanced Mixed Waste Treatment Facility (AMWTF) (commonly known as WMF-676),
- The AMWTP Outside Storage Area located on the north west side of WMF-636, and
- An enclosed asphalt and concrete storage area (commonly known as WMF-636 Pad 2).

WMF-628 through WMF-635 collectively comprise the Waste Storage Facility (WSF). The WSF, SWEPP, and AMWTF are operated by the Idaho Treatment Group, LLC (ITG) under contract with the United States (U.S.) Department of Energy-Idaho Operations Office (DOE-ID). The MWMUs' primary purpose is the storage, characterization, and treatment of MW. ITG/DOE-ID has the goal of treating TSA waste to produce final waste forms that are certified for disposal at the Waste Isolation Pilot Plant (WIPP) in New Mexico or at another waste management unit. The AMWTP is designed to treat primarily alpha low-level waste (αLLW), TRU MW, and radioactive only waste (ROW).

A portion of the waste to be treated may also contain polychlorinated biphenyls (PCBs), which may be regulated by the Toxic Substances Control Act (TSCA). Discussion of TSCA-regulated wastes managed at the MWMUs is for informational purposes only, as PCBs are not subject to the Hazardous Waste Management Act (HWMA)/Resource Conservation and Recovery Act (RCRA). Comprehensive Environmental Response Compensation and Liability Act (CERCLA) waste may be managed in the MWMUs. All CERCLA waste will be managed in accordance with this document while in the MWMUs, but final disposition of the waste will be managed under the CERCLA regulations.

Because the HWMA/RCRA-regulated wastes managed at the MWMUs are typically MW, references to radiological and radiochemical data are made throughout this document. Information on radiological and radiochemical characteristics is provided for informational purposes only, as HWMA/RCRA applies only to the hazardous waste constituents of the MW.

Unless otherwise noted, attachments and appendices referenced in this document refer to attachments and appendices of this document. Appendices are located at the end of this document. Sections, tables, and exhibits cited herein refer to portions of the attachment in which they are cited, unless otherwise noted. Drawings (typically referenced using the number format ##-####) and exhibits (typically referenced using the appendix number and a single digit as follows: ##-#) provide additional information relevant to the MWMUs. Drawings and exhibits included in an appendix are listed on the appendix title page. Alphanumeric or numeric identifiers located in parentheses refer to the mechanical data sheets (MDSs) found in appendices associated with the relevant attachment. MDSs are listed on the appendix title page. Exhibits in Attachments are listed in the List of Exhibits at the beginning of the applicable Attachment.

Drawings are intended to provide a pictorial representation of the building. The drawings provide information as to how personnel and processes flow from one area of the building to another. All dimensions are approximate and are provided to give the viewer a scale of size. The number and location of items depicted (e.g., gas bottles, wall mounted units, mobile equipment, lockers in change rooms, etc.) are not exact.

AMWTP Process Description

The TSA stored waste slated for storage, characterization, and treatment in the AMWTP MWMUs is retrieved from storage, characterized for storage and treatment or direct shipment, stored in preparation for treatment or shipment, pretreated (if necessary), treated (as required), then sent for packaging and certification (as required) for shipment to the WIPP or to another waste management unit. Containers are typically transported/transferred to, from, and within the AMWTP MWMUs using forklifts, trucks, trucks with trailers, conveyors, hand trucks, and other transport vehicles/devices. A schematic flow diagram of the processes for the AMWTP is shown in the process flow sheets, Exhibits I-1 and I-2, which are located in Appendix I. The process flow sheets represent the majority of the anticipated processes for the AMWTP and are based on design estimates.

Retrieval

Waste requiring retrieval is enclosed by an earthen-covered berm, which is located within the TSA-Retrieval Enclosure (TSA-RE). The TSA-RE provides confinement and weather protection for retrieval operations. The locations of the MWMUs and the TSA-RE are shown on the RWMC/AMWTP Topographic Map, which is located in Appendix II.

Retrieval operations, in part, may involve sampling soil within the TSA-RE; removing the soil, sheeting, and wood components from the container stacks; removing the waste containers from the stacks; inspecting, monitoring, and barcoding containers; overpacking or repairing containers, as necessary; then transporting containers to other MWMUs.

Preliminary Characterization

Characterization primarily occurs within WMF-634, WMF-628, WMF-610, or WMF-635. WMF-634 houses real time radiography (RTR) units, drum assay units, a box assay unit, a combined drum venting system (DVS) and headspace gas sampling unit, portable headspace gas sampling units, a unit for the treatment (via addition of absorbent to containers with liquids, decanting liquids, neutralization of liquids, repackaging of waste, the sizing of waste, or by the mechanical vibration of waste) and visual examination of containers, a drum core sample retrieval system (DCSRS), and an area for performing macroencapsulation. Containers are received at WMF-634 for characterization and/or treatment. Waste is stored in WMF-634 while awaiting characterization, treatment (as required), and/or transport to the Type I or Type II Modules or the TSA Interim Status (IS) Units (located within the TSA-RE – designated as TSA Pads 1 and R) for storage, pending disposition. Select drums pass through the

DVS and DCSRS in WMF-634 prior to routing for further disposition. A plan view and equipment layout for WMF-634, Drawing 53-10374, and a typical traffic plan for the AMWTP, Exhibit II-1, are located in Appendix II.

Typically, retrieved containers undergo RTR examination to determine physical waste parameters (e.g., metals, cellulosics, rubber, plastics, soil, sludge, etc.) and to detect prohibited items (e.g., liquids, elemental mercury, etc.). The visual review of RTR images also validates existing characterization data, or, in the case of containers with unknown contents, helps to correlate the contents of the container with known waste types. Characterization activities are described in more detail in Attachments 1.A, 1.C, 1.D, 1.E, 1.F, 1.H, and 2.

Storage

After preliminary characterization, containers are typically taken to the Type I Module, the Type II Modules, WMF-636 Pad 2, or the AMWTP Outside Storage Area where the containers are stored by parameters such as item description code (IDC), container type, and fissile material content. The purpose of this storage is to decouple treatment from retrieval and characterization operations and to build up an inventory of waste to facilitate efficient treatment and direct shipment strategies.

Direct Shipment

Once characterized, certain waste containers may be determined suitable for direct shipment to the WIPP [e.g., meets the WIPP waste acceptance criteria (WAC)] or to another waste management unit.

Pretreatment

Waste containers to be treated in WMF-676 are transported from storage to the waste receiving and storage areas of WMF-676. The containers are then transferred within WMF-676 to the box lines, drum repack system, special case waste (SCW) glovebox system, or supercompactor. The primary processes contained within WMF-676 to sort the waste include the box line and the drum repack system.

Treatment

Various methods of treatment are permitted in the MWMUs. These methods of treatment are absorption, decanting, neutralization, repackaging of waste, the sizing of waste, the mechanical vibration of waste, the macroencapsulation of waste, and miscellaneous mechanical processing (e.g., supercompaction, depressurization of containers), which are performed individually or in conjunction with each other to treat the waste in the most effective manner possible. A brief description of the treatment activities is provided below. See Attachments 1.A, 1.H.i, 1.H.ii, 1.H.iii, and 1.H.iv for further information on the treatment methods.

Absorption. Liquid waste is absorbed with a compatible absorbent. Absorption of liquids in containers, sumps, or troughs may occur after decanting (if performed), to absorb any liquids that have not been decanted. Absorption may also occur during decanting by decanting into a container with absorbent. Absorption of liquids that have previously been decanted (and potentially co-mingled) or neutralized may also occur. Co-mingling only occurs after compatibility of the wastes has been addressed.

Decanting. Liquid wastes are decanted from containers, sumps, or troughs into containers. The decanted wastes are then neutralized and/or absorbed. Co-mingling of decanted liquids or absorbed wastes may occur, as applicable, after compatibility of the wastes has been addressed.

Neutralization. Corrosive liquids are neutralized either prior to absorption or absorbed with a neutralizing absorbent. Co-mingling of neutralized liquids or the absorbed neutralized liquids may occur, as applicable, after compatibility of the wastes has been addressed.

Repackaging. Waste from a container may be repackaged either into another container, or into multiple containers. Waste from multiple containers may be collected in a single container after compatibility of the wastes has been addressed. While repackaging the waste, items that are prohibited for disposal at a waste management unit or prohibited for processing in the various AMWTP waste management units (e.g., supercompactor) may be removed. Repackaging may also be utilized to aid in the characterization of waste (e.g., visual examination to confirm container contents, etc.).

Sizing. Waste from a container may be sized for repackaging into the original container or into another container. Co-mingling of wastes will occur after the compatibility of the wastes has been addressed. Equipment that may be used for the sizing of waste includes, but is not limited to, shears, nibblers, scrapers, etc.

Mechanical Vibration. Containers of waste are mechanically vibrated in an effort to consolidate free liquids located within the void space of solidified waste so that the liquid may be absorbed or decanted. Mechanical vibration is not intended to separate absorbed liquid from the waste matrix. Equipment that may be used for mechanically vibrating waste includes a vibrating table or similar equipment.

Macroencapsulation. The macroencapsulation process may be accomplished using either of two methods:

(1) Containers of waste may be repackaged into a stainless steel container or a container with a stainless steel liner. After loading the stainless steel container/liner with waste, the stainless steel container/liner is welded closed to meet the macroencapsulation standard of IDAPA 58.01.05.011 (40 CFR 268.45).

(2) Containers of waste may be placed in a high-density polyethylene (HDPE) container/liner that is fitted with an HDPE lid. The lid is fused to the HDPE container/line using a low-temperature thermal bonding process to meet the macroencapsulation standard of IDAPA 58.01.05.011 (40 CFR 268.45).

Co-mingling of wastes to be macroencapsulated will occur only after the compatibility of the wastes has been addressed.

Supercompaction. The supercompaction process receives lidded drums of sorted waste from the box line or drum repack system areas or direct feed drums from the waste receiving and storage areas via the material transfer system (MTS). The drums of waste are punctured within a glovebox environment and then compacted by a hydraulic press that controls the shape of the resultant supercompacted puck through the use of a mold. The volume reduction for each drum is dependent on the drum contents and packing fraction, but is averaging 80 percent (%). Pucks from supercompaction are placed into a puck drum, located in the postcompaction glovebox. Attachment 1.H.iii describes the supercompaction process in more detail.

SCW Glovebox System. SCW includes waste that may require additional characterization and/or pretreatment (e.g., decanting, neutralization, absorption) prior to processing or final treatment prior to disposal. Some examples of SCW that may be managed in the SCW glovebox system are listed below:

- Containers of liquids and pressurized containers removed from the original waste containers;

- Small inner containers (i.e., container removed from another container) of solidified inorganics (SI) or solidified organics (SO);
- Free liquids removed from the original waste containers and containerized prior to treatment;
- Residual liquids accumulated in the waste sort troughs in treatment areas (e.g., box line waste sort troughs, sumps) that are removed and containerized prior to treatment;
- Elementary mercury, in the form of containerized liquid, free liquid, or residual liquid; and
- Waste streams that warrant further evaluation prior to treatment.

Containerized (from original waste containers), free and residual liquids, and elemental mercury are expected to be the most common types of SCW encountered at the AMWTP.

WSF Type II Module Description

As shown on the RWMC/AMWTP Topographic Map, located in Appendix II, the Type II Modules are conveniently located near the TSA-RE and WMF-676, which avoids moving wastes across public roads for characterization and treatment. Other buildings, such as the Type I Module and the Waste Aggregation Facility (WAF), are also located near the Type II Modules. Therefore, containers retrieved from the TSA IS Units remain within the boundaries of the TSA until transport for final disposal at the WIPP or another waste management unit. The Type II Modules allow for the visual examination of waste; the repackaging of waste; the absorption, decanting, and neutralization of liquids; the sizing of waste; the mechanical vibration of waste; and the storage of containers.

The Type II Modules are pre-engineered structural steel buildings that rest on concrete foundations with sealed concrete floors. In addition to the main portion of the Type II Module, each unit has an electrical room, fire water riser room, and ventilation system. Drawing 51-9907, located in Appendix III, presents a plan view of a Type II Module. See Attachment 1.B for further information on the Type II Modules.

AMWTP Waste Characterization Facility Description

The Type II Module designated as WMF-634 is a container storage and treatment unit that is also used for waste characterization. Waste characterization operations are performed to certify waste container compliance with the applicable WAC of WMF-676, WIPP, or other waste management unit. Characterization of waste is required prior to treatment in WMF-676 and prior to shipment to the WIPP or to another non-AMWTP waste management unit. In addition to providing a container storage area, WMF-634 accommodates various characterization equipment, associated control rooms, and a drum coring room with vestibule (see Appendix II, Drawings 53-10374 and 53-10375, for additional details). WMF-634 also allows for the absorption of liquids in containers by the manual addition of absorbent, the decanting of liquids, and the neutralization of corrosive liquids; and allows for the repackaging of waste, the sizing of waste, the mechanical vibration of waste, the macroencapsulation of waste, and the visual examination of waste.

WMF-634 is divided into three ventilation confinement zones to minimize the potential for waste to be released to the environment via the air pathway. Air within WMF-634 generally flows from the outside through the clean areas into Zone 1, then into Zone 2, and finally into Zone 3. Exhaust from the Zone 2 ventilation confinement zones is drawn, via exhaust fans, through two stages of high-efficiency particulate air (HEPA) filters, then discharged via the exhaust duct and stack. Likewise, the Zone 3 air supply is drawn from the Zone 2 areas and is exhausted through three stages of HEPA filters prior to being discharged to the main exhaust duct and stack. Under normal operating conditions, uncontained waste is located only in Zone 3 areas, while Zone 1 and 2 areas remain clean (i.e., radiologically uncontaminated) and accessible to workers.

Building egress systems are provided per the National Fire Protection Association (NFPA) 101, wherein a means of egress is a continuous and unobstructed way of exit travel from any point in the building or structure to an exit. Means of egress are provided via the access corridors around and through the building.

WMF-634 is composed of the following areas:

- Personnel Support Areas
  - Personnel Access/Entry Areas
    - RTR Control Room
    - Assay Control Room
    - Drum Core Sampling Vestibule
- Storage Area
- Characterization/Treatment Areas
  - Drum/Box RTR Lines
  - Drum/Box Assay Lines
  - Drum Venting Area
  - Drum Coring Room with Treatment Area
  - Containment Enclosure
  - Macroencapsulation Area

A brief discussion of the above areas follows.

Personnel Support Areas

Personnel support areas are located along the north exterior wall of WMF-634. The RTR control room is located in the northwest corner of the building. The assay control room resides in the northeast corner. Additionally, the drum core sampling vestibule is located in the northeast portion of the building. Personnel access into WMF-634 is provided through entry doors located on all sides of the building. See Appendix II, Drawing 53-10374 for additional information.

Storage Area

The storage area, located on the south side of WMF-634, receives and stores containerized wastes. From the storage area, containers are transferred within WMF-634 to the appropriate characterization process.

Characterization/Treatment Areas

Waste characterization within WMF-634 occurs primarily in the northern half of the building. The RTR area is located in the northwestern section of the building. Adjacent to the RTR equipment, the conveyor system delivers containers to the drum assay and drum venting units, which are located immediately east of the RTR units. The box assay unit is located in the north central area of the building. The drum coring room is located in the eastern section of WMF-634 and typically receives containers via the conveyor system. Absorption of liquids in containers occurs within the drum coring room in WMF-634, either via direct addition or by the absorption of decanted liquids. Neutralization of decanted liquids also occurs within the drum coring room in WMF-634. Absorption, decanting, and neutralization of liquids; the repackaging of waste; the sizing of waste; and the visual examination of waste may occur in the drum coring room or in a containment enclosure in WMF-634. Mechanical vibration of waste may occur in a containment enclosure or it may also occur outside of a containment enclosure in an area designated for performing the operation. Macroencapsulation of waste may occur in an area designated for performing the treatment operation.

WAF Description

The WAF, commonly known as WMF-618, is a pre-engineered metal structure measuring approximately 80 feet (ft) by 50 ft. The WAF is located northwest of WMF-634. See the RWMC/AMWTP Topographic Map, located in Appendix II, for the location of the WAF at the RWMC. The purpose of the WAF is primarily to provide a location for the loading of TRU Package Transporter (TRUPACT) casks or other packaging required by an off-Site disposal facility. The WAF may also be used for unloading TRUPACT cask or other shipping containers received from off-Site waste generators that send MW to the AMWTP for characterization and/or treatment. To facilitate loading and unloading activities, MW containers may be located in the WAF for up to 30 calendar days for on-Site waste. Off-Site waste, including off-Site waste loaded on a trailer, may only remain within the WAF for up to 72 hours (hrs) from the time the off-Site waste manifest is formally accepted by the AMWTP. All MW containers located within the WAF, including the TRUPACT casks, are inspected each working day for leakage, and corrective actions are initiated as required. A maximum of 104 55-gallon (gal) drums, or volume equivalent, may be located in the WAF at any given time. The storage configuration of containers is such that emergency equipment is accessible. After the TRUPACT cask or any other approved transport device has been loaded with containers and leak tested, the transport vehicle may be parked inside the WAF for a period of time not to exceed 10 working days.

TRUPACT Trailer Staging and Storage

Staging of transport trailers with loaded TRUPACT casks may occur on the asphalt pad to the west of WMF-635 or on the asphalt pad to the west of the TSA-RE. The staging area to the west of WMF-635 is approximately 200 ft by 250 ft, and the staging area to the west of the TSA-RE is approximately 150 ft by 1,200 ft. See the RWMC/AMWTP Topographic Map, located in Appendix II, for the areas designated for the staging of the trailers with TRUPACT casks. TRUPACTs on trailers that are staged, as described above, have completed the loading and leak analysis process necessary for shipment to the WIPP or to another waste management unit. To facilitate shipment activities, any single trailer may be staged for up to a total of 10 working days. Up to a total of 50 trailers may be staged between the two staging areas mentioned above. The staging locations of the trailers are such that access for inspections and emergency response is provided. The trailers and TRUPACT casks are inspected each working day for leakage, and corrective actions are initiated as required. If any leakage is noted, spill response will be completed in accordance with Attachment 7 and the closure of the trailer staging areas will be addressed during closure of the WSF. If no leaks/spills occur, then documentation of the termination of the use of the trailer staging areas will be placed in the Operating Record.

Staging of transport trailers with loaded TRUPACT casks may also occur within and around WMF-602. See the RWMC/AMWTP Topographic Map, located in Appendix II, for the areas designated for the staging of trailers with TRUPACT casks. To facilitate shipment activities, any single trailer may be staged for up to a total of 10 working days. Up to a total of 10 trailers may be staged in the WMF-602 staging areas. The staging locations of the trailers are such that access for inspections and emergency response is provided. The trailers and TRUPACT casks are inspected each working day for leakage, and corrective actions are initiated as required. If any leakage is noted, spill response will be completed in accordance with

Attachment 7 and the closure of the trailer staging areas will be addressed during closure of the WSF. If no leaks/spills occur, then documentation of the termination of the use of the trailer staging areas will be placed in the Operating Record.

In the event that conditions arise which would require loaded trailers with TRUPACTs to remain in the any of the TRUPACT trailer staging areas described above for a period of time longer than 10 calendar days, then the loaded trailers with TRUPACTs will be transferred into one of the AMWTP waste management units (e.g., Type II Module, Type I Module, AMWTP Outside Storage Area, etc.).

Type I Module Description

A single Type I Module, WMF-635, is located on the north end of the TSA. See the RWMC/AMWTP Topographic Map in Appendix II. The Type I Module is a container storage unit, which is also used for waste characterization, treatment, and preparation of containers for shipment to the WIPP or to another waste management unit. See Appendix IV, Drawing 51-9912 for a plan view of the Type I Module. WMF-635 also allows for the absorption, decanting, and neutralization of liquids; the repackaging of waste; the sizing of waste; the mechanical vibration of waste; the macroencapsulation of waste; and the visual examination of waste. The Type I Module may also house portable headspace gas sampling units.

The Type I Module is composed of the following areas:

- Main Storage Area (MSA),
- Payload Assembly and Aspiration Area (PAAA),
- Waste Characterization and Repackaging Area (WCRA), and
- TRUPACT Loading Area (TLA).

A brief discussion of the above areas follows.

Main Storage Area

The MSA is primarily used to receive, store, treat, and weigh containerized waste. From the storage area, containers are transferred within the Type I Module to the appropriate characterization process, such as the drum venting facility (DVF). The DVF, located in the southwest corner of the MSA, is used to vent drums, insert a filter into a vented container, add absorbent to containers with liquids, decant liquids, neutralize liquids, and perform visual examination of containers. Drums are delivered to the DVF via a conveyor. From the DVF, the conveyor transports drums to the PAAA. Containers that do not require venting are typically transported to the PAAA/WCRA from the MSA, bypassing the DVF. See Appendix IV, Drawing 51-9912 for additional information. The MSA may also include equipment for conducting gas generation and headspace gas testing. The MSA is also identified as an area which may be used for the absorption, decanting, and neutralization of liquids; the repackaging of waste; the sizing of waste; the mechanical vibration of waste; and the visual examination of waste in a containment enclosure. The MSA may also have areas for the mechanical vibration of waste outside of a containment enclosure and for the macroencapsulation of waste.

Payload Assembly and Aspiration Area

The PAAA, located in the south central area of the Type I Module, includes storage areas and equipment for the management of containers. Containers are typically stored in the PAAA pending transport to the TLA for assembling and/or loading into the TRUPACT casks or to the WCRA for gas generation and headspace gas testing. The PAAA is also identified as an area which may be used for the absorption, decanting, and neutralization of liquids; the repackaging of waste; the sizing of waste; the mechanical vibration of waste, and the visual examination of waste in a containment enclosure. The PAAA may also have areas for the mechanical vibration of waste outside of a containment enclosure and for the macroencapsulation of waste.

Waste Characterization and Repacking Area

The WCRA, located in the southeast corner of the Type I Module, includes storage areas and equipment for conducting gas generation and headspace gas testing. The WCRA is also identified as an area which may be used for the absorption, decanting, and neutralization of liquids; the repackaging of waste; the sizing of waste; the mechanical vibration of waste; and the visual examination of waste in a containment enclosure. The WCRA may also have areas for the mechanical vibration of waste outside of a containment enclosure and for the macroencapsulation of waste.

TRUPACT Loading Area

The TLA, located in the northeast corner of the Type I Module, includes an electrical room, storage area, and an area for assembling and loading containers into TRUPACT casks. TRUPACT casks are assembled in the TLA by retrieving containers from storage in the PAAA/WCRA and placing the containers into a payload assembly, such as a TRUPACT payload assemblage (TPA). A gantry crane is used to assist with container movement.

SWEPP Description

The SWEPP is a two story building. On the main level are offices, an electrical room, a room for heating and ventilation equipment, a generator room, and a High Bay area. The second level contains personnel support areas. The SWEPP storage area (SSA), located in the SWEPP High Bay, is used to store containers of waste before, during, and pending transfer to other MWMUs. The SSA may also be used as an area for the absorption, decanting, and neutralization of liquids; the repackaging of waste; the sizing of waste; the mechanical vibration of waste; and the visual examination of waste in a containment enclosure. The SSA may also have areas for the mechanical vibration of waste outside of a containment enclosure and for the macroencapsulation of waste. SWEPP contains three assay units [two gamma ray spectrometers and one passive active neutron (PAN) unit] and an RTR unit. The gamma ray spectrometers are located in the western portion of the SSA, and the RTR and PAN assay units are located in the east central area of SWEPP. See Appendix V, Drawing 51-9906 for further information. The north and south ends of SWEPP are used as loading/unloading areas, and are enclosed to assist in year round operations. Up to two mobile units (RTR and/or assay) mounted on trailers may be installed in the loading/unloading areas.

WMF-628 Characterization Facility Description

The Type II Module designated as WMF-628 is a container storage unit that is also used for waste characterization. Waste characterization operations are performed to certify waste container compliance with the applicable WAC of WMF-676, WIPP, or other waste management unit. Up to six mobile characterization units may be located in WMF-628. The mobile units may perform RTR, gamma spectroscopy assay, PAN assay, and/or visual examination.

Additionally, portable headspace gas sampling units and gas generation testing units may be located within WMF-628. See Appendix VI, Drawing 51-10009 for further information. WMF-628 also allows for the absorption, decanting, and neutralization of liquids; the repackaging of waste; the sizing of waste; the mechanical vibration of waste; and the visual examination of waste in a containment enclosure. WMF-628 may also be used for the mechanical vibration of waste outside of a containment enclosure and for the macroencapsulation of waste.

WMF-636 Pad 2 Description

The WMF-636 Pad 2 is a container storage unit covered by a pre-engineered structural steel building that rest on concrete foundations. The WMF-636 Pad 2 storage area utilized for container storage is the asphalted and concreted portions located within the structural steel building. In additional to the main asphalt container storage portion of WMF-636 Pad 2, the unit has two fire riser rooms, an electrical area, personnel support areas, and a ventilation system. Drawing 51-10038, located in Appendix VII, presents a plan view of WMF-636. See Attachment 1.F for further information on WMF-636 Pad 2. WMF-636 Pad 2 may also be used for the macroencapsulation of waste. See Attachment 1.A for additional information.

AMWTP Outside Storage Area

As mentioned previously, conditions may arise which would require loaded trailers with TRUPACTs to remain at the AMWTP for a period of time longer than 10 calendar days. Although loaded trailers with TRUPACTs may be stored within the center aisle space of the Type I and Type II Modules, the storage of loaded trailers with TRUPACTs within the center aisle impacts AMWTP operations. The AMWTP Outside Storage Area is located on the north west side of WMF-636, and is approximately 89 ft by 81 ft. The RWMC/AMWTP Topographic Map in Appendix II and drawing 51-10040 in Appendix VIII presents a plan view of the AMWTP Outside Storage Area. See Attachment 1.G for further information on the AMWTP Outside Storage Area. The AMWTP Outside Storage Area may also be used for the macroencapsulation of waste. See Attachment 1.A for additional information.

WMF-676 Description

WMF-676 is a two-story industrial structure with a rooftop mechanical penthouse and attached utility room. Overall dimensions for the WMF-676 first (ground) floor are approximately 230 ft by 275 ft (excluding the utility room). The general building height is about 44 ft. WMF-676 houses approximately 52,000 square feet (ft^2) per floor. The rooftop mechanical penthouse encloses approximately 15,500 ft^2 of additional space and the roof is about 67 ft above ground level. The utility room, attached to the south end of WMF-676, is about 64 ft by 114 ft. The main stack, also on the south end of the building, extends above the roof of the utility room. The stack, actually an open, rectangular, steel frame that supports individual flues, is approximately 90-ft high. Further information on the stack can be found in Attachment 1.H.

The process portion of WMF-676 is generally described as having two levels, but many of the spaces are open from the first floor to the roof structure; others have mezzanine levels or intermediate equipment access platforms. AMWTP operations and maintenance personnel may access various work areas via corridor systems. See Appendix IX, Drawings 53-0201, 53-0207, and 53-0212 for additional information.

The ventilation within WMF-676 is managed by confinement zones to minimize the potential for waste to be released to the environment via the air pathway. Air within WMF-676 generally flows from the outside through the clean areas into areas of equal or increasing contamination. Exhaust from the ventilation confinement zones is drawn, via extract fans, through air pollution control equipment, then discharged via the main stack. See Appendix IX, Drawing 53-0624 for additional information.

WMF-676 also includes features and systems that compartmentalize WMF-676 into separate fire zones that comply with applicable Uniform Building Code (UBC) and NFPA standards. Fire compartmentalization is provided to create separate fire zones or areas of fire control within WMF-676 and create a protected means of egress from WMF-676 in the event of a fire.

Although significant portions of the WMF-676 waste management areas are not continuously manned, building egress systems are provided per the Life Safety Code (NFPA

101), wherein a means of egress is a continuous and unobstructed way of exit travel from any point in the building or structure to an exit. Means of egress comprising vertical (stairs) and horizontal travel (corridors), including intervening room spaces, are provided via the access corridors around and through the pretreatment and treatment areas of WMF-676 and stair towers. WMF-676 is composed of the following areas:

- Administrative/Personnel Support Areas

  Personnel Access/Entry Area

  Offices/Meeting Room Areas

  Control Room/Computer Room Areas

  Men's/Women's Clean Change Rooms

  Backup Monitoring Room
- Subchange Rooms
- Container Import/Export Areas

  North
  - Drum Storage Areas (A, B, and C)
  - Waste Drum Import/Export
  - Puck Drum Import/Export

  East
  - Waste Receiving Area
  - Low-level waste (LLW) Container Import/Export Area

  West
  - Central Conveyor System (CCS), Room 147, Area
  - Drum Assay/Storage
  - North Box Line Drum Conveyor Area
  - South Box Line Drum Conveyor Area
- Box Line Areas
- Drum Repack System and SCW Area

  Drum Repack System [Drummed Waste Handling Enclosure (DWHE) and Drummed Waste Packaging Glovebox (DWPG)]

  SCW Glovebox System

- Supercompaction Area
- Maintenance Areas
- Supplies Receiving Areas
- Electrical Rooms
- Filter Rooms
- Heating, Ventilation, and Air Conditioning (HVAC) Equipment Rooms
- Other Waste Storage Areas

  Filter Rooms

  Filter Maintenance Areas

A discussion of some of the listed areas follows, while other areas are described in Attachments 1.H, 1.H.i, 1.H.ii, 1.H.iii, and 1.H.iv.

Administrative/Personnel Support Areas

The administrative and personnel support areas are located along the south exterior wall on the first and second floor levels and are separated from the waste handling and process areas of the building. The administrative area houses AMWTP operations and shift management personnel and provides open cubicle office space. Design of the administrative portions of WMF-676 includes provisions for the physically impaired as required by American National Standards Institute (ANSI) A117.1 [DOE-ID Architectural Engineering Standards (AES) 0110]. Two main clean change rooms are provided for changing into and from protective clothing and to provide an interface between clean areas and potentially contaminated areas.

The central control room (CCR) is accessible through the administrative area, and houses the majority of the WMF-676 control interface equipment. The backup monitoring room, located on the first floor near the south end of WMF-676, houses controls, monitors, and alarms which may be used for limited control and safe shutdown of WMF-676 during an emergency.

Subchange Rooms

Subchange rooms are provided within WMF-676 as a means for AMWTP personnel and supplies to pass from one ventilation zone to another without disrupting the airflow to other ventilation areas. This arrangement helps prevent the release of waste constituents into the environment via the air pathway.

Container Import/Export and Storage Areas

The waste import/export areas are located on the east and north sides of WMF-676, while the storage areas are located throughout WMF-676. The north end of the first floor contains the puck drum import/export area, waste drum import/export area, and various storage areas for containers. The puck drum import/export area consists of four conveyor sections that are used for receiving/storing empty puck drums, storing puck drums containing waste, and exporting puck drums to other MWMUs. See the general arrangement drawings in Appendix IX for further detail.

The waste drum import/export area consists of two conveyor sections that are used for importing waste drums destined for pretreatment/treatment, the storage of containers, and exporting containers from WMF-676. Drums from the import/export glovebox are exported through this area.

Storage areas A, B, and C, located at the north end of the first floor, are used for the storage of drums in the puck drum import/export and waste drum import/export conveyor sections. See the general arrangement drawings in Appendix IX for further detail.

The waste box receiving and storage area, empty drum receiving and storage area, the empty container/LLW export area, and the clean supplies receiving area are located on the east side of WMF-676. The waste box receiving and storage area, located along the central east wall of WMF-676, receives containers destined for treatment in the box lines. The empty drum receiving and storage area, located on the east wall, immediately south of the waste box receiving and storage area, is used for the receipt and storage of empty drums that are used to contain waste from the processes (e.g., box line waste sorting). The empty container/LLW export area, located along the east exterior wall near the south end of the process portion of the building, receives empty containers used in the WMF-676 processes. In addition, containers containing LLW (sized-reduced empty containers) are stored in this area pending transfer out of

WMF-676. The supplies receiving area, directly north of the empty container/LLW import/export area, receives various non-waste supplies needed for WMF-676.

Room 147 is located on the west side of WMF-676. This area consists of a storage area serviced by a drum-handling robot and conveyor sections, which are used for the transfer of waste and empty drums. Waste drums are stored in this storage area pending treatment or assay. Empty drums are stored pending use in the processes.

Box Line Areas

Waste sorting within WMF-676 occurs primarily in the box lines. WMF-676 currently contains two box lines, located on the central south side of the second floor of the building. A series of first floor conveyors and elevators feeds empty containers up to the second floor box line sorting areas. The empty containers are filled with waste from the box lines, lowered to the box line/drum conveyor areas, lidded at one of two automated drum lidded stations, and transferred to downstream treatment, or to the import/export glovebox (located in Room 126B). Filled containers being transferred to the import/export glovebox are not lidded for up to 72 hrs. See Attachment 1.H for additional information.

Drum Repack System and SCW Area

The drum repack system and SCW area is located on the north end of the second floor and occupies an area approximately of 75 ft by 38 ft. The SCW glovebox system (located on the south side of the room) consists of the following sections: transfer glovebox, treatment glovebox, sampling glovebox, container-in-container glovebox, and bag-out transfer ports. Containers are received into the SCW glovebox system through an airlock and elevator that interfaces with the MTS on the first floor.

The drum repack system consists of a waste handling enclosure (i.e., DWHE) and a waste packaging glovebox (i.e., DWPG). Containers are received into the DWHE through an airlock door and elevator that interfaces with the MTS on the first floor. The DWHE consists of a container opening station with a ventilation hood, sorting cart(s), container lifting/tipping equipment, various tools/equipment, an empty container crushing machine, and an area for the storage of waste containers. The DWPG portion of the drum repack system is used for the repackaging of waste into containers. A drum opening hood enclosure (DOHE) is used to further contain activities within the DWHE. A door in the DOHE allows for personnel access between the DWHE and the DOHE, and also provides access for the transfer of equipment and waste. Typically, SCW items are bagged within the drum repack system and hand carried to the SCW glovebox system.

Supercompaction Area

The supercompaction area is located on the north side of WMF-676 in an area of the first floor that is open to the second floor. The area consists of a venturi glovebox, the infeed glovebox, the supercompactor glovebox, and the postcompaction glovebox. Containers that are destined for supercompaction are conveyed into the infeed glovebox, where they are prepared (i.e., punctured) for supercompaction. From the infeed glovebox, containers enter the supercompactor, where they are compacted with a hydraulic press. Once compacted, the pucks are transferred to the postcompaction glovebox. The postcompaction glovebox contains a puck storage area and a puck drum loading area. Typically, up to five pucks are loaded from the storage area into a puck drum. Once fully loaded, the puck drums are transferred out of the postcompaction glovebox, via conveyors, to the drum storage areas; from there, the containers are transferred out of WMF-676.

Maintenance Areas

Areas for maintenance of process equipment are located within WMF-676. The preferred location for performing maintenance activities is within the area where the equipment is located, particularly if the equipment is located in a higher ventilation confinement (e.g., Zone 3) area. An equipment maintenance area (Room 224B), located on the second floor south of the box lines, is provided for performing maintenance on contaminated equipment. Maintenance of equipment that is not contaminated may occur in the Zone 1 maintenance area (Room 115) on the first floor. An electrical and instrumentation maintenance area (Room 161) is also located on the first floor.

HVAC Equipment Rooms

The main HVAC equipment rooms for the waste management areas are located in the rooftop penthouse above the central portion of the building. A HEPA filter room is located on the second floor along the east wall of the building. Terminal filter rooms are provided for local process area air filtering. Localized terminal filters are located on the west end of the drum repack and SCW area (Room 236). A terminal filter room is located just south of the supercompactor room (Room 142B), while another is located south of the south box line/drum conveyor area (Room 122A).

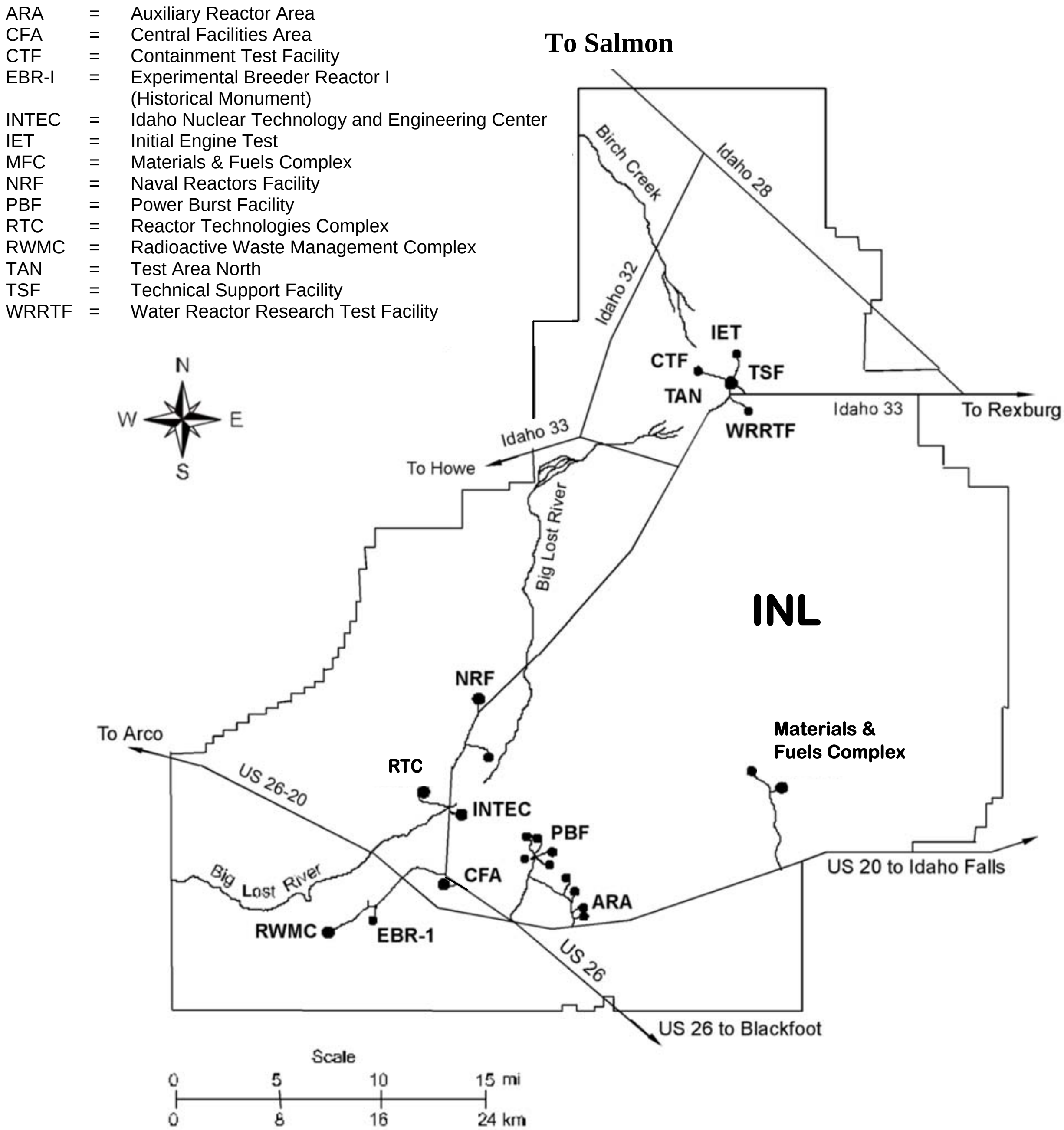

Exhibit B-1. Map of the INL Showing Major Area Locations

B-2 Topographic Map [IDAPA 58.01.05.012; 40 CFR 270.14(b)(19)]

A topographic map of the RWMC/AMWTP providing the information required by IDAPA 58.01.05.012 [40 CFR 270.14(b)(19)] is included in Appendix II.

B-3 Location [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.18 and 270.14(b)(11)]

B-3a Seismic Standard [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.18(a) and 270.14(b)(11)(i) and (ii)]

The RWMC is located in Butte County, Idaho. Butte County is not listed in IDAPA 58.01.05.008 (Appendix VI to 40 CFR 264) as a county that requires demonstration of compliance with IDAPA 58.01.05.008 [40 CFR 264.18(a)].

B-3b Floodplain Standard [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.18(b) and 270.14(b)(11)(iii) and (iv)]

A 2001 flood evaluation study ("100-Year Floodplain and 25-Year Runoff Analyses for the Radioactive Waste Management Complex Area at the Idaho National Engineering and Environmental Laboratory," T. Mitchell, S. Mitchell, J. Humphrey, D. Kennedy, and T. Funderburg, December, 2001) analyzed the extent of a 100-year (yr) floodplain. Based on this analysis, there are no MWMUs located within the 100-yr floodplain at the RWMC. The requirements of this section are, therefore, not applicable.

B-4 Traffic Information [IDAPA 58.01.05.012; 40 CFR 270.14(b)(10)]

U.S. Route 20/26 is the general access route to the RWMC and the AMWTP. Van Buren Boulevard intersects U.S. 20/26 northeast of the RWMC and the AMWTP and is the direct access road leading to the Experimental Breeder Reactor I (EBR-I). Adams Boulevard intersects Van Buren Boulevard just north of EBR-I and is the direct access road leading to the RWMC and the AMWTP. East of the bridge located on Adams Boulevard is a road that is designated as the primary access road for the AMWTP. This road runs along the outside of the RWMC perimeter fence, and is designated as the RWMC North/South Road on Exhibit II-1 in Appendix II. Primary access to the AMWTP area is gained via use of this road and one of the gates located on the south end of the TSA. Typically, waste shipments to and from the AMWTP/RWMC travel via Adams Boulevard and Van Buren Boulevard. The heaviest traffic on the roads leading to the RWMC and the AMWTP occurs between 6:00 and 8:30 a.m., and again from 4:00 to 6:30 p.m., Monday through Friday. The morning traffic primarily consists of employees driving to work, as well as passenger buses transporting employees to work. The evening traffic primarily consists of employees leaving work. From Memorial Day until Labor Day, passenger vehicle traffic increases slightly on Van Buren Boulevard as tourists visit EBR-I.

Adams Boulevard is made of asphalt. The local runoff flood channel bridge on Adams Boulevard is designed to be consistent with the Adams Boulevard roadway. The Adams Boulevard roadway total vehicle capacity of the bridge is 78 metric tons; this assumes special overload vehicle axle load combinations of 76,100 pounds (lb) (3 axles at 12,683 lb/wheel), 81,300 lb (2 axles at 20,925 lb/wheel), and 15,000 lb (1 axle at 7,500 lb/wheel). The typical daily volume of vehicles on the TSA access roads is about 125 to 130 vehicles, mainly cars and trucks.

Employee Traffic

All employees enter the AMWTP through controlled access points (see Appendix II, Exhibit II-1). Employee-owned vehicles are not allowed to enter the TSA, unless security has cleared the vehicle to enter. Employees traveling within the TSA either walk or are transported by contractor or federally owned vehicles.

Operations Material Supply Traffic

Typically, operations supply vehicles enter the AMWTP area through the south gate, which is dedicated for AMWTP operations. Usually, this traffic travels to the MWMUs buildings on Road #3, located near WMF-676. The projected trips per week (annual average) by supply vehicles are listed in a table on Exhibit II-1 in Appendix II. Vehicles may also enter the AMWTP area through the main RWMC gate at WMF-637.

Operations Waste Flow Traffic

Exhibit II-1 in Appendix II shows the typical waste flow traffic among the various TSA buildings, as well as the projected annual average shipments/day for each route. Typically, retrieved containers from the TSA-RE are transferred to WMF-634 for preliminary characterization. Containers are then normally transported to the Type I Module, the Type II Modules, and WMF-636 Pad 2 for storage or to WMF-676 for treatment.

Traffic Control Signs, Signals, and Procedures

Traffic control procedures within the AMWTP controlled areas support plant operations, maintenance, and on-Site delivery and shipments. These traffic procedures are implemented using standard highway traffic control and informational signs. No traffic signals are required for the AMWTP. The typical sign types that may be used, if required, in the AMWTP area are listed in the following table.

SIGN TYPE	LOCATION
STOP	Access gates and some plant road intersections, as necessary
CLEARANCE	Where electrical lines pass over the roadway and restrict traffic
SPEED LIMIT	Various signs on each roadway, as necessary
DIRECTIONAL	Various roadways indicating traffic flow direction, as necessary
INFORMATIONAL	Various roadways indicating facility locations, receiving, loading, unloading, and visitor areas

OMB# 2050-0024; Expires 12/31/2014

SEND COMPLETED FORM TO: The Appropriate State or Regional Office.	United States Environmental Protection Agency **RCRA SUBTITLE C SITE IDENTIFICATION FORM**

1. Reason for Submittal MARK ALL BOX(ES) THAT APPLY	**Reason for Submittal:** ☐ To provide an Initial Notification (first time submitting site identification information / to obtain an EPA ID number for this location) ☐ To provide a Subsequent Notification (to update site identification information for this location) ☐ As a component of a First RCRA Hazardous Waste Part A Permit Application ☒ As a component of a Revised RCRA Hazardous Waste Part A Permit Application (Amendment # PMR-07) ☐ As a component of the Hazardous Waste Report (If marked, see sub-bullet below) ☐ Site was a TSD facility and/or generator of ≥1,000 kg of hazardous waste, >1 kg of acute hazardous waste, or >100 kg of acute hazardous waste spill cleanup in one or more months of the report year (or State equivalent LQG regulations)
2. Site EPA ID Number	**EPA ID Number** I D 4 8 9 0 0 0 8 9 5 2
3. Site Name	**Name:** IDAHO NATIONAL LABORATORY
4. Site Location Information	**Street Address:** **City, Town, or Village:** SCOVILLE **County:** See Comments **State:** IDAHO **Country:** USA **Zip Code:** 83415
5. Site Land Type	☐ Private ☐ County ☐ District ☑ Federal ☐ Tribal ☐ Municipal ☐ State ☐ Other
6. NAICS Code(s) for the Site (at least 5-digit codes)	**A.** 9 2 4 1 1 **C.** 3 3 6 9 9 2 **B.** 5 4 1 7 1 **D.**
7. Site Mailing Address	**Street or P.O. Box:** 1955 FREMONT AVENUE **City, Town, or Village:** IDAHO FALLS **State:** IDAHO **Country:** USA **Zip Code:** 83415
8. Site Contact Person	**First Name:** TERESA **MI:** L **Last:** PERKINS **Title:** ENVIRONMENT & SUSTAINABILITY DIRECTOR **Street or P.O. Box:** 1955 FREMONT AVENUE **City, Town or Village:** IDAHO FALLS **State:** ID **Country:** USA **Zip Code:** 83415 **Email:** perkinstl@id.doe.gov **Phone:** (208) 526-1483 **Ext.:** NOT APPLICABLE **Fax:** (208) 526-1926
9. Legal Owner and Operator of the Site	**A. Name of Site's Legal Owner:** US DOE IDAHO OPERATIONS OFFICE **Date Became Owner:** 01/01/1952 **Owner Type:** ☐ Private ☐ County ☐ District ☑ Federal ☐ Tribal ☐ Municipal ☐ State ☐ Other **Street or P.O. Box:** 1955 FREMONT AVENUE **City, Town, or Village:** IDAHO FALLS **Phone:** 208-526-1483 **State:** ID **Country:** USA **Zip Code:** 83415 **B. Name of Site's Operator:** IDAHO TREATMENT GROUP, LLC **Date Became Operator:** 10/01/2011 **Operator Type:** ☑ Private ☐ County ☐ District ☐ Federal ☐ Tribal ☐ Municipal ☐ State ☐ Other

10. Type of Regulated Waste Activity (at your site)
Mark "Yes" or "No" for all current activities (as of the date submitting the form); complete any additional boxes as instructed.

A. Hazardous Waste Activities; Complete all parts 1-10.

Y ☑ N ☐ **1. Generator of Hazardous Waste**
If "Yes", mark only one of the following – a, b, or c.

- ☑ a. LQG: Generates, in any calendar month, 1,000 kg/mo (2,200 lbs./mo.) or more of hazardous waste; **or** Generates, in any calendar month, or accumulates at any time, more than 1 kg/mo (2.2 lbs./mo) of acute hazardous waste; **or** Generates, in any calendar month, **or** accumulates at any time, more than 100 kg/mo (220 lbs./mo) of acute hazardous spill cleanup material.
- ☐ b. SQG: 100 to 1,000 kg/mo (220 – 2,200 lbs./mo) of non-acute hazardous waste.
- ☐ c. CESQG: Less than 100 kg/mo (220 lbs./mo) of non-acute hazardous waste.

If "Yes" above, indicate other generator activities in 2-4.

Y ☐ N ☑ **2. Short-Term Generator** (generate from a short-term or one-time event and not from on-going processes). If "Yes", provide an explanation in the Comments section.

Y ☐ N ☑ **3. United States Importer of Hazardous Waste**

Y ☑ N ☐ **4. Mixed Waste (hazardous and radioactive) Generator**

Y ☑ N ☐ **5. Transporter of Hazardous Waste**
If "Yes", mark all that apply.

- ☑ a. Transporter
- ☐ b. Transfer Facility (at your site)

Y ☑ N ☐ **6. Treater, Storer, or Disposer of Hazardous Waste** Note: A hazardous waste Part B permit is required for these activities.

Y ☐ N ☑ **7. Recycler of Hazardous Waste**

Y ☐ N ☑ **8. Exempt Boiler and/or Industrial Furnace**
If "Yes", mark all that apply.

- ☐ a. Small Quantity On-site Burner Exemption
- ☐ b. Smelting, Melting, and Refining Furnace Exemption

Y ☐ N ☑ **9. Underground Injection Control**

Y ☑ N ☐ **10. Receives Hazardous Waste from Off-site**

B. Universal Waste Activities; Complete all parts 1-2.

Y ☑ N ☐ **1. Large Quantity Handler of Universal Waste (you accumulate 5,000 kg or more) [refer to your State regulations to determine what is regulated]. Indicate types of universal waste managed at your site. If "Yes", mark all that apply.**

- a. Batteries ☑
- b. Pesticides ☐
- c. Mercury containing equipment ☑
- d. Lamps ☑
- e. Other (specify) ______________ ☐
- f. Other (specify) ______________ ☐
- g. Other (specify) ______________ ☐

Y ☐ N ☑ **2. Destination Facility for Universal Waste**
Note: A hazardous waste permit may be required for this activity.

C. Used Oil Activities; Complete all parts 1-4.

Y ☐ N ☑ **1. Used Oil Transporter**
If "Yes", mark all that apply.

- ☐ a. Transporter
- ☐ b. Transfer Facility (at your site)

Y ☐ N ☑ **2. Used Oil Processor and/or Re-refiner**
If "Yes", mark all that apply.

- ☐ a. Processor
- ☐ b. Re-refiner

Y ☐ N ☑ **3. Off-Specification Used Oil Burner**

Y ☐ N ☑ **4. Used Oil Fuel Marketer**
If "Yes", mark all that apply.

- ☐ a. Marketer Who Directs Shipment of Off-Specification Used Oil to Off-Specification Used Oil Burner
- ☐ b. Marketer Who First Claims the Used Oil Meets the Specifications

D. Eligible Academic Entities with Laboratories—Notification for opting into or withdrawing from managing laboratory hazardous wastes pursuant to 40 CFR Part 262 Subpart K

❖ You can **ONLY** Opt into Subpart K if:

- you are at least one of the following: a college or university; a teaching hospital that is owned by or has a formal affiliation agreement with a college or university; or a non-profit research institute that is owned by or has a formal affiliation agreement with a college or university; AND
- you have checked with your State to determine if 40 CFR Part 262 Subpart K is effective in your state

Y ☐ N ☐ 1. Opting into or currently operating under 40 CFR Part 262 Subpart K for the management of hazardous wastes in laboratories **See the item-by-item instructions for definitions of types of eligible academic entities. Mark all that apply:**

☐ a. College or University

☐ b. Teaching Hospital that is owned by or has a formal written affiliation agreement with a college or university

☐ c. Non-profit Institute that is owned by or has a formal written affiliation agreement with a college or university

Y ☐ N ☐ 2. Withdrawing from 40 CFR Part 262 Subpart K for the management of hazardous wastes in laboratories

11. Description of Hazardous Waste

A. Waste Codes for Federally Regulated Hazardous Wastes. Please list the waste codes of the Federal hazardous wastes handled at your site. List them in the order they are presented in the regulations (e.g., D001, D003, F007, U112). Use an additional page if more spaces are needed.

See Comments						

B. Waste Codes for State-Regulated (i.e., non-Federal) Hazardous Wastes. Please list the waste codes of the State-Regulated hazardous wastes handled at your site. List them in the order they are presented in the regulations. Use an additional page if more spaces are needed.

See Comments						

12. Notification of Hazardous Secondary Material (HSM) Activity

Y ☐ N ☑ Are you notifying under 40 CFR 260.42 that you will begin managing, are managing, or will stop managing hazardous secondary material under 40 CFR 261.2(a)(2)(ii), 40 CFR 261.4(a)(23), (24), or (25)?

If "Yes", you must fill out the Addendum to the Site Identification Form: Notification for Managing Hazardous Secondary Material.

13. Comments

Item 1. Reason for sumittal: Revision December 2012

Item 4. Site Location: County - Butte, Clark, Jefferson, Bonneville, Bingham

Item 11.A. See Item 9 of the Hazardous Waste Permit Information Form OMB #2050-0034.

Item 11.B. The AMWTP may receive manifested state hazardous waste from states other than Idaho. All such waste will be managed in permitted HWMA/RCRA waste management units at the AMWTP and not within the AMWTP TSA Interim Status Units.

14. Certification. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations. For the RCRA Hazardous Waste Part A Permit Application, all owner(s) and operator(s) must sign (see 40 CFR 270.10(b) and 270.11).

Signature of legal owner, operator, or an authorized representative	Name and Official Title (type or print)	Date Signed (mm/dd/yyyy)
[signature]	Richard B. Provencher, Manager Department of Energy ID Ops. Office	12/17/12
[signature]	David H. Haar, Waste Programs Mgr. Idaho Treatment Group, LLC	11/06/2012

United States Environmental Protection Agency

HARDOUS WASTE PERMIT INFORMATION FORM

1. Facility Permit Contact	**First Name:** TERESA **MI:** L **Last Name:** PERKINS
	Contact Title: DIRECTOR, ENVIRONMENT & SUSTAINABILITY DIVISION
	Phone: (208) 526-1483 **Ext.:** NOT APPL. **Email:** perkintl@id.doe.gov
2. Facility Permit Contact Mailing Address	**Street or P.O. Box:** 1955 FREMONT DRIVE
	City, Town, or Village: IDAHO FALLS
	State: ID
	Country: USA **Zip Code:** 83415
3. Operator Mailing Address and Telephone Number	**Street or P.O. Box:** 850 ENERGY DRIVE, SUITE 100
	City, Town, or Village: IDAHO FALLS
	State: ID **Phone:** (208) 557-7301
	Country: USA **Zip Code:** 83415
4. Facility Existence Date	**Facility Existence Date (mm/dd/yyyy):** 01/01/1949

5. Other Environmental Permits

A. Facility Type *(Enter code)*	**B. Permit Number**													**C. Description**
R	I	D	4	8	9	0	0	0	8	9	5	2		Part A Permit Application for Interim Status Unit(TSA1/R)
P	P	T	C		0	2	3		0	0	0	0	1	AMWTF Permit to Construct (Air Pollution Source)
P	9	2	4	1	1									TSA-RE Permit to Construct (Air Pollution Source)
P	5	4	1	7	1									Title V Operating Permit
P	3	3	6	9	9	2								AMWTP Permit to Construct (Air Pollution Source) for
														Standby Generator

6. Nature of Business: See Comments

7. Process Codes and Design Capacities – Enter information in the Section on Form Page 3

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. If more lines are needed, attach a separate sheet of paper with the additional information. For "other" processes (i.e., D99, S99, T04 and X99), describe the process (including its design capacity) in the space provided in Item 8.

B. PROCESS DESIGN CAPACITY – For each code entered in Item 7.A; enter the capacity of the process.

1. **AMOUNT – Enter the amount. In a case where design capacity is not applicable (such as in a closure/post-closure or enforcement action) enter the total amount of waste for that process.**
2. **UNIT OF MEASURE – For each amount entered in Item 7.B(1), enter the code in Item 7.B(2) from the list of unit of measure codes below that describes the unit of measure used. Select only from the units of measure in this list.**

C. PROCESS TOTAL NUMBER OF UNITS – Enter the total number of units for each corresponding process code.

Process Code	Process	Appropriate Unit of Measure for Process Design Capacity
	Disposal	
D79	Underground Injection Well Disposal	Gallons; Liters; Gallons Per Day; or Liters Per Day
D80	Landfill	Acre-feet; Hectares-meter; Acres; Cubic Meters; Hectares; Cubic Yards
D81	Land Treatment	Acres or Hectares
D82	Ocean Disposal	Gallons Per Day or Liters Per Day
D83	Surface Impoundment Disposal	Gallons; Liters; Cubic Meters; or Cubic Yards
D99	Other Disposal	Any Unit of Measure Listed Below
	Storage	
S01	Container	Gallons; Liters; Cubic Meters; or Cubic Yards
S02	Tank Storage	Gallons; Liters; Cubic Meters; or Cubic Yards
S03	Waste Pile	Cubic Yards or Cubic Meters
S04	Surface Impoundment	Gallons; Liters; Cubic Meters; or Cubic Yards
S05	Drip Pad	Gallons; Liters; Cubic Meters; Hectares; or Cubic Yards
S06	Containment Building Storage	Cubic Yards or Cubic Meters
S99	Other Storage	Any Unit of Measure Listed Below
	Treatment	
T01	Tank Treatment	Gallons Per Day; Liters Per Day
T02	Surface Impoundment	Gallons Per Day; Liters Per Day
T03	Incinerator	Short Tons Per Hour; Metric Tons Per Hour; Gallons Per Hour; Liters Per Hour; BTUs Per Hour; Pounds Per Hour; Short Tons Per Day; Kilograms Per Hour; Gallons Per Day; Metric Tons Per Hour; or Million BTU Per Hour
T04	Other Treatment	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Short Tons Per Day; BTUs Per Hour; Gallons Per Day; Liters Per Hour; or Million BTU Per Hour
T80	Boiler	Gallons; Liters; Gallons Per Hour; Liters Per Hour; BTUs Per Hour; or Million BTU Per Hour

Process Code	Process	Appropriate Unit of Measure for Process Design Capacity
	Treatment (Continued)	**(for T81 – T94)**
T81	Cement Kiln	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; BTU Per Hour; Liters Per Hour; Kilograms Per Hour; or Million BTU Per Hour
T82	Lime Kiln	
T83	Aggregate Kiln	
T84	Phosphate Kiln	
T85	Coke Oven	
T86	Blast Furnace	
T87	Smelting, Melting, or Refining Furnace	
T88	Titanium Dioxide Chloride Oxidation Reactor	
T89	Methane Reforming Furnace	
T90	Pulping Liquor Recovery Furnace	
T91	Combustion Device Used in the Recovery of Sulfur Values from Spent Sulfuric Acid	
T92	Halogen Acid Furnaces	
T93	Other Industrial Furnaces Listed in 40 CFR 260.10	
T94	Containment Building Treatment	Cubic Yards; Cubic Meters; Short Tons Per Hour; Gallons Per Hour; Liters Per Hour; BTU Per Hour; Pounds Per Hour; Short Tons Per Day; Kilograms Per Hour; Metric Tons Per Day; Gallons Per Day; Liters Per Day; Metric Tons Per Hour; or Million BTU Per Hour
	Miscellaneous (Subpart X)	
X01	Open Burning/Open Detonation	Any Unit of Measure Listed Below
X02	Mechanical Processing	Short Tons Per Hour; Metric Tons Per Hour; Short Tons Per Day; Metric Tons Per Day; Pounds Per Hour; Kilograms Per Hour; Gallons Per Hour; Liters Per Hour; or Gallons Per Day
X03	Thermal Unit	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; BTU Per Hour; or Million BTU Per Hour
X04	Geologic Repository	Cubic Yards; Cubic Meters; Acre-feet; Hectare-meter; Gallons; or Liters
X99	Other Subpart X	Any Unit of Measure Listed Below

Unit of Measure	Unit of Measure Code	Unit of Measure	Unit of Measure Code	Unit of Measure	Unit of Measure Code
Gallons	**G**	**Short Tons Per Hour**	**D**	**Cubic Yards**	**Y**
Gallons Per Hour	**E**	**Short Tons Per Day**	**N**	**Cubic Meters**	**C**
Gallons Per Day	**U**	**Metric Tons Per Hour**	**W**	**Acres**	**B**
Liters	**L**	**Metric Tons Per Day**	**S**	**Acre-feet**	**A**
Liters Per Hour	**H**	**Pounds Per Hour**	**J**	**Hectares**	**Q**
Liters Per Day	**V**	**Kilograms Per Hour**	**X**	**Hectare-meter**	**F**
		Million BTU Per Hour	**X**	**BTU Per Hour**	**I**

7. Process Codes and Design Capacities (Continued)

EXAMPLE FOR COMPLETING Item 7 (shown in line number X-1 below): A facility has a storage tank, which can hold 533.788 gallons.

Line Number		A. Process Code (From list above)			B. PROCESS DESIGN CAPACITY (1) Amount (Specify)	(2) Unit of Measure	C. Process Total Number of Units	For Official Use Only					
X	**1**	**S**	**0**	**2**	**533.788**	**G**	**001**						
	1	S	0	1	27,161,362.00	G	005						
	2	X	0	2	13,431.00	U	003						
	3												
	4												
	5												
	6												
	7												
	8												
	9												
1	**0**												
1	**1**												
1	**2**												
1	**3**												

Note: If you need to list more than 13 process codes, attach an additional sheet(s) with the information in the same format as above. Number the line sequentially, taking into account any lines that will be used for "other" process (i.e., D99, S99, T04, and X99) in Item 8.

8. Other Processes (Follow instructions from Item 7 for D99, S99, T04, and X99 process codes)

Line Number (Enter #s in sequence with Item 7)		A. Process Code (From list above)			B. PROCESS DESIGN CAPACITY (1) Amount (Specify)	(2) Unit of Measure	C. Process Total Number of Units	For Official Use Only					
X	**2**	**T**	**0**	**4**	**100.00**	**U**	**001**						
	1	T	0	4	33,000.00	U	002						
	2	T	0	4	5,280.00	U	002						
	3	T	0	4	13,200.00	U	004						
	4	X	9	9	200.00	U	002						
	5	X	9	9	10,312.00	U	001						

Supplement to Item 7.
Process Codes and Design Capacities

LINE NUMBER	PROCESS TYPE UNIT NAME		PROCESS DESIGN CAPACITY
1	**S01 Container Storage includes:**		
	• **Waste Storage Facility (WSF) which includes the following:**		
	• WMF-634 @ 1,231,430 gallons		1,231,430 gallons
	• Eight Type II Modules – each module @ 2,159,985 gallons		17,279,880 gallons
	• Type I Module @ 667,979 gallons		667,979 gallons
	• WMF-628 @ 1,107,290 gallons		1,107,290 gallons
	• **Stored Waste Examination Pilot Plant (SWEPP)**		28,380 gallons
	• **WMF-636 Pad 2**		6,350,140 gallons
	• **AMWTP Outside Storage Area**		404,995 gallons
	• **WMF-676**		91,268 gallons
		Line 1 Total:	**27,161,362 gallons**
2	**X02 Miscellaneous Mechanical Processing in WMF-676 includes:**		
	• **Two Box Lines**		10,475 gallons/day
	• **Drums Repack System**		2,956 gallons/day
		Line 2 Total:	**13,431 gallons/day**

Supplement to Item 8. Other Processes
Process Codes and Design Capacities

LINE NUMBER	PROCESS TYPE UNIT NAME		PROCESS DESIGN CAPACITY[a]
1	**T04 Treatment Via In-Container Absorption of Liquid, Decanting of Liquid, Neutralization of Liquid, Repackaging, Physical Sizing, and Mechanical Vibration in WSF and SWEPP:** • WSF and SWEPP @ 55 gallons/drum x 600 drums/day = 33,000 gallons/day.		33,000 gallons/day[b,c]
		Line 1 Total:	**33,000 gallons/day**
2	**T04 Treatment Via Macroencapsulation in WSF, SWEPP, WMF-636 Pad 2, and AMWTP Outside Storage Area:** • WSF, SWEPP, WMF-636 Pad 2, and AMWTP Outside Storage Area @ 55 gallons/drum x 96 drums/day = 5,280 gallons/day.		5,280 gallons/day[d]
		Line 2 Total:	**5,280 gallons/day**
3	**T04 Treatment Via In-Container Absorption of Liquid, Decanting of Liquid, and Neutralization of Liquid in WMF-676.** • Box Lines, Supercompactor, and Drum Repack System @ 55 gallons/drum x 240 drums/day = 13,200 gallons/day		13,200 gallons/day
		Line 3 Total:	**13,200 gallons/day**
4	**X99 Treatment in the SCW Glovebox System, Drum Waste Packaging Glovebox, and Box Lines used to Treat Liquids and to Vent Pressurized Containers.**		200 gallons/day
		Line 4 Total:	**200 gallons/day**
5	**X99 Supercompactor used for the Compaction of Drums**		10,312 gallons/day
		Line 5 Total:	**10,312 gallons/day**

Notes:

a. Any container size may processed, as long as the process design capacity is not exceeded.

b. When multiple treatment processes are used sequentially to treat the same waste within a 24 hour period, the waste volume shall only be counted once against the process limit. For example, a 55-gal drum that requires decanting of liquids may also require absorption.

c. No single listed process (i.e., physical sizing, repackaging, decanting of liquid, absorption of liquid, neutralization of liquid, and mechanical vibration) may be performed such that the design capacity for that process exceeds 5,500 gallons/day.

d. The macroencapsulation treatment process design capacity is based on an average daily processing rate for a 12 month rolling period. For example, any amount of waste may be treated via macroencapsulation on a daily basis as long as the average daily rate over a 12 month period does not exceed 5,280 gallons/day.

9. Description of Hazardous Wastes - Enter Information in the Sections on Form Page 5

A. EPA HAZARDOUS WASTE NUMBER – Enter the four-digit number from 40 CFR, Part 261 Subpart D of each listed hazardous waste you will handle. For hazardous wastes which are not listed in 40 CFR, Part 261 Subpart D, enter the four-digit number(s) from 40 CFR Part 261, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY – For each listed waste entered in Item 9.A, estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in Item 9.A, estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE – For each quantity entered in Item 9.B, enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure, taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:

For listed hazardous waste: For each listed hazardous waste entered in Item 9.A, select the code(s) from the list of process codes contained in Items 7.A and 8.A on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all listed hazardous wastes.

For non-listed waste: For each characteristic or toxic contaminant entered in Item 9.A, select the code(s) from the list of process codes contained in Items 7.A and 8.A on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.

NOTE: THREE SPACES ARE PROVIDED FOR ENTERING PROCESS CODES. IF MORE ARE NEEDED:

1. **Enter the first two as described above.**
2. **Enter “000” in the extreme right box of Item 9.D(1).**
3. **Use additional sheet, enter line number from previous sheet, and enter additional code(s) in Item 9.E.**

2. PROCESS DESCRIPTION: If code is not listed for a process that will be used, describe the process in Item 9.D(2) or in Item 9.E(2).

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER – Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. **Select one of the EPA Hazardous Waste Numbers and enter it in Item 9.A. On the same line complete Items 9.B, 9.C, and 9.D by estimating the total annual quantity of the waste and describing all the processes to be used to store, treat, and/or dispose of the waste.**
2. **In Item 9.A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In Item 9.D.2 on that line enter “included with above” and make no other entries on that line.**
3. **Repeat step 2 for each EPA Hazardous Waste Number that can be used to describe the hazardous waste.**

EXAMPLE FOR COMPLETING Item 9 (shown in line numbers X-1, X-2, X-3, and X-4 below) – A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operations. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES									
								(1) PROCESS CODES (Enter Code)									(2) PROCESS DESCRIPTION (If code is not entered in 9.D(1))
X	**1**	K	0	5	4	900	P	T	0	3	D	8	0				
X	**2**	D	0	0	2	400	P	T	0	3	D	8	0				
X	**3**	D	0	0	1	100	P	T	0	3	D	8	0				
X	**4**	D	0	0	2												Included With Above

Supplement to Item 9

Description of Hazardous Wastes

Container storage plus treatment (absorption, decanting, neutralization, repackaging, sizing, mechanical vibration, macroencapsulation, and miscellaneous mechanical processing) of waste in the WSF, SWEPP, WMF-636 Pad 2, the AMWTP Outside Storage Area, and WMF-676 are listed under Item 9, along with the EPA hazardous waste numbers (HWNs) associated with the wastes that are expected to be handled in the units.

Page Numbers	Process
5 (A-1) of 6 to 5 (A-5) of 6	Wastes stored in the WSF.
5 (B-1) of 6 to 5 (B-5) of 6	Wastes treated via absorption, decanting, neutralization, repackaging, physical sizing, and mechanical vibration of waste in the WSF and SWEPP.
5 (C-1) of 6 to 5 (C-5) of 6	Waste stored in SWEPP.
5 (D-1) of 6 to 5 (D-5) of 6	Debris waste treated via macroencapsulation of waste in stainless steel containers in the WSF, SWEPP, WMF-636 Pad 2, and the AMWTP Outside Storage Area.
5 (E-1) of 6 to 5 (E-5) of 6	Wastes stored in WMF-636 Pad 2.
5 (F-1) of 6 to 5 (F-5) of 6	Wastes stored in the AMWTP Outside Storage Area.
5 (G-1) of 6 to 5 (G-5) of 6	Miscellaneous mechanical processing in WMF-676.
5 (H-1) of 6 to 5 (H-5) of 6	Wastes supercompacted in WMF-676.
5 (I-1) of 6 to 5 (I-5) of 6	SCW (e.g., pressurized containers, aerosol canisters) treated in WMF-676.
5 (J-1) of 6 to 5 (J-5) of 6	Wastes stored in WMF-676.
5 (K-1) of 6 to 5 (K-5) of 6	Wastes treated via absorption, decanting, and neutralization of liquids in WMF-676.

Calculations of Estimated Annual Quantity for WSF, SWEPP, WMF-636 Pad 2, the AMWTP Outside Storage Area, and WMF-676

1. Estimated Maximum Volume Waste per Trailer

Trailers can ship three boxes/shipment, sixteen 55-gallon drums/shipment, or fourteen 100-gallon drums/shipment.

Boxes:	Quantity/trailer = 3 Volume/box = 3.17 m^3 Volume/trailer = (3 boxes/trailer)(3.17 m^3/box) Volume/trailer = 9.51 m^3/trailer
55-gallon Drums:	Quantity/trailer = 16 Volume/drum = 0.208 m^3 Volume/trailer = (16 drum/trailer)(0.208 m^3/drum) Volume/trailer = 3.33 m^3/trailer
100-gallon Puck Drums:	Quantity/trailer = 14 Volume/drum = 0.379 m^3 Volume/trailer = (14 drum/trailer)(0.379 m^3/drum) Volume/trailer = 5.3 m^3/trailer

Maximum waste volume/trailer = 9.51 m^3

It was determined that the largest volume of waste could be moved in boxes; therefore, it was assumed that all transport trailer shipments contained the volume of waste that could be shipped in boxes. This was done to keep calculations conservative.

Waste Volume/Trailer Shipment = 9.51 m^3

Average Waste Density = 1.1023 tons/m^3

2. Estimated Annual Quantity for Storage (Process Code S01)

The estimated annual quantity for a given mixed waste management unit (MWMU) is assumed to be a sum of the amount of waste moved into and out of the MWMU. In order to determine the estimated annual quantity, the amount of waste moved into and out of the MWMU was first determined by taking the values from the waste transfer traffic table from the AMWTP traffic flow exhibit. See Exhibit II-1 in Appendix II. The higher of the two values (waste moved in, waste moved out) was then taken and multiplied by two in order to produce a conservative estimate for the MWMU estimated annual quantity.

A. WSF Estimated Annual Quantity Calculations

i. WMF-634

Number of transport trailer shipments into the building = 11.5 trailers/day

Number of transport trailer shipments out of the building = 7.9 trailers/day

Waste Shipments per Day = (11.5 trailers/day)(2) = 23 trailers/day

Daily Quantity = (23 trailers/day)(9.51 m^3/trailer)(1.1023 tons/m^3)

Daily Quantity = 241.11 tons/day

Max. Waste Quantity per Year = (241.11 tons/day)(365 days/year)

Max. Waste Quantity per Year = 88,004 tons/year

The above number is then multiplied by ten to account for extra movement of waste throughout the year.

WMF-634 Estimated Annual Quantity = 880,040 tons/year

ii. Type II Module (WMF-629 – WMF-633)

The estimated annual quantity for the Type II Modules was determined by taking the highest value of waste movements for a Type II Module.

<u>WMF-629</u>

Number of transport trailer shipments into the building = 9.7 trailers/day

Number of transport trailer shipments out of the building = 10.5 trailers/day

<u>WMF-630</u>

Number of transport trailer shipments into the building = 9.2 trailers/day

Number of transport trailer shipments out of the building = 13.7 trailers/day

<u>WMF-631</u>

Number of transport trailer shipments into the building = 9.2 trailers/day

Number of transport trailer shipments out of the building = 14.9 trailers/day

WMF-632

Number of transport trailer shipments into the building = 9.2 trailers/day

Number of transport trailer shipments out of the building = 16.7 trailers/day

WMF-633

Number of transport trailer shipments into the building = 10.2 trailers/day

Number of transport trailer shipments out of the building = 16.7 trailers/day

16.7 trailers/day is the maximum amount of waste shipped in or out of any Type II Module.

Waste Shipments per Day = (16.7 trailers/day)(2) = 33.4 trailers/day

There are eight permitted Type II Modules.

Waste Shipments per Day = (33.4 trailers/day)(8 modules)

Waste Shipments per Day = 267.2 trailers/day

Daily Quantity = (267.2 trailers/day)(9.51 m^3/trailer)(1.1023 tons/m^3)

Daily Quantity = 2,801 tons/day

Max. Waste Quantity per Year = (2,801 tons/day)(365 days/year)

Max. Waste Quantity per Year = 1,022,373.6 tons/year

This number is then multiplied by ten to account for additional movement of waste throughout the year.

Type II Module Estimated Annual Quantity = 10,223,736 tons/year

iii. Type I Module (WMF-635)

Number of transport trailer shipments into the building = 7.9 trailers/day

Number of transport trailer shipments out of the building = 3.5 trailers/day

Waste Shipments per Day = (7.9 trailers/day)(2) = 15.8 trailers/day

Daily Quantity = (15.8 trailers/day)(9.51 m^3/trailer)(1.1023 tons/m^3)

Daily Quantity = 165.63 tons/day

Max. Waste Quantity per Year = (165.63 tons/day)(365 days/year)

Max. Waste Quantity per Year = 60,454.7 tons/year

The above number is then multiplied by ten to account for extra movement of waste throughout the year.

Type I Storage Module (WMF-635)
Estimated Annual Quantity = 604,547 tons/year

iv. WMF-628 Total Estimated Annual Quantity

WMF-628 is a characterization facility. It is assumed that WMF-628 will have approximately the same estimated annual quantity as WMF-634, because it is also a characterization facility.

WMF-628 Estimated Annual Quantity = 880,040 tons/year

v. WSF Total Estimated Annual Quantity

Total WSF Estimated Annual Quantity =

WMF-634 Estimated Annual Quantity + Type II Module Estimated Annual Quantity + Type I Module Estimated Annual Quantity + WMF-628 Estimated Annual Quantity

Total WSF Estimated Annual Quantity = 880,040 tons/year + 10,223,736 tons/year + 604,547 tons/year + 880,040 tons/year

Total WSF Estimated Annual Quantity = 12,588,363 tons/year

B. SWEPP: Calculations for Estimated Annual Quantity

SWEPP/WMF-610 is a characterization facility. It is assumed that SWEPP will have approximately the same estimated annual quantity as WMF-634, because it is also a characterization facility.

SWEPP Estimated Annual Quantity = 880,040 tons/year

C. WMF-676: Calculations for Estimated Annual Quantity

Number of transport trailer shipments into the building = 1.7 trailers/day

Number of transport trailer shipments out of the building = 3.6 trailers/day

3.6 trailers/day is the maximum amount of waste shipped in or out of WMF-676.

Waste Shipments per Day = (3.6 trailers/day)(2) = 7.2 trailers/day

Daily Quantity = (7.2 trailers/day)(9.51 m^3/trailer)(1.1023 tons/m^3)

Daily Quantity = 75.5 tons/day

Max. Waste Quantity per Year = (75.5 tons/day)(365 days/year)

Max. Waste Quantity per Year = 27,557.5 tons/year

This number is then multiplied by ten to account for additional movement of waste throughout the year.

WMF-676 Estimated Annual Quantity = 275,575 tons/year

D. WMF-636 Pad 2: Calculation for Estimated Annual Quantity

Number of transport trailer shipments into the building = 13.4 trailers/day

Number of transport trailer shipments out of the building = 13.4 trailers/day

13.4 trailers/day is the maximum amount of waste shipped in or out of WMF-636 Pad 2.

Waste Shipments per Day = (13.4 trailers/day)(2) = 26.8 trailers/day

Daily Quantity = (26.8 trailers/day)(9.51 m^3/trailer)(1.1023 tons/m^3)

Daily Quantity = 280.9 tons/day

Max. Waste Quantity per Year = (280.9 tons/day)(365 days/year)

Max. Waste Quantity per Year = 102,528.5 tons/year

This number is then multiplied by ten to account for additional movement of waste throughout the year.

WMF-636 Pad 2 Estimated Annual Quantity = 1,025,285 tons/year

E. AMWTP Outside Storage Area: Calculation for Estimated Annual Quantity

Number of transport trailer shipments into the building = 7.2 trailers/day

Number of transport trailer shipments out of the building = 7.2 trailers/day

2.5 trailers/day is the maximum amount of waste shipped in or out of the AMWTP Outside Storage Area.

Waste Shipments per Day = (7.2ailers/day)(2) = 14.4 trailers/day

Daily Quantity = (14.4 trailers/day)(9.51 m^3/trailer)(1.1023 tons/m^3)

Daily Quantity = 151.0 tons/day

Max. Waste Quantity per Year = (151.0 tons/day)(365 days/year)

Max. Waste Quantity per Year = 55,115 tons/year

This number is then multiplied by ten to account for additional movement of waste throughout the year.

AMWTP Outside Storage Area Estimated Annual Quantity = 551,150 tons/year

3. Estimated Annual Quantity Treated by Absorption, Decanting, Neutralization, Repackaging, Physical Sizing, and Mechanical Vibration in WSF and SWEPP (Process Code T04)

The estimated daily quantity treated by absorption, decanting, neutralization, repackaging, physical sizing, and mechanical vibration in the WSF and SWEPP is 33,000 gallons/day (124.9 m^3/day). This was determined in the Supplement to Item 9.

Estimated Annual Quantity in the WSF and SWEPP = (124.9 m^3/day)(1.1023 tons/m^3)(365 days/year)

Estimated Annual Quantity in the WSF and SWEPP = 50,252 tons/year

4. Estimated Annual Quantity Treated by Macroencapsulation of Debris Waste in Stainless Steel Containers (Process Code T04)

The estimated daily quantity treated by macroencapsulation of debris waste in stainless steel containers is 5,280 gallons/day (20.0 m^3/day). This was determined in the Supplement to Item 9.

Estimated Annual Quantity for Macroencapsulation = (20.0 m^3/day)(1.1023 tons/m^3)(365 days/year)

Estimated Annual Quantity for Macroencapsulation = 8,047 tons/year

5. Estimated Annual Quantity for Pretreatment in WMF-676 (Process Code X02)

The estimated daily quantity pretreated in WMF-676 in two box lines and the drum repack system is 10,475 gallons/day (39.7 m^3/day) and 2,956 gallons/day (11.2 m^3/day) respectively. This was determined in the Supplement to Item 8.

Estimated Annual Quantity for Pretreatment in WMF-676 = (39.7 m^3/day + 11.2 m^3/day)(1.1023 tons/m^3)(365 days/year)

Estimated Annual Quantity for Pretreatment in WMF-676 = 20,479 tons/year

6. Estimated Annual Quantity for Supercompaction in WMF-676 (Process Code X99)

The estimated daily quantity supercompacted in WMF-676 is 10,312 gallons/day (39.0 m^3/day). This was determined in the Supplement to Item 9.

Estimated Annual Quantity for Supercompacted in WMF-676 = (39.0 m^3/day)(1.1023 tons/m^3)(365 days/year)

Estimated Annual Quantity Supercompacted in WMF-676 = 15,691 tons/year

7. Estimated Annual Quantity for SCW Treatment in WMF-676 (Process Code X99)

The estimated daily quantity pretreated in SCW treated in WMF-676 is 200 gallons/day (0.76 m^3/day). This was determined in the Supplement to Item 9.

Estimated Annual Quantity for SCW Treatment in WMF-676 = (0.76 m^3/day)(1.1023 tons/m^3)(365 days/year)

Estimated Annual Quantity for SCW Treatment in WMF-676 = 306 tons/year

8. Estimated Annual Quantity Treated by Absorption, Decanting, and Neutralization of Liquids in WMF-676 (Process Code T04)

The estimated daily quantity of liquids treated by absorption, decanting, and neutralization in WMF-676 is 13,200 gallons/day (50.0 m^3/day). This was determined in the Supplement to Item 9.

Estimated Annual Quantity Treated by Absorption, Decanting, and Neutralization of Liquids in WMF-676 = (50.0 m^3/day)(1.1023 tons/m^3)(365 days/year)

Estimated Annual Quantity Treated by Absorption, Decanting, and Neutralization of Liquids in WMF-676 = 20,117 tons/year

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number	*A. EPA Hazardous Waste No. (Enter code)*	*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
1	D001	12,588,363	T	S01	Waste Storage Facility (WSF)
2	D002				Included with above
3	D004				Included with above
4	D005				Included with above
5	D006				Included with above
6	D007				Included with above
7	D008				Included with above
8	D009				Included with above
9	D010				Included with above
10	D011				Included with above
11	D018				Included with above
12	D019				Included with above
13	D020				Included with above
14	D021				Included with above
15	D022				Included with above
16	D023				Included with above
17	D024				Included with above
18	D025				Included with above
19	D026				Included with above
20	D027				Included with above
21	D028				Included with above
22	D029				Included with above
23	D030				Included with above
24	D031				Included with above
25	D032				Included with above
26	D033				Included with above
27	D034				Included with above
28	D035				Included with above
29	D036				Included with above
30	D037				Included with above
31	D038				Included with above
32	D039				Included with above
33	D040				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number		*A. EPA Hazardous Waste No. (Enter code)*				*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*(2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
	1	D	0	4	1				Included with WSF, Page 5 (A-1) of 6, line 1
	2	D	0	4	2				Included with above
	3	D	0	4	3				Included with above
	4	F	0	0	1				Included with above
	5	F	0	0	2				Included with above
	6	F	0	0	3				Included with above
	7	F	0	0	4				Included with above
	8	F	0	0	5				Included with above
	9	F	0	0	6				Included with above
1	0	F	0	0	7				Included with above
1	1	F	0	0	9				Included with above
1	2	F	0	3	9				Included with above
1	3	P	0	0	5				Included with above
1	4	P	0	1	2				Included with above
1	5	P	0	1	5				Included with above
1	6	P	0	2	2				Included with above
1	7	P	0	2	4				Included with above
1	8	P	0	2	7				Included with above
1	9	P	0	2	8				Included with above
2	0	P	0	3	0				Included with above
2	1	P	0	3	1				Included with above
2	2	P	0	5	6				Included with above
2	3	P	0	7	3				Included with above
2	4	P	0	7	5				Included with above
2	5	P	0	7	7				Included with above
2	6	P	0	9	8				Included with above
2	7	P	0	9	9				Included with above
2	8	P	1	0	4				Included with above
2	9	P	1	0	5				Included with above
3	0	P	1	0	6				Included with above
3	1	P	1	1	3				Included with above
3	2	P	1	1	6				Included with above
3	3	P	1	1	9				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number		*A. EPA Hazardous Waste No. (Enter code)*				*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*(2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
	1	P	1	2	0				Included with WSF, Page 5 (A-1) of 6, line 1
	2	U	0	0	2				Included with above
	3	U	0	0	3				Included with above
	4	U	0	0	4				Included with above
	5	U	0	0	7				Included with above
	6	U	0	0	9				Included with above
	7	U	0	1	2				Included with above
	8	U	0	1	4				Included with above
	9	U	0	1	9				Included with above
1	0	U	0	2	0				Included with above
1	1	U	0	3	2				Included with above
1	2	U	0	3	7				Included with above
1	3	U	0	4	3				Included with above
1	4	U	0	4	4				Included with above
1	5	U	0	4	8				Included with above
1	6	U	0	5	2				Included with above
1	7	U	0	6	9				Included with above
1	8	U	0	7	0				Included with above
1	9	U	0	7	2				Included with above
2	0	U	0	7	8				Included with above
2	1	U	0	7	9				Included with above
2	2	U	0	8	0				Included with above
2	3	U	0	8	1				Included with above
2	4	U	0	8	3				Included with above
2	5	U	0	8	4				Included with above
2	6	U	1	0	2				Included with above
2	7	U	1	0	3				Included with above
2	8	U	1	0	5				Included with above
2	9	U	1	0	8				Included with above
3	0	U	1	1	6				Included with above
3	1	U	1	1	8				Included with above
3	2	U	1	2	0				Included with above
3	3	U	1	2	2				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number		*A. EPA Hazardous Waste No. (Enter code)*				*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*(2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
	1	U	1	2	3				**Included with WSF, Page 5 (A-1) of 6, line 1**
	2	U	1	2	7				**Included with above**
	3	U	1	2	8				**Included with above**
	4	U	1	3	1				**Included with above**
	5	U	1	3	3				**Included with above**
	6	U	1	3	4				**Included with above**
	7	U	1	3	5				**Included with above**
	8	U	1	3	8				**Included with above**
	9	U	1	4	0				**Included with above**
1	0	U	1	4	4				**Included with above**
1	1	U	1	4	5				**Included with above**
1	2	U	1	4	7				**Included with above**
1	3	U	1	5	1				**Included with above**
1	4	U	1	5	4				**Included with above**
1	5	U	1	5	9				**Included with above**
1	6	U	1	6	2				**Included with above**
1	7	U	1	6	5				**Included with above**
1	8	U	1	6	9				**Included with above**
1	9	U	1	7	0				**Included with above**
2	0	U	1	7	1				**Included with above**
2	1	U	1	8	2				**Included with above**
2	2	U	1	8	8				**Included with above**
2	3	U	1	9	0				**Included with above**
2	4	U	1	9	1				**Included with above**
2	5	U	1	9	6				**Included with above**
2	6	U	2	0	1				**Included with above**
2	7	U	2	0	4				**Included with above**
2	8	U	2	0	7				**Included with above**
2	9	U	2	0	8				**Included with above**
3	0	U	2	0	9				**Included with above**
3	1	U	2	1	0				**Included with above**
3	2	U	2	1	1				**Included with above**
3	3	U	2	1	5				**Included with above**

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)	D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
	1	U	2	1	7				Included with WSF, Page 5 (A-1) of 6, line 1
	2	U	2	1	8				Included with above
	3	U	2	1	9				Included with above
	4	U	2	2	0				Included with above
	5	U	2	2	5				Included with above
	6	U	2	2	6				Included with above
	7	U	2	2	7				Included with above
	8	U	2	2	8				Included with above
	9	U	2	3	9				Included with above
1	0	U	3	2	8				Included with above
1	1								
1	2								
1	3								
1	4								
1	5								
1	6								
1	7								
1	8								
1	9								
2	0								
2	1								
2	2								
2	3								
2	4								
2	5								
2	6								
2	7								
2	8								
2	9								
3	0								
3	1								
3	2								
3	3								

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number	*A. EPA Hazardous Waste No. (Enter code)*	*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
1	D001	50,252	T	T04	Absorption, Decanting, Neutralization, Repackaging, Physical Sizing, & Mechanical Vibration in the WSF and SWEPP
2	D002				Included with above
3	D004				Included with above
4	D005				Included with above
5	D006				Included with above
6	D007				Included with above
7	D008				Included with above
8	D009				Included with above
9	D010				Included with above
10	D011				Included with above
11	D018				Included with above
12	D019				Included with above
13	D020				Included with above
14	D021				Included with above
15	D022				Included with above
16	D023				Included with above
17	D024				Included with above
18	D025				Included with above
19	D026				Included with above
20	D027				Included with above
21	D028				Included with above
22	D029				Included with above
23	D030				Included with above
24	D031				Included with above
25	D032				Included with above
26	D033				Included with above
27	D034				Included with above
28	D035				Included with above
29	D036				Included with above
30	D037				Included with above
31	D038				Included with above
32	D039				Included with above
33	D040				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number	*A. EPA Hazardous Waste No. (Enter code)*	*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
1	D041				Included with Absorption, Decanting, Neutralization, Repackaging, Physical Sizing, & Mechanical Vibration in the WSF and SWEPP, Page 5 (B-1) of 6, line 1
2	D042				Included with above
3	D043				Included with above
4	F001				Included with above
5	F002				Included with above
6	F003				Included with above
7	F004				Included with above
8	F005				Included with above
9	F006				Included with above
10	F007				Included with above
11	F009				Included with above
12	F039				Included with above
13	P005				Included with above
14	P012				Included with above
15	P015				Included with above
16	P022				Included with above
17	P024				Included with above
18	P027				Included with above
19	P028				Included with above
20	P030				Included with above
21	P031				Included with above
22	P056				Included with above
23	P073				Included with above
24	P075				Included with above
25	P077				Included with above
26	P098				Included with above
27	P099				Included with above
28	P104				Included with above
29	P105				Included with above
30	P106				Included with above
31	P113				Included with above
32	P116				Included with above
33	P119				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)									(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
	1	P	1	2	0												Included with Absorption, Decanting, Neutralization, Repackaging, Physical Sizing, & Mechanical Vibration in the WSF and SWEPP, Page 5 (B-1) of 6, line 1
	2	U	0	0	2												Included with above
	3	U	0	0	3												Included with above
	4	U	0	0	4												Included with above
	5	U	0	0	7												Included with above
	6	U	0	0	9												Included with above
	7	U	0	1	2												Included with above
	8	U	0	1	4												Included with above
	9	U	0	1	9												Included with above
1	0	U	0	2	0												Included with above
1	1	U	0	3	2												Included with above
1	2	U	0	3	7												Included with above
1	3	U	0	4	3												Included with above
1	4	U	0	4	4												Included with above
1	5	U	0	4	8												Included with above
1	6	U	0	5	2												Included with above
1	7	U	0	6	9												Included with above
1	8	U	0	7	0												Included with above
1	9	U	0	7	2												Included with above
2	0	U	0	7	8												Included with above
2	1	U	0	7	9												Included with above
2	2	U	0	8	0												Included with above
2	3	U	0	8	1												Included with above
2	4	U	0	8	3												Included with above
2	5	U	0	8	4												Included with above
2	6	U	1	0	2												Included with above
2	7	U	1	0	3												Included with above
2	8	U	1	0	5												Included with above
2	9	U	1	0	8												Included with above
3	0	U	1	1	6												Included with above
3	1	U	1	1	8												Included with above
3	2	U	1	2	0												Included with above
3	3	U	1	2	2												Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number		*A. EPA Hazardous Waste No. (Enter code)*				*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
	1	U	1	2	3				Included with Absorption, Decanting, Neutralization, Repackaging, Physical Sizing, & Mechanical Vibration in the WSF and SWEPP, Page 5 (B-1) of 6, line 1
	2	U	1	2	7				Included with above
	3	U	1	2	8				Included with above
	4	U	1	3	1				Included with above
	5	U	1	3	3				Included with above
	6	U	1	3	4				Included with above
	7	U	1	3	5				Included with above
	8	U	1	3	8				Included with above
	9	U	1	4	0				Included with above
1	0	U	1	4	4				Included with above
1	1	U	1	4	5				Included with above
1	2	U	1	4	7				Included with above
1	3	U	1	5	1				Included with above
1	4	U	1	5	4				Included with above
1	5	U	1	5	9				Included with above
1	6	U	1	6	2				Included with above
1	7	U	1	6	5				Included with above
1	8	U	1	6	9				Included with above
1	9	U	1	7	0				Included with above
2	0	U	1	7	1				Included with above
2	1	U	1	8	2				Included with above
2	2	U	1	8	8				Included with above
2	3	U	1	9	0				Included with above
2	4	U	1	9	1				Included with above
2	5	U	1	9	6				Included with above
2	6	U	2	0	1				Included with above
2	7	U	2	0	4				Included with above
2	8	U	2	0	7				Included with above
2	9	U	2	0	8				Included with above
3	0	U	2	0	9				Included with above
3	1	U	2	1	0				Included with above
3	2	U	2	1	1				Included with above
3	3	U	2	1	5				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number	*A. EPA Hazardous Waste No. (Enter code)*	*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
1	U217				**Included with Absorption, Decanting, Neutralization, Repackaging, Physical Sizing, & Mechanical Vibration in the WSF and SWEPP, Page 5 (B-1) of 6, line 1**
2	U218				**Included with above**
3	U219				**Included with above**
4	U220				**Included with above**
5	U225				**Included with above**
6	U226				**Included with above**
7	U227				**Included with above**
8	U228				**Included with above**
9	U239				**Included with above**
10	U328				**Included with above**
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31					
32					
33					

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number		*A. EPA Hazardous Waste No. (Enter code)*				*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*									*(2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
	1	D	0	0	1	880,040	T	S	0	1							Stored Waste Examination Pilot Plant (WMF-610)
	2	D	0	0	2												Included with above
	3	D	0	0	4												Included with above
	4	D	0	0	5												Included with above
	5	D	0	0	6												Included with above
	6	D	0	0	7												Included with above
	7	D	0	0	8												Included with above
	8	D	0	0	9												Included with above
	9	D	0	1	0												Included with above
1	0	D	0	1	1												Included with above
1	1	D	0	1	8												Included with above
1	2	D	0	1	9												Included with above
1	3	D	0	2	0												Included with above
1	4	D	0	2	1												Included with above
1	5	D	0	2	2												Included with above
1	6	D	0	2	3												Included with above
1	7	D	0	2	4												Included with above
1	8	D	0	2	5												Included with above
1	9	D	0	2	6												Included with above
2	0	D	0	2	7												Included with above
2	1	D	0	2	8												Included with above
2	2	D	0	2	9												Included with above
2	3	D	0	3	0												Included with above
2	4	D	0	3	1												Included with above
2	5	D	0	3	2												Included with above
2	6	D	0	3	3												Included with above
2	7	D	0	3	4												Included with above
2	8	D	0	3	5												Included with above
2	9	D	0	3	6												Included with above
3	0	D	0	3	7												Included with above
3	1	D	0	3	8												Included with above
3	2	D	0	3	9												Included with above
3	3	D	0	4	0												Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number	*A. EPA Hazardous Waste No. (Enter code)*	*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
1	D041				Included with SWEPP, Page 5 (C-1) of 6, line 1
2	D042				Included with above
3	D043				Included with above
4	F001				Included with above
5	F002				Included with above
6	F003				Included with above
7	F004				Included with above
8	F005				Included with above
9	F006				Included with above
10	F007				Included with above
11	F009				Included with above
12	F039				Included with above
13	P005				Included with above
14	P012				Included with above
15	P015				Included with above
16	P022				Included with above
17	P024				Included with above
18	P027				Included with above
19	P028				Included with above
20	P030				Included with above
21	P031				Included with above
22	P056				Included with above
23	P073				Included with above
24	P075				Included with above
25	P077				Included with above
26	P098				Included with above
27	P099				Included with above
28	P104				Included with above
29	P105				Included with above
30	P106				Included with above
31	P113				Included with above
32	P116				Included with above
33	P119				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number	*A. EPA Hazardous Waste No. (Enter code)*	*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
1	P120				Included with SWEPP, Page 5 (C-1) of 6, line 1
2	U002				Included with above
3	U003				Included with above
4	U004				Included with above
5	U007				Included with above
6	U009				Included with above
7	U012				Included with above
8	U014				Included with above
9	U019				Included with above
10	U020				Included with above
11	U032				Included with above
12	U037				Included with above
13	U043				Included with above
14	U044				Included with above
15	U048				Included with above
16	U052				Included with above
17	U069				Included with above
18	U070				Included with above
19	U072				Included with above
20	U078				Included with above
21	U079				Included with above
22	U080				Included with above
23	U081				Included with above
24	U083				Included with above
25	U084				Included with above
26	U102				Included with above
27	U103				Included with above
28	U105				Included with above
29	U108				Included with above
30	U116				Included with above
31	U118				Included with above
32	U120				Included with above
33	U122				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number		*A. EPA Hazardous Waste No. (Enter code)*				*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*(2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
	1	U	1	2	3				Included with SWEPP, Page 5 (C-1) of 6, line 1
	2	U	1	2	7				Included with above
	3	U	1	2	8				Included with above
	4	U	1	3	1				Included with above
	5	U	1	3	3				Included with above
	6	U	1	3	4				Included with above
	7	U	1	3	5				Included with above
	8	U	1	3	8				Included with above
	9	U	1	4	0				Included with above
1	0	U	1	4	4				Included with above
1	1	U	1	4	5				Included with above
1	2	U	1	4	7				Included with above
1	3	U	1	5	1				Included with above
1	4	U	1	5	4				Included with above
1	5	U	1	5	9				Included with above
1	6	U	1	6	2				Included with above
1	7	U	1	6	5				Included with above
1	8	U	1	6	9				Included with above
1	9	U	1	7	0				Included with above
2	0	U	1	7	1				Included with above
2	1	U	1	8	2				Included with above
2	2	U	1	8	8				Included with above
2	3	U	1	9	0				Included with above
2	4	U	1	9	1				Included with above
2	5	U	1	9	6				Included with above
2	6	U	2	0	1				Included with above
2	7	U	2	0	4				Included with above
2	8	U	2	0	7				Included with above
2	9	U	2	0	8				Included with above
3	0	U	2	0	9				Included with above
3	1	U	2	1	0				Included with above
3	2	U	2	1	1				Included with above
3	3	U	2	1	5				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number		*A. EPA Hazardous Waste No. (Enter code)*				*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
	1	U	2	1	7				Included with SWEPP, Page 5 (C-1) of 6, line 1
	2	U	2	1	8				Included with above
	3	U	2	1	9				Included with above
	4	U	2	2	0				Included with above
	5	U	2	2	5				Included with above
	6	U	2	2	6				Included with above
	7	U	2	2	7				Included with above
	8	U	2	2	8				Included with above
	9	U	2	3	9				Included with above
1	0	U	3	2	8				Included with above
1	1								
1	2								
1	3								
1	4								
1	5								
1	6								
1	7								
1	8								
1	9								
2	0								
2	1								
2	2								
2	3								
2	4								
2	5								
2	6								
2	7								
2	8								
2	9								
3	0								
3	1								
3	2								
3	3								

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number		*A. EPA Hazardous Waste No. (Enter code)*				*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*									*(2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
	1	D	0	0	1	8,047	T	T	0	4							Macroencapsulation in the WSF, SWEPP, WMF-636 Pad 2, and AMWTP Outside Storage Area
	2	D	0	0	2												Included with above
	3	D	0	0	4												Included with above
	4	D	0	0	5												Included with above
	5	D	0	0	6												Included with above
	6	D	0	0	7												Included with above
	7	D	0	0	8												Included with above
	8	D	0	0	9												Included with above
	9	D	0	1	0												Included with above
1	0	D	0	1	1												Included with above
1	1	D	0	1	8												Included with above
1	2	D	0	1	9												Included with above
1	3	D	0	2	0												Included with above
1	4	D	0	2	1												Included with above
1	5	D	0	2	2												Included with above
1	6	D	0	2	3												Included with above
1	7	D	0	2	4												Included with above
1	8	D	0	2	5												Included with above
1	9	D	0	2	6												Included with above
2	0	D	0	2	7												Included with above
2	1	D	0	2	8												Included with above
2	2	D	0	2	9												Included with above
2	3	D	0	3	0												Included with above
2	4	D	0	3	1												Included with above
2	5	D	0	3	2												Included with above
2	6	D	0	3	3												Included with above
2	7	D	0	3	4												Included with above
2	8	D	0	3	5												Included with above
2	9	D	0	3	6												Included with above
3	0	D	0	3	7												Included with above
3	1	D	0	3	8												Included with above
3	2	D	0	3	9												Included with above
3	3	D	0	4	0												Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number		*A. EPA Hazardous Waste No. (Enter code)*				*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
	1	D	0	4	1				Included with Macroencapsulation in the WSF, SWEPP, WMF-636 Pad 2, and AMWTP Outside Storage Area, Page 5 (D-1) of 6, line 1
	2	D	0	4	2				Included with above
	3	D	0	4	3				Included with above
	4	F	0	0	1				Included with above
	5	F	0	0	2				Included with above
	6	F	0	0	3				Included with above
	7	F	0	0	4				Included with above
	8	F	0	0	5				Included with above
	9	F	0	0	6				Included with above
1	0	F	0	0	7				Included with above
1	1	F	0	0	9				Included with above
1	2	F	0	3	9				Included with above
1	3	P	0	0	5				Included with above
1	4	P	0	1	2				Included with above
1	5	P	0	1	5				Included with above
1	6	P	0	2	2				Included with above
1	7	P	0	2	4				Included with above
1	8	P	0	2	7				Included with above
1	9	P	0	2	8				Included with above
2	0	P	0	3	0				Included with above
2	1	P	0	3	1				Included with above
2	2	P	0	5	6				Included with above
2	3	P	0	7	3				Included with above
2	4	P	0	7	5				Included with above
2	5	P	0	7	7				Included with above
2	6	P	0	9	8				Included with above
2	7	P	0	9	9				Included with above
2	8	P	1	0	4				Included with above
2	9	P	1	0	5				Included with above
3	0	P	1	0	6				Included with above
3	1	P	1	1	3				Included with above
3	2	P	1	1	6				Included with above
3	3	P	1	1	9				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number	*A. EPA Hazardous Waste No. (Enter code)*	*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
1	P120				Included with Macroencapsulation in the WSF, SWEPP, WMF-636 Pad 2, and AMWTP Outside Storage Area, Page 5 (D-1) of 6, line 1
2	U002				Included with above
3	U003				Included with above
4	U004				Included with above
5	U007				Included with above
6	U009				Included with above
7	U012				Included with above
8	U014				Included with above
9	U019				Included with above
10	U020				Included with above
11	U032				Included with above
12	U037				Included with above
13	U043				Included with above
14	U044				Included with above
15	U048				Included with above
16	U052				Included with above
17	U069				Included with above
18	U070				Included with above
19	U072				Included with above
20	U078				Included with above
21	U079				Included with above
22	U080				Included with above
23	U081				Included with above
24	U083				Included with above
25	U084				Included with above
26	U102				Included with above
27	U103				Included with above
28	U105				Included with above
29	U108				Included with above
30	U116				Included with above
31	U118				Included with above
32	U120				Included with above
33	U122				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number	*A. EPA Hazardous Waste No. (Enter code)*	*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
1	U123				Included with Macroencapsulation in the WSF, SWEPP, WMF-636 Pad 2, and AMWTP Outside Storage Area, Page 5 (D-1) of 6, line 1
2	U127				Included with above
3	U128				Included with above
4	U131				Included with above
5	U133				Included with above
6	U134				Included with above
7	U135				Included with above
8	U138				Included with above
9	U140				Included with above
10	U144				Included with above
11	U145				Included with above
12	U147				Included with above
13	U151				Included with above
14	U154				Included with above
15	U159				Included with above
16	U162				Included with above
17	U165				Included with above
18	U169				Included with above
19	U170				Included with above
20	U171				Included with above
21	U182				Included with above
22	U188				Included with above
23	U190				Included with above
24	U191				Included with above
25	U196				Included with above
26	U201				Included with above
27	U204				Included with above
28	U207				Included with above
29	U208				Included with above
30	U209				Included with above
31	U210				Included with above
32	U211				Included with above
33	U215				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number		*A. EPA Hazardous Waste No. (Enter code)*				*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*									*D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
	1	U	2	1	7												Included with Macroencapsulation in the WSF, SWEPP, WMF-636 Pad 2, and AMWTP Outside Storage Area, Page 5 (D-1) of 6, line 1
	2	U	2	1	8												Included with above
	3	U	2	1	9												Included with above
	4	U	2	2	0												Included with above
	5	U	2	2	5												Included with above
	6	U	2	2	6												Included with above
	7	U	2	2	7												Included with above
	8	U	2	2	8												Included with above
	9	U	2	3	9												Included with above
1	0	U	3	2	8												Included with above
1	1																
1	2																
1	3																
1	4																
1	5																
1	6																
1	7																
1	8																
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2	9																
3	0																
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3	2																
3	3																

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number	*A. EPA Hazardous Waste No. (Enter code)*	*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
1	D001	1,025,285	T	S01	**WMF-636 Pad 2**
2	D002				Included with above
3	D004				Included with above
4	D005				Included with above
5	D006				Included with above
6	D007				Included with above
7	D008				Included with above
8	D009				Included with above
9	D010				Included with above
10	D011				Included with above
11	D018				Included with above
12	D019				Included with above
13	D020				Included with above
14	D021				Included with above
15	D022				Included with above
16	D023				Included with above
17	D024				Included with above
18	D025				Included with above
19	D026				Included with above
20	D027				Included with above
21	D028				Included with above
22	D029				Included with above
23	D030				Included with above
24	D031				Included with above
25	D032				Included with above
26	D033				Included with above
27	D034				Included with above
28	D035				Included with above
29	D036				Included with above
30	D037				Included with above
31	D038				Included with above
32	D039				Included with above
33	D040				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number		*A. EPA Hazardous Waste No. (Enter code)*				*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*(2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
	1	D	0	4	1				**Included with WMF-636 Pad 2 Page 5 (E-1) of 6, line 1**
	2	D	0	4	2				**Included with above**
	3	D	0	4	3				**Included with above**
	4	F	0	0	1				**Included with above**
	5	F	0	0	2				**Included with above**
	6	F	0	0	3				**Included with above**
	7	F	0	0	4				**Included with above**
	8	F	0	0	5				**Included with above**
	9	F	0	0	6				**Included with above**
1	0	F	0	0	7				**Included with above**
1	1	F	0	0	9				**Included with above**
1	2	F	0	3	9				**Included with above**
1	3	P	0	0	5				**Included with above**
1	4	P	0	1	2				**Included with above**
1	5	P	0	1	5				**Included with above**
1	6	P	0	2	2				**Included with above**
1	7	P	0	2	4				**Included with above**
1	8	P	0	2	7				**Included with above**
1	9	P	0	2	8				**Included with above**
2	0	P	0	3	0				**Included with above**
2	1	P	0	3	1				**Included with above**
2	2	P	0	5	6				**Included with above**
2	3	P	0	7	3				**Included with above**
2	4	P	0	7	5				**Included with above**
2	5	P	0	7	7				**Included with above**
2	6	P	0	9	8				**Included with above**
2	7	P	0	9	9				**Included with above**
2	8	P	1	0	4				**Included with above**
2	9	P	1	0	5				**Included with above**
3	0	P	1	0	6				**Included with above**
3	1	P	1	1	3				**Included with above**
3	2	P	1	1	6				**Included with above**
3	3	P	1	1	9				**Included with above**

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)									(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
	1	P	1	2	0												Included with WMF-636 Pad 2 Page 5 (E-1) of 6, line 1
	2	U	0	0	2												Included with above
	3	U	0	0	3												Included with above
	4	U	0	0	4												Included with above
	5	U	0	0	7												Included with above
	6	U	0	0	9												Included with above
	7	U	0	1	2												Included with above
	8	U	0	1	4												Included with above
	9	U	0	1	9												Included with above
1	0	U	0	2	0												Included with above
1	1	U	0	3	2												Included with above
1	2	U	0	3	7												Included with above
1	3	U	0	4	3												Included with above
1	4	U	0	4	4												Included with above
1	5	U	0	4	8												Included with above
1	6	U	0	5	2												Included with above
1	7	U	0	6	9												Included with above
1	8	U	0	7	0												Included with above
1	9	U	0	7	2												Included with above
2	0	U	0	7	8												Included with above
2	1	U	0	7	9												Included with above
2	2	U	0	8	0												Included with above
2	3	U	0	8	1												Included with above
2	4	U	0	8	3												Included with above
2	5	U	0	8	4												Included with above
2	6	U	1	0	2												Included with above
2	7	U	1	0	3												Included with above
2	8	U	1	0	5												Included with above
2	9	U	1	0	8												Included with above
3	0	U	1	1	6												Included with above
3	1	U	1	1	8												Included with above
3	2	U	1	2	0												Included with above
3	3	U	1	2	2												Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number	*A. EPA Hazardous Waste No. (Enter code)*	*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
1	U123				Included with WMF-636 Page 2 Page 5 (E-1) of 6, line 1
2	U127				Included with above
3	U128				Included with above
4	U131				Included with above
5	U133				Included with above
6	U134				Included with above
7	U135				Included with above
8	U138				Included with above
9	U140				Included with above
10	U144				Included with above
11	U145				Included with above
12	U147				Included with above
13	U151				Included with above
14	U154				Included with above
15	U159				Included with above
16	U162				Included with above
17	U165				Included with above
18	U169				Included with above
19	U170				Included with above
20	U171				Included with above
21	U182				Included with above
22	U188				Included with above
23	U190				Included with above
24	U191				Included with above
25	U196				Included with above
26	U201				Included with above
27	U204				Included with above
28	U207				Included with above
29	U208				Included with above
30	U209				Included with above
31	U210				Included with above
32	U211				Included with above
33	U215				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number		*A. EPA Hazardous Waste No. (Enter code)*				*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
	1	U	2	1	7				Included with WMF-636 Pad 2 Page 5 (E-1) of 6, line 1
	2	U	2	1	8				Included with above
	3	U	2	1	9				Included with above
	4	U	2	2	0				Included with above
	5	U	2	2	5				Included with above
	6	U	2	2	6				Included with above
	7	U	2	2	7				Included with above
	8	U	2	2	8				Included with above
	9	U	2	3	9				Included with above
1	0	U	3	2	8				Included with above
1	1								
1	2								
1	3								
1	4								
1	5								
1	6								
1	7								
1	8								
1	9								
2	0								
2	1								
2	2								
2	3								
2	4								
2	5								
2	6								
2	7								
2	8								
2	9								
3	0								
3	1								
3	2								
3	3								

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number	*A. EPA Hazardous Waste No. (Enter code)*	*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
1	D001	551,150	T	S01	AMWTP Outside Storage Area
2	D002				Included with above
3	D004				Included with above
4	D005				Included with above
5	D006				Included with above
6	D007				Included with above
7	D008				Included with above
8	D009				Included with above
9	D010				Included with above
10	D011				Included with above
11	D018				Included with above
12	D019				Included with above
13	D020				Included with above
14	D021				Included with above
15	D022				Included with above
16	D023				Included with above
17	D024				Included with above
18	D025				Included with above
19	D026				Included with above
20	D027				Included with above
21	D028				Included with above
22	D029				Included with above
23	D030				Included with above
24	D031				Included with above
25	D032				Included with above
26	D033				Included with above
27	D034				Included with above
28	D035				Included with above
29	D036				Included with above
30	D037				Included with above
31	D038				Included with above
32	D039				Included with above
33	D040				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)	D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
	1	D	0	4	1				**Included with AMWTP Outside Storage Area Page 5 (F-1) of 6, line 1**
	2	D	0	4	2				Included with above
	3	D	0	4	3				Included with above
	4	F	0	0	1				Included with above
	5	F	0	0	2				Included with above
	6	F	0	0	3				Included with above
	7	F	0	0	4				Included with above
	8	F	0	0	5				Included with above
	9	F	0	0	6				Included with above
1	0	F	0	0	7				Included with above
1	1	F	0	0	9				Included with above
1	2	F	0	3	9				Included with above
1	3	P	0	0	5				Included with above
1	4	P	0	1	2				Included with above
1	5	P	0	1	5				Included with above
1	6	P	0	2	2				Included with above
1	7	P	0	2	4				Included with above
1	8	P	0	2	7				Included with above
1	9	P	0	2	8				Included with above
2	0	P	0	3	0				Included with above
2	1	P	0	3	1				Included with above
2	2	P	0	5	6				Included with above
2	3	P	0	7	3				Included with above
2	4	P	0	7	5				Included with above
2	5	P	0	7	7				Included with above
2	6	P	0	9	8				Included with above
2	7	P	0	9	9				Included with above
2	8	P	1	0	4				Included with above
2	9	P	1	0	5				Included with above
3	0	P	1	0	6				Included with above
3	1	P	1	1	3				Included with above
3	2	P	1	1	6				Included with above
3	3	P	1	1	9				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number	A. EPA Hazardous Waste No. (Enter code)	B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)	D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
1	P120				Included with AMWTP Outside Storage Area Page 5 (F-1) of 6, line 1
2	U002				Included with above
3	U003				Included with above
4	U004				Included with above
5	U007				Included with above
6	U009				Included with above
7	U012				Included with above
8	U014				Included with above
9	U019				Included with above
10	U020				Included with above
11	U032				Included with above
12	U037				Included with above
13	U043				Included with above
14	U044				Included with above
15	U048				Included with above
16	U052				Included with above
17	U069				Included with above
18	U070				Included with above
19	U072				Included with above
20	U078				Included with above
21	U079				Included with above
22	U080				Included with above
23	U081				Included with above
24	U083				Included with above
25	U084				Included with above
26	U102				Included with above
27	U103				Included with above
28	U105				Included with above
29	U108				Included with above
30	U116				Included with above
31	U118				Included with above
32	U120				Included with above
33	U122				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number	*A. EPA Hazardous Waste No. (Enter code)*	*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
1	U123				**Included with AMWTP Outside Storage Area Page 5 (F-1) of 6, line 1**
2	U127				Included with above
3	U128				Included with above
4	U131				Included with above
5	U133				Included with above
6	U134				Included with above
7	U135				Included with above
8	U138				Included with above
9	U140				Included with above
10	U144				Included with above
11	U145				Included with above
12	U147				Included with above
13	U151				Included with above
14	U154				Included with above
15	U159				Included with above
16	U162				Included with above
17	U165				Included with above
18	U169				Included with above
19	U170				Included with above
20	U171				Included with above
21	U182				Included with above
22	U188				Included with above
23	U190				Included with above
24	U191				Included with above
25	U196				Included with above
26	U201				Included with above
27	U204				Included with above
28	U207				Included with above
29	U208				Included with above
30	U209				Included with above
31	U210				Included with above
32	U211				Included with above
33	U215				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number	A. EPA Hazardous Waste No. (Enter code)	B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)	D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
1	U217				Included with AMWTP Outside Storage Area Page 5 (F-1) of 6, line 1
2	U218				Included with above
3	U219				Included with above
4	U220				Included with above
5	U225				Included with above
6	U226				Included with above
7	U227				Included with above
8	U228				Included with above
9	U239				Included with above
10	U328				Included with above
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9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number	*A. EPA Hazardous Waste No. (Enter code)*	*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
1	D001	20,479	T	X02	PRETREATMENT (PT) in WMF-676
2	D002				Included with above
3	D004				Included with above
4	D005				Included with above
5	D006				Included with above
6	D007				Included with above
7	D008				Included with above
8	D009				Included with above
9	D010				Included with above
10	D011				Included with above
11	D018				Included with above
12	D019				Included with above
13	D020				Included with above
14	D021				Included with above
15	D022				Included with above
16	D023				Included with above
17	D024				Included with above
18	D025				Included with above
19	D026				Included with above
20	D027				Included with above
21	D028				Included with above
22	D029				Included with above
23	D030				Included with above
24	D031				Included with above
25	D032				Included with above
26	D033				Included with above
27	D034				Included with above
28	D035				Included with above
29	D036				Included with above
30	D037				Included with above
31	D038				Included with above
32	D039				Included with above
33	D040				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number	A. EPA Hazardous Waste No. (Enter code)	B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)	D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
1	D041				Included with PT in WMF-676, Page 5 (G-1) of 6, line 1
2	D042				Included with above
3	D043				Included with above
4	F001				Included with above
5	F002				Included with above
6	F003				Included with above
7	F004				Included with above
8	F005				Included with above
9	F006				Included with above
10	F007				Included with above
11	F009				Included with above
12	F039				Included with above
13	P005				Included with above
14	P012				Included with above
15	P015				Included with above
16	P022				Included with above
17	P024				Included with above
18	P027				Included with above
19	P028				Included with above
20	P030				Included with above
21	P031				Included with above
22	P056				Included with above
23	P073				Included with above
24	P075				Included with above
25	P077				Included with above
26	P098				Included with above
27	P099				Included with above
28	P104				Included with above
29	P105				Included with above
30	P106				Included with above
31	P113				Included with above
32	P116				Included with above
33	P119				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number	*A. EPA Hazardous Waste No. (Enter code)*	*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
1	P120				Included with PT in WMF-676, Page 5 (G-1) of 6, line 1
2	U002				Included with above
3	U003				Included with above
4	U004				Included with above
5	U007				Included with above
6	U009				Included with above
7	U012				Included with above
8	U014				Included with above
9	U019				Included with above
10	U020				Included with above
11	U032				Included with above
12	U037				Included with above
13	U043				Included with above
14	U044				Included with above
15	U048				Included with above
16	U052				Included with above
17	U069				Included with above
18	U070				Included with above
19	U072				Included with above
20	U078				Included with above
21	U079				Included with above
22	U080				Included with above
23	U081				Included with above
24	U083				Included with above
25	U084				Included with above
26	U102				Included with above
27	U103				Included with above
28	U105				Included with above
29	U108				Included with above
30	U116				Included with above
31	U118				Included with above
32	U120				Included with above
33	U122				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number	*A. EPA Hazardous Waste No. (Enter code)*	*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
1	U123				**Included with PT in WMF-676, Page 5 (G-1) of 6, line 1**
2	U127				**Included with above**
3	U128				**Included with above**
4	U131				**Included with above**
5	U133				**Included with above**
6	U134				**Included with above**
7	U135				**Included with above**
8	U138				**Included with above**
9	U140				**Included with above**
10	U144				**Included with above**
11	U145				**Included with above**
12	U147				**Included with above**
13	U151				**Included with above**
14	U154				**Included with above**
15	U159				**Included with above**
16	U162				**Included with above**
17	U165				**Included with above**
18	U169				**Included with above**
19	U170				**Included with above**
20	U171				**Included with above**
21	U182				**Included with above**
22	U188				**Included with above**
23	U190				**Included with above**
24	U191				**Included with above**
25	U196				**Included with above**
26	U201				**Included with above**
27	U204				**Included with above**
28	U207				**Included with above**
29	U208				**Included with above**
30	U209				**Included with above**
31	U210				**Included with above**
32	U211				**Included with above**
33	U215				**Included with above**

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number		*A. EPA Hazardous Waste No. (Enter code)*				*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*(2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
	1	U	2	1	7				Included with PT in WMF-676, Page 5 (G-1) of 6, line 1
	2	U	2	1	8				Included with above
	3	U	2	1	9				Included with above
	4	U	2	2	0				Included with above
	5	U	2	2	5				Included with above
	6	U	2	2	6				Included with above
	7	U	2	2	7				Included with above
	8	U	2	2	8				Included with above
	9	U	2	3	9				Included with above
1	0	U	3	2	8				Included with above
1	1								
1	2								
1	3								
1	4								
1	5								
1	6								
1	7								
1	8								
1	9								
2	0								
2	1								
2	2								
2	3								
2	4								
2	5								
2	6								
2	7								
2	8								
2	9								
3	0								
3	1								
3	2								
3	3								

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number	*A. EPA Hazardous Waste No. (Enter code)*	*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
1	D001	15,691	T	X99	Supercompactor in WMF-676
2	D002				Included with above
3	D004				Included with above
4	D005				Included with above
5	D006				Included with above
6	D007				Included with above
7	D008				Included with above
8	D009				Included with above
9	D010				Included with above
10	D011				Included with above
11	D018				Included with above
12	D019				Included with above
13	D020				Included with above
14	D021				Included with above
15	D022				Included with above
16	D023				Included with above
17	D024				Included with above
18	D025				Included with above
19	D026				Included with above
20	D027				Included with above
21	D028				Included with above
22	D029				Included with above
23	D030				Included with above
24	D031				Included with above
25	D032				Included with above
26	D033				Included with above
27	D034				Included with above
28	D035				Included with above
29	D036				Included with above
30	D037				Included with above
31	D038				Included with above
32	D039				Included with above
33	D040				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number		*A. EPA Hazardous Waste No. (Enter code)*				*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
	1	D	0	4	1				Included with SC in WMF-676, Page 5 (H-1) of 6, line 1
	2	D	0	4	2				Included with above
	3	D	0	4	3				Included with above
	4	F	0	0	1				Included with above
	5	F	0	0	2				Included with above
	6	F	0	0	3				Included with above
	7	F	0	0	4				Included with above
	8	F	0	0	5				Included with above
	9	F	0	0	6				Included with above
1	0	F	0	0	7				Included with above
1	1	F	0	0	9				Included with above
1	2	F	0	3	9				Included with above
1	3	P	0	0	5				Included with above
1	4	P	0	1	2				Included with above
1	5	P	0	1	5				Included with above
1	6	P	0	2	2				Included with above
1	7	P	0	2	4				Included with above
1	8	P	0	2	7				Included with above
1	9	P	0	2	8				Included with above
2	0	P	0	3	0				Included with above
2	1	P	0	3	1				Included with above
2	2	P	0	5	6				Included with above
2	3	P	0	7	3				Included with above
2	4	P	0	7	5				Included with above
2	5	P	0	7	7				Included with above
2	6	P	0	9	8				Included with above
2	7	P	0	9	9				Included with above
2	8	P	1	0	4				Included with above
2	9	P	1	0	5				Included with above
3	0	P	1	0	6				Included with above
3	1	P	1	1	3				Included with above
3	2	P	1	1	6				Included with above
3	3	P	1	1	9				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number	A. EPA Hazardous Waste No. (Enter code)	B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	D. PROCESSES	
				(1) PROCESS CODES (Enter code)	(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
1	P120				Included with SC in WMF-676, Page 5 (H-1) of 6, line 1
2	U002				Included with above
3	U003				Included with above
4	U004				Included with above
5	U007				Included with above
6	U009				Included with above
7	U012				Included with above
8	U014				Included with above
9	U019				Included with above
10	U020				Included with above
11	U032				Included with above
12	U037				Included with above
13	U043				Included with above
14	U044				Included with above
15	U048				Included with above
16	U052				Included with above
17	U069				Included with above
18	U070				Included with above
19	U072				Included with above
20	U078				Included with above
21	U079				Included with above
22	U080				Included with above
23	U081				Included with above
24	U083				Included with above
25	U084				Included with above
26	U102				Included with above
27	U103				Included with above
28	U105				Included with above
29	U108				Included with above
30	U116				Included with above
31	U118				Included with above
32	U120				Included with above
33	U122				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number	*A. EPA Hazardous Waste No. (Enter code)*	*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
1	U123				Included with SC in WMF-676, Page 5 (H-1) of 6, line 1
2	U127				Included with above
3	U128				Included with above
4	U131				Included with above
5	U133				Included with above
6	U134				Included with above
7	U135				Included with above
8	U138				Included with above
9	U140				Included with above
10	U144				Included with above
11	U145				Included with above
12	U147				Included with above
13	U151				Included with above
14	U154				Included with above
15	U159				Included with above
16	U162				Included with above
17	U165				Included with above
18	U169				Included with above
19	U170				Included with above
20	U171				Included with above
21	U182				Included with above
22	U188				Included with above
23	U190				Included with above
24	U191				Included with above
25	U196				Included with above
26	U201				Included with above
27	U204				Included with above
28	U207				Included with above
29	U208				Included with above
30	U209				Included with above
31	U210				Included with above
32	U211				Included with above
33	U215				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number	*A. EPA Hazardous Waste No. (Enter code)*	*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
1	U217				Included with SC in WMF-676, Page 5 (H-1) of 6, line 1
2	U218				Included with above
3	U219				Included with above
4	U220				Included with above
5	U225				Included with above
6	U226				Included with above
7	U227				Included with above
8	U228				Included with above
9	U239				Included with above
10	U328				Included with above
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9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number	*A. EPA Hazardous Waste No. (Enter code)*	*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
1	D001	306	T	X99	SCW in WMF-676
2	D002				Included with above
3	D004				Included with above
4	D005				Included with above
5	D006				Included with above
6	D007				Included with above
7	D008				Included with above
8	D009				Included with above
9	D010				Included with above
10	D011				Included with above
11	D018				Included with above
12	D019				Included with above
13	D020				Included with above
14	D021				Included with above
15	D022				Included with above
16	D023				Included with above
17	D024				Included with above
18	D025				Included with above
19	D026				Included with above
20	D027				Included with above
21	D028				Included with above
22	D029				Included with above
23	D030				Included with above
24	D031				Included with above
25	D032				Included with above
26	D033				Included with above
27	D034				Included with above
28	D035				Included with above
29	D036				Included with above
30	D037				Included with above
31	D038				Included with above
32	D039				Included with above
33	D040				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number		*A. EPA Hazardous Waste No. (Enter code)*				*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
	1	D	0	4	1				Included with SCW in WMF-676, Page 5 (I-1) of 6, line 1
	2	D	0	4	2				Included with above
	3	D	0	4	3				Included with above
	4	F	0	0	1				Included with above
	5	F	0	0	2				Included with above
	6	F	0	0	3				Included with above
	7	F	0	0	4				Included with above
	8	F	0	0	5				Included with above
	9	F	0	0	6				Included with above
1	0	F	0	0	7				Included with above
1	1	F	0	0	9				Included with above
1	2	F	0	3	9				Included with above
1	3	P	0	0	5				Included with above
1	4	P	0	1	2				Included with above
1	5	P	0	1	5				Included with above
1	6	P	0	2	2				Included with above
1	7	P	0	2	4				Included with above
1	8	P	0	2	7				Included with above
1	9	P	0	2	8				Included with above
2	0	P	0	3	0				Included with above
2	1	P	0	3	1				Included with above
2	2	P	0	5	6				Included with above
2	3	P	0	7	3				Included with above
2	4	P	0	7	5				Included with above
2	5	P	0	7	7				Included with above
2	6	P	0	9	8				Included with above
2	7	P	0	9	9				Included with above
2	8	P	1	0	4				Included with above
2	9	P	1	0	5				Included with above
3	0	P	1	0	6				Included with above
3	1	P	1	1	3				Included with above
3	2	P	1	1	6				Included with above
3	3	P	1	1	9				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number		*A. EPA Hazardous Waste No. (Enter code)*				*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*(2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
	1	P	1	2	0				Included with SCW in WMF-676, Page 5 (I-1) of 6, line 1
	2	U	0	0	2				Included with above
	3	U	0	0	3				Included with above
	4	U	0	0	4				Included with above
	5	U	0	0	7				Included with above
	6	U	0	0	9				Included with above
	7	U	0	1	2				Included with above
	8	U	0	1	4				Included with above
	9	U	0	1	9				Included with above
1	0	U	0	2	0				Included with above
1	1	U	0	3	2				Included with above
1	2	U	0	3	7				Included with above
1	3	U	0	4	3				Included with above
1	4	U	0	4	4				Included with above
1	5	U	0	4	8				Included with above
1	6	U	0	5	2				Included with above
1	7	U	0	6	9				Included with above
1	8	U	0	7	0				Included with above
1	9	U	0	7	2				Included with above
2	0	U	0	7	8				Included with above
2	1	U	0	7	9				Included with above
2	2	U	0	8	0				Included with above
2	3	U	0	8	1				Included with above
2	4	U	0	8	3				Included with above
2	5	U	0	8	4				Included with above
2	6	U	1	0	2				Included with above
2	7	U	1	0	3				Included with above
2	8	U	1	0	5				Included with above
2	9	U	1	0	8				Included with above
3	0	U	1	1	6				Included with above
3	1	U	1	1	8				Included with above
3	2	U	1	2	0				Included with above
3	3	U	1	2	2				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number	*A. EPA Hazardous Waste No. (Enter code)*	*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
1	U123				Included with SCW in WMF-676, Page 5 (I-1) of 6, line 1
2	U127				Included with above
3	U128				Included with above
4	U131				Included with above
5	U133				Included with above
6	U134				Included with above
7	U135				Included with above
8	U138				Included with above
9	U140				Included with above
10	U144				Included with above
11	U145				Included with above
12	U147				Included with above
13	U151				Included with above
14	U154				Included with above
15	U159				Included with above
16	U162				Included with above
17	U165				Included with above
18	U169				Included with above
19	U170				Included with above
20	U171				Included with above
21	U182				Included with above
22	U188				Included with above
23	U190				Included with above
24	U191				Included with above
25	U196				Included with above
26	U201				Included with above
27	U204				Included with above
28	U207				Included with above
29	U208				Included with above
30	U209				Included with above
31	U210				Included with above
32	U211				Included with above
33	U215				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number		*A. EPA Hazardous Waste No. (Enter code)*				*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
	1	U	2	1	7				Included with SCW in WMF-676, Page 5 (I-1) of 6, line 1
	2	U	2	1	8				Included with above
	3	U	2	1	9				Included with above
	4	U	2	2	0				Included with above
	5	U	2	2	5				Included with above
	6	U	2	2	6				Included with above
	7	U	2	2	7				Included with above
	8	U	2	2	8				Included with above
	9	U	2	3	9				Included with above
1	0	U	3	2	8				Included with above
1	1								
1	2								
1	3								
1	4								
1	5								
1	6								
1	7								
1	8								
1	9								
2	0								
2	1								
2	2								
2	3								
2	4								
2	5								
2	6								
2	7								
2	8								
2	9								
3	0								
3	1								
3	2								
3	3								

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number	A. EPA Hazardous Waste No. (Enter code)	B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)	D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
1	D001	275,575	T	S01	WMF-676
2	D002				Included with above
3	D004				Included with above
4	D005				Included with above
5	D006				Included with above
6	D007				Included with above
7	D008				Included with above
8	D009				Included with above
9	D010				Included with above
10	D011				Included with above
11	D018				Included with above
12	D019				Included with above
13	D020				Included with above
14	D021				Included with above
15	D022				Included with above
16	D023				Included with above
17	D024				Included with above
18	D025				Included with above
19	D026				Included with above
20	D027				Included with above
21	D028				Included with above
22	D029				Included with above
23	D030				Included with above
24	D031				Included with above
25	D032				Included with above
26	D033				Included with above
27	D034				Included with above
28	D035				Included with above
29	D036				Included with above
30	D037				Included with above
31	D038				Included with above
32	D039				Included with above
33	D040				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)	(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
	1	D	0	4	1				Included with WMF-676 Page 5 (J-1) of 6, line 1
	2	D	0	4	2				Included with above
	3	D	0	4	3				Included with above
	4	F	0	0	1				Included with above
	5	F	0	0	2				Included with above
	6	F	0	0	3				Included with above
	7	F	0	0	4				Included with above
	8	F	0	0	5				Included with above
	9	F	0	0	6				Included with above
1	0	F	0	0	7				Included with above
1	1	F	0	0	9				Included with above
1	2	F	0	3	9				Included with above
1	3	P	0	0	5				Included with above
1	4	P	0	1	2				Included with above
1	5	P	0	1	5				Included with above
1	6	P	0	2	2				Included with above
1	7	P	0	2	4				Included with above
1	8	P	0	2	7				Included with above
1	9	P	0	2	8				Included with above
2	0	P	0	3	0				Included with above
2	1	P	0	3	1				Included with above
2	2	P	0	5	6				Included with above
2	3	P	0	7	3				Included with above
2	4	P	0	7	5				Included with above
2	5	P	0	7	7				Included with above
2	6	P	0	9	8				Included with above
2	7	P	0	9	9				Included with above
2	8	P	1	0	4				Included with above
2	9	P	1	0	5				Included with above
3	0	P	1	0	6				Included with above
3	1	P	1	1	3				Included with above
3	2	P	1	1	6				Included with above
3	3	P	1	1	9				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number		*A. EPA Hazardous Waste No. (Enter code)*				*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES* *(1) PROCESS CODES (Enter code)*	*(2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
	1	P	1	2	0				Included with WMF-676 Page 5 (J-1) of 6, line 1
	2	U	0	0	2				Included with above
	3	U	0	0	3				Included with above
	4	U	0	0	4				Included with above
	5	U	0	0	7				Included with above
	6	U	0	0	9				Included with above
	7	U	0	1	2				Included with above
	8	U	0	1	4				Included with above
	9	U	0	1	9				Included with above
1	0	U	0	2	0				Included with above
1	1	U	0	3	2				Included with above
1	2	U	0	3	7				Included with above
1	3	U	0	4	3				Included with above
1	4	U	0	4	4				Included with above
1	5	U	0	4	8				Included with above
1	6	U	0	5	2				Included with above
1	7	U	0	6	9				Included with above
1	8	U	0	7	0				Included with above
1	9	U	0	7	2				Included with above
2	0	U	0	7	8				Included with above
2	1	U	0	7	9				Included with above
2	2	U	0	8	0				Included with above
2	3	U	0	8	1				Included with above
2	4	U	0	8	3				Included with above
2	5	U	0	8	4				Included with above
2	6	U	1	0	2				Included with above
2	7	U	1	0	3				Included with above
2	8	U	1	0	5				Included with above
2	9	U	1	0	8				Included with above
3	0	U	1	1	6				Included with above
3	1	U	1	1	8				Included with above
3	2	U	1	2	0				Included with above
3	3	U	1	2	2				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number	*A. EPA Hazardous Waste No. (Enter code)*	*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
1	U123				Included with WMF-676 Page 5 (J-1) of 6, line 1
2	U127				Included with above
3	U128				Included with above
4	U131				Included with above
5	U133				Included with above
6	U134				Included with above
7	U135				Included with above
8	U138				Included with above
9	U140				Included with above
10	U144				Included with above
11	U145				Included with above
12	U147				Included with above
13	U151				Included with above
14	U154				Included with above
15	U159				Included with above
16	U162				Included with above
17	U165				Included with above
18	U169				Included with above
19	U170				Included with above
20	U171				Included with above
21	U182				Included with above
22	U188				Included with above
23	U190				Included with above
24	U191				Included with above
25	U196				Included with above
26	U201				Included with above
27	U204				Included with above
28	U207				Included with above
29	U208				Included with above
30	U209				Included with above
31	U210				Included with above
32	U211				Included with above
33	U215				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number	*A. EPA Hazardous Waste No. (Enter code)*	*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
1	U217				**Included with WMF-676 Page 5 (J-1) of 6, line 1**
2	U218				**Included with above**
3	U219				**Included with above**
4	U220				**Included with above**
5	U225				**Included with above**
6	U226				**Included with above**
7	U227				**Included with above**
8	U228				**Included with above**
9	U239				**Included with above**
10	U328				**Included with above**
11					
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9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number		*A. EPA Hazardous Waste No. (Enter code)*				*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*									*(2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
	1	D	0	0	1	20,117	T	T	0	4							Absorption, Decanting, & Neutralization in WMF-676.
	2	D	0	0	2												Included with above
	3	D	0	0	4												Included with above
	4	D	0	0	5												Included with above
	5	D	0	0	6												Included with above
	6	D	0	0	7												Included with above
	7	D	0	0	8												Included with above
	8	D	0	0	9												Included with above
	9	D	0	1	0												Included with above
1	0	D	0	1	1												Included with above
1	1	D	0	1	8												Included with above
1	2	D	0	1	9												Included with above
1	3	D	0	2	0												Included with above
1	4	D	0	2	1												Included with above
1	5	D	0	2	2												Included with above
1	6	D	0	2	3												Included with above
1	7	D	0	2	4												Included with above
1	8	D	0	2	5												Included with above
1	9	D	0	2	6												Included with above
2	0	D	0	2	7												Included with above
2	1	D	0	2	8												Included with above
2	2	D	0	2	9												Included with above
2	3	D	0	3	0												Included with above
2	4	D	0	3	1												Included with above
2	5	D	0	3	2												Included with above
2	6	D	0	3	3												Included with above
2	7	D	0	3	4												Included with above
2	8	D	0	3	5												Included with above
2	9	D	0	3	6												Included with above
3	0	D	0	3	7												Included with above
3	1	D	0	3	8												Included with above
3	2	D	0	3	9												Included with above
3	3	D	0	4	0												Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number		*A. EPA Hazardous Waste No. (Enter code)*				*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*(2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
	1	D	0	4	1				**Included with Absorption, Decanting, & Neutralization in WMF-676 Page 5 (K-1) of 6, line 1.**
	2	D	0	4	2				**Included with above**
	3	D	0	4	3				**Included with above**
	4	F	0	0	1				**Included with above**
	5	F	0	0	2				**Included with above**
	6	F	0	0	3				**Included with above**
	7	F	0	0	4				**Included with above**
	8	F	0	0	5				**Included with above**
	9	F	0	0	6				**Included with above**
1	0	F	0	0	7				**Included with above**
1	1	F	0	0	9				**Included with above**
1	2	F	0	3	9				**Included with above**
1	3	P	0	0	5				**Included with above**
1	4	P	0	1	2				**Included with above**
1	5	P	0	1	5				**Included with above**
1	6	P	0	2	2				**Included with above**
1	7	P	0	2	4				**Included with above**
1	8	P	0	2	7				**Included with above**
1	9	P	0	2	8				**Included with above**
2	0	P	0	3	0				**Included with above**
2	1	P	0	3	1				**Included with above**
2	2	P	0	5	6				**Included with above**
2	3	P	0	7	3				**Included with above**
2	4	P	0	7	5				**Included with above**
2	5	P	0	7	7				**Included with above**
2	6	P	0	9	8				**Included with above**
2	7	P	0	9	9				**Included with above**
2	8	P	1	0	4				**Included with above**
2	9	P	1	0	5				**Included with above**
3	0	P	1	0	6				**Included with above**
3	1	P	1	1	3				**Included with above**
3	2	P	1	1	6				**Included with above**
3	3	P	1	1	9				**Included with above**

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number	A. EPA Hazardous Waste No. (Enter code)	B. Estimated Annual Quantity of Waste	C. Unit of Measure (Enter code)	D. PROCESSES (1) PROCESS CODES (Enter code)	D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))
1	P120				Included with Absorption, Decanting, & Neutralization in WMF-676 Page 5 (K-1) of 6, line 1.
2	U002				Included with above
3	U003				Included with above
4	U004				Included with above
5	U007				Included with above
6	U009				Included with above
7	U012				Included with above
8	U014				Included with above
9	U019				Included with above
10	U020				Included with above
11	U032				Included with above
12	U037				Included with above
13	U043				Included with above
14	U044				Included with above
15	U048				Included with above
16	U052				Included with above
17	U069				Included with above
18	U070				Included with above
19	U072				Included with above
20	U078				Included with above
21	U079				Included with above
22	U080				Included with above
23	U081				Included with above
24	U083				Included with above
25	U084				Included with above
26	U102				Included with above
27	U103				Included with above
28	U105				Included with above
29	U108				Included with above
30	U116				Included with above
31	U118				Included with above
32	U120				Included with above
33	U122				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number		*A. EPA Hazardous Waste No. (Enter code)*				*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*(2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
	1	U	1	2	3				Included with Absorption, Decanting, & Neutralization in WMF-676 Page 5 (K-1) of 6, line 1.
	2	U	1	2	7				Included with above
	3	U	1	2	8				Included with above
	4	U	1	3	1				Included with above
	5	U	1	3	3				Included with above
	6	U	1	3	4				Included with above
	7	U	1	3	5				Included with above
	8	U	1	3	8				Included with above
	9	U	1	4	0				Included with above
1	0	U	1	4	4				Included with above
1	1	U	1	4	5				Included with above
1	2	U	1	4	7				Included with above
1	3	U	1	5	1				Included with above
1	4	U	1	5	4				Included with above
1	5	U	1	5	9				Included with above
1	6	U	1	6	2				Included with above
1	7	U	1	6	5				Included with above
1	8	U	1	6	9				Included with above
1	9	U	1	7	0				Included with above
2	0	U	1	7	1				Included with above
2	1	U	1	8	2				Included with above
2	2	U	1	8	8				Included with above
2	3	U	1	9	0				Included with above
2	4	U	1	9	1				Included with above
2	5	U	1	9	6				Included with above
2	6	U	2	0	1				Included with above
2	7	U	2	0	4				Included with above
2	8	U	2	0	7				Included with above
2	9	U	2	0	8				Included with above
3	0	U	2	0	9				Included with above
3	1	U	2	1	0				Included with above
3	2	U	2	1	1				Included with above
3	3	U	2	1	5				Included with above

9. Description of Hazardous Wastes (Continued. Use Additional Sheet(s) as necessary; number pages as 5a, etc.)

Line Number		*A. EPA Hazardous Waste No. (Enter code)*				*B. Estimated Annual Quantity of Waste*	*C. Unit of Measure (Enter code)*	*D. PROCESSES (1) PROCESS CODES (Enter code)*	*D. PROCESSES (2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
	1	U	2	1	7				Included with Absorption, Decanting, & Neutralization in WMF-676 Page 5 (K-1) of 6, line 1.
	2	U	2	1	8				Included with above
	3	U	2	1	9				Included with above
	4	U	2	2	0				Included with above
	5	U	2	2	5				Included with above
	6	U	2	2	6				Included with above
	7	U	2	2	7				Included with above
	8	U	2	2	8				Included with above
	9	U	2	3	9				Included with above
1	0	U	3	2	8				Included with above
1	1								
1	2								
1	3								
1	4								
1	5								
1	6								
1	7								
1	8								
1	9								
2	0								
2	1								
2	2								
2	3								
2	4								
2	5								
2	6								
2	7								
2	8								
2	9								
3	0								
3	1								
3	2								
3	3								

10. Map

Attach to this application a topographical map, or other equivalent map, of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all spring, rivers, and other surface water bodies in this map area. See instructions for precise requirements.

11. Facility Drawing

All existing facilities must include a scale drawing of the facility (see instructions for more detail).

12. Photographs

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment, and disposal areas; and sites of future storage, treatment, or disposal areas (see instructions for more detail).

13. Comments

Item 6. The Advanced Mixed Waste Treatment Project (AMWTP) is located at the Radioactive Waste Management Complex (RWMC) in the southwest corner of the U.S. Department of Energy's Idaho National Laboratory (INL). The Project mission is to retrieve from storage, characterize, treat (as necessary), certify, prepare, load, and ship stored waste, including transuranic mixed waste and low-level mixed waste, to approved disposal facilities.

Item 10. For the topographic map, please see Appendix II of the AMWTP HWMA/RCRA Permit.

Item 11. For the facility drawing, please see the topographic map, located in Appendix II of the AMWTP HWMA/RCRA Permit.

Item. 12. For the facility photograph, please see Supplement to Item 12, Photographs.

Item 13. For a description of hazardous waste debris categories treated, stored, or disposed at the facility, as required by IDAPA 58.01.05.012 (40 CFR 270.13 [n]), please see the attached information titled: "Supplement to Item 13, Additional Information Hazardous Waste Debris Categories."

Supplement to Item 12. Photographs

Photo 1. Aerial View of the RWMC with WMF-676 Graphically Superimposed

Supplement to Item 13. Additional Information

HAZARDOUS WASTE DEBRIS CATEGORIES

IDAPA 58.01.05.012 [40 CFR 270.13(n)] requires a description of the debris categories to be treated, stored, or disposed of at a facility, to be submitted in the Part A Permit Application. Debris defined by 40 CFR 268.2 means a solid material exceeding a 60-mm particle size that is intended for disposal and that is: 1) a manufactured object; 2) plant or animal matter; 3) natural geologic material. Debris storage at the RWMC includes waste in all three general categories. The following is a list of examples in each debris category that may be stored at the WSF, SWEPP, or WMF-676.

Category I - Manufactured Objects

Glass
Concrete
Masonry and refractory bricks
Paper
Plastic
Rubber
Cloth
Pavement
Metal Debris
- Pipes
- Valves
- Scrap Metal

Other Heterogeneous Debris
- Non-intact containers
- Tanks
- Appliances
- Industrial Equipment

Category II - Plant and Animal Matter

Biological Debris
- Animal carcasses
- Other plant matter

Wood Debris
- Wood
- Plant stumps

Category III - Natural Geologic Material

Rock
Cobbles
Boulders
Asbestos

TABLE OF CONTENTS

ATTACHMENT 1.A

PROCESS INFORMATION

LIST OF TABLES

LIST OF EXHIBITS

D. PROCESS INFORMATION

D WMF-634 Design

WMF-634 is used to store, characterize, and treat ROW and MW. A total of seven Type II Modules currently exist, and as many as ten modules may be constructed. This attachment covers only one module, WMF-634. Wastes currently in storage, as well as newly generated waste from on- and off-Site generators, may be moved to, stored, characterized, and treated in the WMF-634 Type II Module.

Unless otherwise noted, drawings referenced in this attachment are located in Appendix II.

WMF-634 houses a number of activities, which include:

- Receiving and storing waste containers for characterization;
- Examining containers using RTR;
- Processing drums, as required, through the DVS in which a HEPA filter is inserted to vent radiolytically generated hydrogen (H_2) gas and/or performing headspace gas sampling;
- Radiological surveying of containers;
- Treating liquids in containers, as required, by the addition of absorbent;
- Decanting of liquids from containers, as required, in the DCSRS;
- Neutralization of liquids in a container in the DCSRS;
- Drum coring, as required, and core sample preparation in the DCSRS;
- Repackaging of waste from one container into another container(s);
- Sizing of waste such that the waste may meet size constraints for subsequent waste management activities;
- Mechanical vibration of waste in a container; and
- Macroencapsulation of waste.

The physical layout of the equipment in WMF-634 is shown on the general arrangement drawing (see Drawing 53-10374). The equipment layout matches the sequence of operation in a west to east flow. Typically, waste containers enter WMF-634 on the west side and exit on the east side, after characterization/treatment is complete. Containers are received into WMF-634, and are off-loaded and stored on the south side of the building. As each container is placed into its designated input storage area, the container's barcode label is scanned to update the container's location information maintained in the AMWTP data management system (DMS).

Typically, the first characterization operation performed on containers is RTR examination. RTR is used to determine the waste material parameters and detect prohibited items and special conditions. RTR examination is also used to validate existing waste characterization data, or in the case of unidentified waste containers, to correlate the contents of the container with known waste types from generator sites.

Drums identified as requiring venting and/or headspace gas analysis are usually then transferred to the DVS. If previously vented drums require headspace gas sampling, this can be performed using portable headspace gas sampling units. The WMF-634 DVS system performs an automated process of partially inserting a self-drilling and self-tapping HEPA filter, which penetrates the drum lid and liner (if present). If required, a sample of the internal headspace gas is then drawn through the HEPA filter sample port and directed to analytical equipment. The filter vent is then seated against the container lid. The DVS system is also able to perform an automated process of drilling a hole, which penetrates the lid of a container. A HEPA filter may then be inserted into the hole and seated against the lid of the drum or a HEPA filter with an adhesive surface (e.g., paper HEPA filter) may be placed over the hole in the drum lid. At all times during the operation of fitting the HEPA filter and taking samples of gas, the container is located in a continuously ventilated chamber. The ventilation system of the DVS is HEPA filtered prior to discharge to the WMF-634 main exhaust stack. The filter vent insertion operation is performed within a purged housing that seals against the container lid to minimize the spread of contamination. As required, containers are sampled for potential flammable headspace gases.

Containers are radioassayed to determine the amount of fissile material present in each container. The containers are assayed in order to determine or estimate the amount and isotopic composition of nuclear material, TRU isotope activity, and decay heat. The data are used to implement criticality control throughout the AMWTP waste management units. Containers may be radioassayed either with fixed assay equipment or with portable radioassay equipment, commonly referred to as “fast” assay. Drawing 53-10374 presents a plan view layout of the fixed radioassay equipment located within WMF-634. The fixed radioassay equipment provides an accurate determination of the amount of isotopic composition of the nuclear material within a container. The “fast” assay equipment provides an estimate of the level of fissile material present in a container by passive means. If performed, “fast” assay results are not used for waste characterization activities, but provide AMWTP personnel with a general idea if a container will characterize as TRU or LLW to allow for the optimization of AMWTP operations. In order to perform “fast” assay, the portable radioassay equipment may be located within the center aisle space of the WMF-634. A minimum of 16 ft center aisle space will be provided in areas where “fast” assay is being conducted.

Drums identified for core sampling, visual examination, and/or treatment are typically diverted to the drum coring room, while all other containers are transferred to the output storage area. The drum is moved to the DCSRS conveyor and transferred into the DCSRS for coring, examination, and/or treatment. Drawing 53-10374 presents a plan view layout of the drum coring room and the DCSRS. Upon completion of the coring, the core sample is transferred to the sample preparation glovebox, and absorbent is added to the container, as required. Waste in containers may also be taken into the DCSRS without performing the coring operation, in order to absorb liquids, decant liquids, neutralize liquids, perform visual examination, repackage waste, and size waste. These containers are typically examined visually prior to treatment. Upon completion of operations in the DCSRS (e.g., treatment, coring), a lid is placed onto the container, and the drum is then removed from the DCSRS and transferred to the output storage area of the building. Sample preparation is performed in the sample preparation glovebox. Samples for volatile organic compound (VOC) analysis of hard sludge material are collected from the core and transferred to suitable, sealed containers as quickly as practicable to reduce the potential for loss of VOCs. All samples are transferred out of the glovebox and packaged appropriately for transport to an independent laboratory for analysis.

Waste treatment in WMF-634 may also be conducted in a containment enclosure (absorption, decanting, neutralization, repackaging, sizing, and mechanical vibration) or outside a containment enclosure (mechanical vibration and macroencapsulation). A containment enclosure is a moveable, non-permanent structure used to provide contamination control during container management. Containment enclosures may be mounted to the floor using anchor bolts, as necessary. All anchor footing floor penetrations are constructed and sealed such that the integrity of the secondary containment system is maintained. Information on how penetrations are made to a secondary containment coating and how the integrity of the secondary containment coating is maintained is kept as part of the Operating Record. Containment enclosures are divided into at least two sections, one section for providing a radiological contamination buffer area and another section for performing operations. Additional sections may be added to provide for additional radiological contamination control, as required. Air flows from the outside of the enclosure into the various sections of the enclosure (e.g., containment area, operations area, etc.). Air from the operating area of the enclosure is vented through a HEPA filter outside of the enclosure. An enclosure may contain a gantry chain area with cranes, inspection/treatment stations, and roller conveyors for moving containers. However, equipment within the enclosure will vary depending upon the type of operation being performed.

Treatment. Various methods of treatment are performed in WMF-634: absorption, decanting, and neutralization of liquids; the repackaging of waste; the sizing of waste; the mechanical vibration of waste; and the macroencapsulation of waste. These methods are performed individually and in conjunction with each other to treat the waste in the most effective manner possible. Treatment operations typically include:

- Repackaging of waste from a container(s) into another container(s);
- Physical sizing of waste from one container such that the waste may meet size constraints for subsequent waste management activities;
- Co-mingling of compatible waste from multiple containers during the repackaging and sizing process;
- Decanting liquids in containers;
- Decanting liquids into containers with absorbent;
- Adding absorbent to liquids;
- Neutralizing liquids in containers;
- Simultaneous absorption and neutralization of liquids by adding a neutralizing absorbent to liquids (either prior to or after the liquid is added);

- Decanting followed by neutralization then absorption;
- Absorption followed by decanting and further absorption;
- Co-mingling of compatible liquids prior to neutralization and/or absorption;
- Co-mingling of compatible absorbed liquids;
- Mechanically vibrating waste so that free liquids may be absorbed and/or decanted; and
- Placing waste into a stainless steel container/liner or HDPE container liner such that the container/liner can be welded closed or electrically sealed to meet the macroencapsulation treatment standard specified at IDAPA 58.01.05.011 (40 CFR 268.45).

The methods of treatment are summarized below. When more than one treatment is performed on a waste, the individual operations may be combined.

Absorption. The treatment objective of absorption is to select a suitable absorbent material to absorb any free liquid waste. Prior to absorption, the compatibility of the liquid with the absorbent being used is addressed and documented, as required. Compatibility evaluations are typically performed through process knowledge and/or RTR examination. Absorbent materials are also checked for compatibility with the waste types, and stored accordingly in the MWMUs. The following are the general steps that are used during the absorption/treatment process:

- The volume of waste to be treated is estimated.
- The amount of appropriate absorbent [selected based upon visual examination, process knowledge, acceptable knowledge, or other appropriate means (e.g., water miscibility)] is estimated.
- The absorbent is added to the liquid.
- The absorbent and waste may be mixed, if required.
- Treated waste is visually inspected for signs of free liquids. If no free liquids are present, the treatment is considered successful.
- If the absorption is not effective, the cause of the process failure is evaluated. If insufficient absorbent was used, the process may be repeated with additional absorbent.

The steps outlined for absorption are repeated no more than three consecutive times. If a treatment is unsuccessful after three attempts, the adequacy of the procedure is analyzed and continued treatment is handled on a case-by-case basis in consultation with the State of Idaho Department of Environmental Quality (DEQ).

Initial testing of absorbents has been conducted to determine an appropriate absorbent material for the types of wastes present in the AMWTP inventory. The criteria for evaluation included stability, pH, sorbent capacity, sorbency rate, curing time, composition of sorbent, sorbent dust production potential, and free liquid/sorbent combination response to temperature extremes (freezing and elevated) similar to those experienced during shipping. Based upon the testing of the performance of absorbents, it has been determined that Aquaset, Aquaset II, and Aquaset IIG may be used for the absorption of aqueous liquids. Additional evaluation indicated that Petroset IIG, also manufactured by Fluid Tech Inc., meets the requirements for the treatment of organic liquids via absorption. For additional information, see “PUREX Waste Solidification,” Savannah River Technology Center, WSRC TR-2001 00526, Revision 0.

A second supplier of absorbents, Nochar, supplies Petro Bond N990 and Acid Bond A610. Petro Bond has been tested and found to be effective at absorbing oils and organic liquid at a waste:absorbent ratio of approximately 1:1. Acid Bond has been tested and found to be effective at absorbing acidic and basic liquids. Acid Bond is routinely mixed at a waste:absorbent ratio of 8:1 when the waste is neutral to slightly basic, 4:1 when the waste is basic, and approximately 1:2 when the waste is acidic. Actual waste:absorbent ratios are determined using operating instructions. Additionally, Petro Bond and Acid Bond may be combined to absorb liquids with both aqueous and organic components. The results of treatability testing indicate that Nochar’s Petro Bond and Acid Bond meet the requirements for the treatment of liquids via absorption. Based upon the testing and performance of absorbents, it has been determined that Petro Bond N990 and Acid Bond A610 may be used for the absorption of liquids. For additional information, see “Aqueous and Oil/Organic Liquid TRU Waste Solidification Method Test Plan and Report,” Rocky Flats Environmental Technology Site, PRO 1582 PQP/PQR, Revision 0.

A third supplier of absorbents, Celite, supplies Microcel-E. Microcel-E has been tested and found to be effective at absorbing oils and organic liquid. The results of the treatability testing indicate that Celite's Microcel-E meets the requirements for the treatment of organic liquids via absorption. For additional information, see "Absorbent Optimization for Advanced Mixed Waste Treatment Project Organic Set-ups Statement of Work," Resodyn Acoustic Mixers, Revision 1.

A fourth supplier of absorbents, WaterWorks, supplies SP-400. SP-400 has been tested and found to be effective at absorbing aqueous liquid. The results of the treatability testing indicate that WaterWorks SP-400 meets the requirements for the treatment of aqueous liquids via absorption. For additional information, see "Long Term Stability Testing Results for Savannah River Site Organic and Aqueous Wastestreams," WM2008 Conference, February 24 – 28, 2008, Phoenix, AZ, Abstract #8116.

Decanting. The treatment objective of decanting is to remove a sufficient volume of free liquid so that the free liquid remaining in the original container, sump, or trough can be treated through the addition of absorbent, as described above, and/or to transfer the decanted liquid into another container. The primary method for decanting liquids is to use equipment (e.g., disposable pipettes, pumps, ladles, cups, drip pans, drill, etc.) to transfer liquid into a container that is located in a drip pan or some other type of liquid containment device. Efforts will be made to minimize the spread of MW contamination during waste transfer using drip pans and other equipment, as described above. The decanted liquid is typically absorbed after selecting a suitable absorbent material to absorb the free liquid. The following are the general steps that are used during the decanting treatment process:

- The volume of liquid waste to be treated is estimated.
- The appropriate container size is estimated.
- The free liquid is decanted from the original container, sump, or trough and placed in a second container. Absorbent is added to the second container either prior to or after the liquid waste is added to the container, if required.
- Additional absorbent is added to the treatment container, sump, or trough, as required, and the absorbent and waste may be mixed, if required.

- Any free liquid remaining in the original container, sump, or trough is treated via absorption and/or neutralization.

Neutralization. The treatment objective of neutralization is to adjust the pH of liquid waste to a desired range for absorption. The desired pH, which depends on the waste type and determines the specific absorption agent(s) to be used, is established prior to conducting treatment. The following information presents the general treatment steps that are used in neutralizing a liquid waste:

- The weight or volume of the waste is determined and recorded.
- A pH measurement is taken.
- The appropriate types and amounts of neutralizing agents are weighed/measured out and added. The primary acidic neutralizing agents include acids, such as citric acid. The primary basic neutralizing agents include bases, such as calcium carbonate.
- The treatment agents and waste are mixed.
- A pH measurement is taken to verify results against the pH end-point established to confirm treatment effectiveness.
- If the neutralization is not effective, the cause of the process failure shall be evaluated. If insufficient reagents were used, the process may be repeated with additional reagents.

The steps outlined for neutralization are repeated no more than three consecutive times. If a treatment is unsuccessful after three attempts, the adequacy of the procedure is analyzed and continued treatment is handled on a case-by-case basis in consultation with the DEQ.

Once neutralized, the liquid may be mixed with appropriate absorbents, unless the neutralizing agent is also an absorbent.

Repackaging/Sizing of Containers. The treatment objective of repackaging and sizing waste will vary upon the waste being managed. For example, typical objectives of repackaging/sizing include:

- Transferring the contents from a container with poor integrity into another container with acceptable integrity.

- Transferring the contents from one container (e.g., box) into different container(s) (e.g., 55-gal drums) in preparation for downstream processing (e.g., shipping, headspace gas sampling, etc.).
- Transferring the contents of multiple containers into a single container.
- Transferring the contents of a single container into another container.
- Removing items prohibited from downstream AMWTP processes (e.g., supercompaction) or items prohibited from disposal at the identified disposal facility (e.g., WIPP).
- Physically reducing the size of waste such that the waste is acceptable for subsequent waste management activities.

Mechanical Vibration. The treatment objective of mechanical vibration is to consolidate free liquids that are located within the void space of a solidified waste so that the liquid may be treated, as required. Mechanical vibration is not intended to separate solidified liquid waste from a waste matrix. The primary method for consolidating free liquids is to use equipment (e.g., vibrating table) to move liquid from the waste matrix to the sides, bottom, and/or top of the container. This liquid can then either be absorbed or decanted, as required.

Upon completion of the mechanical vibration process, containers will undergo RTR examination to verify that the mechanical vibration was effective in consolidating the free liquids. Other treatment allowed under the AMWTP HWMA/RCRA Permit (e.g., absorption, decanting, repackaging, etc.), if required, may be performed prior to RTR examination. If RTR examination indicates that all of the free liquids have not been consolidated, then mechanical vibration may be performed again in an effort to consolidate the remaining free liquids. RTR examination shall be performed after mechanical vibration has been completed to determine the effectiveness of the mechanical vibration.

Mechanical vibration may either be performed in a containment enclosure or in an area with a secondary containment system that is designated for performing mechanical vibration. If mechanical vibration is performed outside of a containment enclosure, then the container will be overpacked prior to performing the treatment. If the mechanical vibration is performed inside a containment enclosure, then overpacking of the container is not required.

Macroencapsulation. The treatment objective of macroencapsulation is to meet the LDR treatment standard for mixed low-level debris waste specified at IDAPA 58.01.05.011 (40 CFR 268.45). The LDR treatment standard may be met in either of two ways: 1) using a stainless steel container or container with a stainless steel liner, or 2) using an HDPE encapsulation system. Both of these macroencapsulation processes are described in further detail below. Regardless of the method used, the goal of performing macroencapsulation is to completely encapsulate the debris waste and to provide a jacket of inert material that substantially reduces surface exposure to potential media.

Stainless Steel Container or Container with Stainless Steel Liner

The stainless steel container/liner is resistant to degradation by the debris and its contaminants and materials into which it may come into contact with after disposal (e.g., leachate, other waste, microbes). All stainless steel containers/liners are continuously welded to ensure complete encapsulation. Liquids are not placed into a stainless steel container/liner. The presence of liquid, or absence of, is confirmed either through RTR or visual examination.

Prior to placing waste into a stainless steel container/liner, the container/liner shall be inspected to ensure the integrity of the stainless steel container/liner. Upon placing waste into a stainless steel container/liner, the stainless steel container/liner will be continuously welded closed. Upon performing the welding of the stainless steel container/liner, the weld will be inspected by a certified welding inspector to ensure proper closure. Precautions to prevent ignition of ignitable waste during the welding process are provided in Attachment 6.

HDPE Container with HDPE Lid

Like the stainless steel container/liner, the HDPE container/lid is resistant to degradation by the debris and its contaminants and materials into which it may come into contact with after disposal (e.g., leachate, other waste, microbes). Liquids are not placed into an HDPE container. The presence of liquid, or absence of, is confirmed either through RTR or visual examination.

Prior to placing waste into an HDPE container, the HDPE container/lid shall be inspected to ensure the integrity of the HDPE container/lid. Upon placing waste into an HDPE container, the container is fitted with an HDPE lid. Electrical wires embedded in the lid are connected to a control unit, which controls and monitors electrical heat distribution as the lid is sealed to the container.

During either of the macroencapsulation treatment process, all containers will be inspected per the schedule provided in Attachment 4. All containers used for macroencapsulation shall be managed in accordance with Section D-1a(2) when in storage. A list of containers approved for macroencapsulation is provided in Section D-1a(1).

WMF-634 does not contain toilet facilities. Smoking is only allowed outside of WMF-634 in designated areas.

Fill and Grading

The areas on which the Type II Modules are constructed were graded prior to construction. The area between the modules is graded from a high point midway between the modules to provide drainage away from the modules. This drainage is provided via a 2 % slope to the north and south and approximately 1% slope to the east and west from the mid-point between the buildings. The run-off is channeled into drainage ditches or culverts running north-south along the east and west sides of the modules. These ditches/culverts, in turn, slope northward with a 1% slope to provide run-off drainage away from the Type II Modules and into the main RWMC drainage ditch. See Drawing 52-1900 for the WMF-634 grading plan.

The modules are located on the east side of the TSA as shown on the RWMC/AMWTP Topographic Map, located in Appendix II. As the map shows, WMF-634 is currently the southern-most module, and a road oriented north-south is located on both the east and west sides of the Type II Modules. The roads are paved with asphalt. Backfill compaction is 95% of maximum density. To minimize slab frost heave and to prevent slab cracking, a layer of nonfrost-susceptible granular fill was placed over the graded area prior to placing the foundation. The fill thickness is from 6 inches (in.) to 5 ft.

The fill material used was select pit run gravel available at on-Site gravel pits. Leveling coarse material used was a mixture of crushed gravel, crushed stone, and natural or crushed sand. Backfill material consists of soil material free of clay, rock, and gravel larger than 3 in., debris, frozen materials, or vegetable material. All soil materials used comply with the American

Association of State Highway Testing Officials (AASHTO) M145 soil classification Groups A-1, A-2-4, A-2-5, and A-3.

Foundations and Floors

The foundation and floor requirements for WMF-634 are the same as those identified in Attachment 1.B for the other Type II Modules addressed in this document. The following additional requirements are specific to WMF-634.

The floor of the coring room is thickened to provide structural support for the coring room walls and elevated slabs. The floor of the coring room is a 14-in. thick concrete slab, reinforced with two layers of #5 reinforcing steel spaced at 12 in. increments in each direction in the top and bottom of the concrete slab. The concrete slab was placed directly on the existing structural backfill, as excavated, to accommodate the 14-in. depth of the concrete slab.

Characterization and other equipment are mounted to the floor using anchor bolts and vibration-dampening pads, as necessary. Interior enclosures are attached to the floor using anchors or concrete footings. All anchor and footing floor penetrations are constructed and sealed such that the integrity of the secondary containment system is maintained. A 6-in. thick by 6-in. high concrete curb surrounds the open storage area. In addition, a 4-in. high concrete curb surrounds the drum coring room in WMF-634. Curbing was also placed at the entrance doors to the RTR and assay control room. Ramps at the emergency egress doors in the RTR and assay control rooms slope from the 6-in. perimeter containment curb to the floor, and are typically constructed of concrete or steel.

Structural Parameters

The structural parameters for WMF-634 are the same as those identified in Attachment 1.B for the other Type II Modules addressed in this document. The following structural parameters are specific to WMF-634. See Drawing 53-10374 for a general arrangement drawing of WMF-634.

WMF-634 interior walls are insulated with a vinyl vapor barrier backed fiberglass insulation. The overhead doors located on the east and west ends of the building, as well as all personnel doors located on the exterior walls, are insulated steel doors.

The RTR and assay control rooms are located along the north wall and sit on the concrete pad that makes up the floor. Both rooms have interior access doors and exterior emergency egress doors and are constructed of steel studs with sheet rock walls. The drum coring room is located toward the northeast central section of WMF-634. It is of block construction and has two personnel access doors, two emergency egress doors, and one roll-up type door for equipment access.

Heating, Ventilation, and Air Conditioning System

The HVAC system for WMF-634 conforms to the requirements of the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE). WMF-634 is heated and ventilated by a once-through air distribution system, which is used to control carbon monoxide (CO) accumulation from equipment and vehicle operations. The ventilation system is only operated as required to maintain CO within acceptable levels. Heat is supplied by four indirect fired propane unit heaters, located inside. Two propane fired makeup air heaters, located outside, preheat makeup air entering the building. The makeup air heaters are supplied with fans, inlet filters, bird screens, and insulated ducting to direct the preheated makeup air into the module via wall penetrations. See Drawing 53-10374 for the location of heaters.

The control rooms are supplied with independent electric HVAC units, whereas the coring room is heated indirectly by drawing air in from the module. Direct expansion air cooling coils are provided to control the coring room temperature. The control rooms and the coring room are normally air conditioned.

Preheated ventilation air is supplied to the building through associated ductwork and multiple transfer air grilles. The grilles are located along the base of the north and south walls of the building. Manual dampers are provided in the ducting to balance the makeup air flow to each wall penetration. A motorized parallel blade damper is also provided at each wall penetration to isolate makeup air in case of a fire. The building air is exhausted through multiple exhaust grilles and associated ductwork connected to a single ground-mounted exhaust fan and then through a single exhaust stack.

The makeup air heater intakes consist of louvers fitted with a rain hood and bird screen. A filter assembly inside the heater cabinet filters out particulates from the incoming air. Each air intake is designed for an intake of 6,400 cubic feet per minute (cfm). The filters are of nonwoven cotton fabric media and are disposable. The filters are Underwriters Laboratories (UL) Class II. See Attachment 1 for additional information on the ventilation system in WMF-634.

Electrical Power

The electrical system for WMF-634 complies with the National Electrical Code (NEC), the NFPA, the National Electrical Manufacturers Association (NEMA), and the Occupational Safety and Health Administration (OSHA). See the electrical one-line diagram, Drawing 54-9926, and Site utilities (underground yard piping plan), Drawing 56-1901.

WMF-634 receives electrical power from a nearby 3-phase, 277/480-volt (V), 12.5-kiloVolt (kV) stepdown transformer. Service disconnects are located as close as practicable to the exterior service entrance. The system is grounded and equipped with circuit breakers.

Lighting

The lighting requirements for WMF-634 are the same as those identified in Attachment 1.B for the other Type II Modules.

Operating Record

Typically, the AMWTP uses a computerized system for overall data management and recordkeeping. Exhibits X-1 and X-2 in Appendix X show the DMS system components and interfaces. The Operating Record, typically via the DMS, provides the following functions:

- The Operating Record tracks waste via AMWTP personnel data entry, barcode label readers, and/or close interface with the appropriate control system from the point of waste retrieval and throughout the process until the point of dispatch to the WIPP or to another waste management unit. Product quality information is collated and included in the Operating Record as waste is processed.

- The DMS maintains a portion of the Operating Record required by applicable regulations, as described below in the Operating Record Maintenance section. The DMS interfaces with computer and database systems, including the integrated control system to sequence waste through the various AMWTP units.
- AMWTP management and operations personnel have a direct interface to on-line operational data that is simple to use, while allowing detailed and comprehensive queries and reports to be generated. Information may be downloaded to networked computers; the user is supplied with a number of pre-configured reports, queries, trends, and other specific functions.

The Operating Record, typically via the DMS, is used to maintain many other records and supervise system functions, as noted in the process descriptions of the various MWMU systems.

Waste Tracking

Barcode readers at key locations are used to scan the barcode labels of containers. The unique barcode identifies the container, enabling access to some of the stored Operating Record information that matches the container. As the container progresses through a MWMU, information is appended to the records either automatically (e.g., radiological assay results) or manually (e.g., RTR observations) via local workstations. AMWTP personnel are presented with an electronic form that allows observations to be entered. The workstation also aids AMWTP personnel by supplying information such as container destination routes.

The Operating Record, typically via the DMS, maintains positional status of containers and/or waste at all locations within the MWMUs. For example, when a container is moved from position A to position B, the container is recorded in the Operating Record as being at position B. Documentation is maintained of the locations a waste item and/or container resides. At certain locations, the position of a container within a MWMU is verified by scanning the container barcode label. The Operating Record is used to provide a complete inventory, at any time, of the waste containers held within the MWMUs, and the waste contents, to the extent known.

Operating Record Maintenance

The Operating Record is maintained in accordance with IDAPA 58.01.05.008 (40 CFR 264.73). The DMS contains a portion of the Operating Record, and it is periodically backed up on magnetic tape or similar media. Hard copy and electronic records (e.g., completed inspection log sheets) are maintained in a retrievable manner. The following information is recorded, as it becomes available, and maintained in the Operating Record until closure of a MWMU (unless otherwise specified):

1. A description and the quantity of waste in each container received, and the method(s) and date(s) of its treatment, storage, or export.

2. The location of MW containers within a MWMU and the quantity of waste at each location, including cross-references to specific manifest document numbers, if the waste was accompanied by a manifest.

3. Records and results of analyses and determinations performed, as specified in:

    - IDAPA 58.01.05.008 (40 CFR 264.13) including, but not limited to, the following:
        - Detailed chemical and physical analyses of MW managed at the MWMUs, consisting of actual analytical data and process knowledge records (process knowledge based hazardous waste determinations, waste stream descriptions, descriptions of the generating processes, and any temporal changes to the packaging and generating processes). For existing MW, the process knowledge based waste profiling utilizes existing databases, engineering design files (EDFs), reports, and analytical data.
        - Waste analysis plan (WAP) for the MWMUs (see Attachment 2) and also the individual WAPs prepared for 90-day generator exempt activities (if required), per IDAPA 58.01.05.011 [40 CFR 268.7(a)(5)].
        - Waste analyses received from off-Site generators.
    - Results of ignitability, reactivity, and compatibility evaluations [per IDAPA 58.01.05.008 (40 CFR 264.17, 264.172, 264.176, and 264.177)] based on process knowledge, analytical data, engineering/scientific literature, inhouse testing, and Environmental Protection Agency (EPA) procedures/guidance (e.g., A Method for Determining the Compatibility of Hazardous Wastes, EPA-600/2-80-076).

4. Summary reports and details of incidents that require implementation of the Contingency Plan, such as fire, explosion, or release of MW. Attachment 7 lists the information required in the reports.

5. Records and results of area and equipment inspections, recorded on log sheets. These log sheets are kept per IDAPA 58.01.05.008 (40 CFR 264.73). See Attachment 4 for specific requirements and inspections.

6. Monitoring, testing or analytical data, and corrective action. Results of sampling and analysis of waste to verify that the operating requirements established in this document achieve the performance standards.

7. Written notices sent to off-Site generators stating that the AMWTP has the appropriate permits in place and is accepting their waste {per IDAPA 58.01.05.008 [40 CFR 264.12(b)]}.

8. A certification prepared, at least annually, that the AMWTP has a waste minimization program in place that reduces the volume and toxicity of AMWTP-generated wastes to the extent determined to be economically practicable. The intent of the program is to minimize the present and future threat to human health and the environment.

9. Written one-time notices and LDR certifications, as required, sent by the AMWTP to treatment, storage, and/or disposal (TSD) facilities that are receiving AMWTP-generated wastes {per IDAPA 58.01.05.011 [40 CFR 268.7(a) and (b)]}.

D-1 Containers

D-1a Containers with Free Liquids

The containers stored at the MWMUs generally contain either (1) no free liquids or (2) free liquids at less than 1% of the total container volume. All containers are managed as if they contain free liquids, unless it can be documented, other than by historical record, that no free liquids are present. Incompatible wastes, if present, are segregated into discrete areas within the MWMUs.

The presence of liquid in the containers stored at the MWMUs is determined using either of three methods. The first method involves process knowledge supplied by the waste generators. Process knowledge is substantiated by the waste acceptance process described in Attachment 2. The second method is the use of RTR to remotely examine the waste containers for liquids and other parameters. RTR process description is presented in more detail in Attachments 1 and 2. The third method for identifying free liquids is through the visual examination of waste in the MWMUs.

D-1a(1) Description of Containers [IDAPA 58.01.05.008; 40 CFR 264.171 and 264.172]

The containers typically used to store wastes in the MWMUs are listed below. Container labels and markings are also described as follows. All containers used for storing wastes are compatible with the wastes stored in the MWMUs.

1. The 30-gal drum [Department of Transportation (DOT) 7A Type A, or equivalent] is a carbon-steel drum with a removable head, gasket, and bolt ring.

2. The 55-gal drum/90-millimeter (mil) HDPE liner combination (DOT 7A Type A, or equivalent) is a carbon-steel drum with a removable head, gasket, and bolt ring. The liner is constructed of 90-mil molded polyethylene, and has an open head with a sealable positive closure lid.

3. The 83/85-gal overpack drum is a carbon-steel drum with a removable head, gasket, and bolt ring.

4. The DOT 6M, or equivalent, packaging consists of a 55-gal drum or a 100-gal drum with fiberboard centering media and a DOT Specification 2R, or equivalent, inner containment vessel. The drum head, gasket, and bolt ring are removable. DOT 6M, or equivalent, packaging is acceptable for waste storage if the drum has a mechanism for filtered venting of the interior.

5. The DOT 2R, or equivalent, containment vessel is made of stainless or carbon steel per 49 CFR 178.104(3)(b). The height of the polyethylene liner is 7.5 in. less than the inside height of the drum. The maximum inside diameter of the container is 5.25-in. For Bettis Atomic Power Laboratory shipments, 5-in. Schedule 40 piping has been approved for use as a container. The Schedule 40 pipe ends are fitted with a screw-type closure or flanges to provide containment. One or both of the Schedule 40 pipe ends may also be permanently closed by a welded or brazed plate to provide containment.

6. The DOT 7A, or equivalent, steel bin (M series) meets the requirements of 49 CFR 178.350 (DOT 7A, or equivalent). It is a rectangular steel bin made of 12-gauge steel used for shipment of waste or DOT-approved containers of waste. When used as an overpack, it will hold eight 55-gal drums in two layers of four drums each, or ten 30-gal drums in two layers of five drums each. The bins are nominally 4-ft wide by 5-ft long by 6-ft high, although this series of bins covers a range of sizes and some structural variations. At the time of use, one bin type entitled M-III met the DOT 7A requirements. The M-III bins now meet the DOT requirements for a strong-tight container.

7. The DOT 7A Steel Box, or equivalent, was designed at the Sandia National Laboratory. These boxes come in a range of sizes ranging from 68- to 88-in. long, 48- to 54-in. wide, and 71- to 98-in. high. The container is welded closed, once filled with waste.

8. The DOT 7A Steel Box TX-4, or equivalent, has been developed by the Lawrence Livermore National Laboratory for use in packaging TRU waste. The TX-4 is a mild-steel welded-construction box with a gasketed bolted closure. The container is fabricated from a steel sheet supported by an external framework of four 4-in. by 2-in. square tubing. The container corners are reinforced with 2-in. angle stock, skip welded. Four 3-in. steel channels support the container, allowing standard forklift handling. This

box type comes in a range of sizes: 74- to 92-in. long, 46- to 52-in. wide, and 36- to 57-in. high. This type of box may be lined with two 40-mil or one 80-mil polyvinyl chloride (PVC) liners. The top of the liner is folded over the top and outside of the box and secured with duct tape.

9. The TRUPACT II Standard Waste Box (SWB) is a DOT 7A Type A, or equivalent, container, nominally 71-in. long by 55-in. wide by 37-in. high. This box is constructed of steel and has the lid bolted to the box.

10. The DOT 7A Type A Mark III box, or equivalent, is constructed of concrete with an integral polyethylene liner and a lead liner installed if necessary. The container is 96-in. long by 48-in. wide by 48-in. high. The polyethylene liner has a height of 5 in. less than the inside height of the concrete container. The polyethylene liner can be thermally sealed using electric current, and the concrete lid can be bolted down.

11. The steel overpack box may be used for overpacking boxes. This box is constructed of carbon steel supported by an external framework of four 4-in. by 2-in. square tubing (container corners are reinforced with 2-in. angle stock). Two 2-in. by 1-in. steel channels support the container for forklift access. The dimensions of this box are 92-in. long by 56-in. wide by 55-in. high. A variety of other sizes may be used; special sizes are fabricated to handle a variety of overpack needs.

12. The DOT 7A, or equivalent, 55-gal drum is a carbon-steel drum constructed of 16-gauge material with a removable lid, gasket, and bolt ring.

13. The wooden boxes are constructed of plywood. At the time of use in the 1970s, these boxes met the DOT 19A packaging requirements. The boxes come in a range of sizes, but are generally 7-ft long by 4-ft wide by 2- or 4-ft high. The lids are either nailed or glued shut. This container is only used for existing wastes.

14. The fiberglass-reinforced plywood (FRP) boxes are constructed in the same manner as the wooden boxes described above with the same range of dimensions. However, the exterior of the box is coated with at least 1/8 in. of fiberglass-reinforced polyester. This container is only used for existing wastes.

15. The UN1A2, or equivalent, 30-gal drum is a carbon-steel drum with a removable head, gasket, and bolt ring.

16. The UN1A2, or equivalent, 55-gal drum with 90-mil HDPE liner combination is a carbon-steel drum with a removable head, gasket, and bolt ring. The liner is constructed of 90-mil molded polyethylene, and has an open head with a sealable positive closure lid.

17. The UN1A2, or equivalent, 55-gal drum is a carbon-steel drum with a removable head, gasket, and bolt ring.

18. The UN1A2, or equivalent, 83/85-gal overpack drum, that may include a roto-mold liner, is a carbon-steel drum with a removable head, gasket, and bolt ring.

19. The DOT 7A Type A, or equivalent, 71-gal drums are square steel drums with one of the following; a crimp type gasketed cover; removable head with gasket and bolt ring; or fully removable head with gasket and bolted closure.

20. The 55-gal Recycled Shielded Storage Container (RSSC), or equivalent, has stainless-steel inner and outer shells that encapsulate lead shielding with bolt-on end plates and rings. The RSSC is approximately 44.5-in. high by 36.1-in. maximum outside diameter.

21. The DOT 7A Type A, or equivalent, "B" series of filtered and nonfiltered boxes come in various sizes, including the B-25 style bin (4.3-ft high by 4-ft wide by 6-ft long) and B-52 style bin (3.5-ft high by 4.5-ft wide by 4.5-ft long).

22. The RH-TRU Shielded Overpack, or equivalent, is a 30- & 55-gal drum overpack assembly that has a 25-in. inside diameter and 32-in. outside diameter steel cylinder with a bolted steel flange. This overpack design contains no lead as steel is used to provide shielding.

23. The AMWTP puck drum, or equivalent, is a carbon steel container with a removable lid, gasket, and bolt ring. The drum is approximately 32-in. high with a 31-in. inner diameter. An inner cage consisting of mild steel bars may be utilized to prevent direct contact between the waste and the container. The puck drum has a capacity of approximately 100-gal and meets the WIPP stacking criteria

24. The Ten-Drum Overpack (TDOP) is a welded-steel, right circular cylinder, with a removable bolt lid on one end. The TDOP may be loaded directly or it may be loaded with ten 55-gal drums, up to six 85-gal drums, or one SWB.

25. The AMWTP LLW export box, or equivalent, is constructed of carbon steel. The container is 96-in. long by 48-in. wide by 48-in. high, and may be reinforced with steel bracing on the inside of the container.

26. The “slim” 55-gal overpack drum is a carbon-steel drum that may be loaded with 55-gal drums. The “slim” 55-gal overpack has dimensions slightly larger than that of a standard 55-gal drum.

27. The DOT Industrial Packaging 1 (IP-1) soft-sided overpack container (SSOP), or equivalent, is constructed of a woven and coated polypropylene fabric that provides contamination control and does not react with hazardous or radioactive waste constituents. The material of construction is compatible with all waste types at AMWTP. Prior to overpacking, the integrity of the waste box is assessed by Operations personnel in consultation with an AMWTP Systems Engineer. In the event a waste box lacks sufficient structural integrity, it is reinforced (e.g., plywood sheets joined with Simpson Strong-Ties® system components, or equivalent), and any sharp corners and edges are padded (e.g., with sheets of Herculite®) before it is overpacked. After the SSOP is filled and closed, the closure mechanism (e.g., Velcro strip) is reinforced (e.g., with adhesive tape), if necessary. SSOPs are designated for on-Site use, only, and they are not stored in the Outside Storage Area. In addition, they are not used for waste boxes that are known to contain large amounts of liquids (e.g., a 55-gallon drum of oil).

28. A bag or plastic wrapping material that is secure and leak tight. Bags/plastic wrapping material may be used to store rigid waste (e.g., plywood, pallets, etc.) or non-rigid waste (e.g., personal protective equipment [PPE], radiological swipes, etc.). Bags/plastic wrapping material may only be used for storing waste that without treatment, the waste is not amenable for storage in any of the containers identified above.

29. The drum overpack box may contain up to six drums of various sizes. The drum overpack box has a flat bottom and all seams within the box other than the lid are sealed with a caulking material. The lid of the box is secured to the box with cargo tape, or equivalent. The drum overpack box is typically used for transporting drums into the box lines of WMF-676 for treatment.

30. Any other approved DOT container.

International cargo containers are also used to hold approved containers of existing waste.

Exceptions to the above-specified containers do occur and are called non-standard waste containers. These generally involve variations in dimensions and weight limits. Non-standard waste containers may be approved by the appropriate AMWTP personnel on a case-by-case basis given that the container meets the requirements of IDAPA 58.01.05.008 (40 CFR 264.171, .172, and .177).

Stainless steel containers or containers with stainless steel liners which are approved for storage and macroencapsulation are as follows:

1. The Industrial Packaging – 2 (IP-2) cargo shipping container with an inner stainless steel liner. The cargo shipping container is constructed of carbon steel. The inner stainless steel liner is constructed from continuous welded stainless steel panels covering the sides, top, bottom and back end surfaces. The liner is constructed with a minimum thickness of 12 gauge stainless steel.

HDPE containers which are approved for storage and macroencapsulation are as follows:

1. The MacroPack is an HDPE container that may be loaded with AMWTP puck drums. The MacroPack consists of a 1/2-in. HDPE container/lid.

Container Labels

Containers may be labeled with hazardous waste labels, barcodes, appropriate radiation labels, and appropriate hazard labels. Exhibit D-1 is an example of a label which may be used on containers. Additional labels may be used to indicate the generator of the waste stream, the date of generation, the container number, the lot number, or other data. Typical labels that may be affixed to containers entering the MWMUs include:

- Generator’s name,
- Generator’s address,
- "Hazardous Waste,"
- INL Tracking Number,
- Barcode (required),
- Awaiting Analysis,
- Container pack date, and
- Generation date.

Containers with unknown contents are labeled with the words "Hazardous Waste" and an AMWTP barcode label, at a minimum. AMWTP puck drums which contain off-Site waste are labeled with the words “Off-Site Waste.” Additional labels are affixed to those containers with unknown contents, as new information becomes available. For wastes received at the AMWTP that are subject to LDR requirements, the labels also include the date the wastes were placed into storage at the TSA or the date the container was packaged at the generator's facility. Other appropriate labels are attached, as required, prior to receipt in the MWMUs.

D-1a(2) Container Management Practices [IDAPA 58.01.05.008; 40 CFR 264.173]

Containers are managed and stored in a manner to prevent container rupture or leakage and to minimize exposure to personnel of MW constituents. All containers are kept closed during storage. AMWTP personnel follow procedures and instructions that establish operating practices designed to minimize the probability of accidents, which may result in a release of MW to the environment. Containers are visually inspected for integrity to determine if there are signs of significant corrosion, visible pitting, leaks, or apparent structural defects threatening container integrity. Containers that fail this visual inspection for integrity are either repaired, overpacked, or repackaged, as required. Containers used by the AMWTP are compatible with the types of wastes managed at the AMWTP.

TPAs and TDOPs are separated from the general population of waste. TPAs shall be stored in rows not to exceed one (1) TPA high by one (1) TPA wide by "n" TPAs long, allowing for aisle spacing requirements. TDOPs shall be stored in rows not to exceed one (1) TDOP high by one (1) TDOP wide by "n" TDOPs long, allowing for aisle spacing requirements.

Repaired containers are separated from the general storage population upon removal of the container from the general waste population. Repaired containers are stored in a configuration of no more than two containers wide by two containers high by "n" containers long, allowing for aisle spacing requirements. In the event that a repaired container develops additional leaks/pinholes or the repair fails, the container will be overpacked or repackaged.

Containers that are used for macroencapsulation are separated from the general population upon being designated for treatment via macroencapsulation. The containers are stored in a configuration of no more than two containers wide by two containers high by "n" containers long, allowing for aisle spacing requirements.

Bags and plastic wrapping material used as containers are separated from the general population. Bag/plastic wrap containers with rigid wastes are stored no more than four containers wide by five containers high by "n" containers long, allowing for aisle spacing requirements. A protective sheet (e.g., plywood) will be used in-between each bag/plastic wrap container layer for protective purposes. Bag/plastic wrap containers with non-rigid waste are stored no more than four containers wide by one container high by "n" containers long, allowing for aisle spacing requirements.

Containers identified as pyrophoric radionuclides (e.g., uranium that has not been completely oxidized, commonly known as roaster oxides) are physically separated from the general waste population. Containers identified as pyrophoric radionuclides are stored in a configuration of no more than two containers wide by two containers high by "n" containers long, allowing for aisle spacing requirements. Containers identified as pyrophoric radionuclides that have suspect integrity shall not be repaired; rather, all containers with suspect integrity shall be overpacked. Rows of containers identified as pyrophoric radionuclides shall not be stored adjacent to a row of containers that contains a container made of combustible material (e.g., plywood, cardboard, FRP, etc.).

Container loading and unloading activities are conducted in accordance with established procedures for:

- Work control;
- Transfer, storage, handling, and tracking of waste;
- Receipt, inspection, and documentation of waste;
- Logkeeping practices and checklists;
- Truck/trailer waste container unloading; and
- Overpacked drum recovery.

Each container received at WMF-634 has a unique barcode attached. The barcode is used to identify containers before and after any transfers to ensure the proper containers are moved and to identify their new location. This information is used to track the movement via the AMWTP DMS.

Main access within WMF-634 is provided by a 20-ft wide center aisle (excluding support beams and portable equipment). If “fast” assay is being performed, then only a 16-ft wide center aisle is required in the area. Three-ft wide aisles (excluding support beams and portable equipment) are provided between the rows of containers and the walls to allow personnel access. In the event that emergency equipment is needed, access to the containers is provided through the center aisle of the building. Drawing 53-10374 presents a typical waste storage configuration within WMF-634.

WMF-634 waste storage areas can accommodate any container previously listed in D-1a(1) of this section and TPAs. All containers are stored on pallets or risers which are arranged into rows. Containers may be located on the floor while in transition (e.g., loading/unloading trailers or other equipment) for a period of time not to exceed the end of the work shift in which the container was placed onto the floor. The storage configuration for these areas is based on the placement of containers on these pallets or risers. The storage configuration presented in Drawing 53-10374 represents the configuration for the number of pallets or risers that may be stored while maintaining a minimum 3-ft aisle space (excluding support beams and portable equipment) between the rows and walls and providing a 20-ft center aisle (excluding support beams and portable equipment).

Any combination of container types may be stored in WMF-634 at any given time. Boxes, calculated at a nominal 4-ft by 4-ft by 8-ft, are used to determine the maximum potential waste volume that can be stored in the south half of WMF-634. Calculations for containers other than boxes and 55-gal drums are not provided because the potential maximum waste volumes for other containers are less than the corresponding values for boxes.

A normal pallet may support eight 55-gal drums per layer, up to five drums high, for a total of 40 55-gal drums per pallet. A total of four boxes may be placed on each normal pallet (one box per layer, up to four boxes high).

Calculated maximum capacity in the south half of WMF-634 is based on containers stored in the following configuration. There are up to 21 rows (including two partial rows) of drums. A row is defined as up to four drums wide by up to five drums high by up to 22 drums in length (i.e., depth). The drum storage capacity of the south half of WMF-634 is 9,080 drums.

For boxes, the configuration of a row is up to four wide, up to four high, and up to 11 long. In the corners of the building the length of a row is shorter to allow space for access ramps. The box storage capacity in the south half of WMF-634 is 1,128 boxes. TDOPs and TPAs may also be stored in WMF-634; however, TDOPs and TPAs are not typically stored in WMF-634. TPAs are assembled by placing two levels of drums on a circular TRUPACT pallet. Exhibit D-2 shows a typical configuration for a TPA. These storage configurations allow for operational flexibility in utilizing available storage space while minimizing radiation exposure to personnel. Incompatible wastes are segregated from the other waste in accordance with Attachment 6.

Typically only the south half of WMF-634 is used for storage of containers to support routine operations. However, the unoccupied space (i.e., the areas not taken by characterization equipment and control rooms) in the north half of the building may be used to store waste containers, as necessary, to support operations. The secondary containment system capacity is more than sufficient to contain 10% of the volume of the additional containers or the volume of the largest container (whichever is greater). See Appendix XI for additional information on the secondary containment system capacity for WMF-634. In addition to the primary 6-in. containment curb surrounding the interior of WMF-634, a 4-in. curb surrounding the coring room provides additional containment and minimizes the potential of contamination from DCSRS operations.

D-1a(3) Secondary Containment System Design and Operation [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(a) and (d), and 270.15(a)(1)]

WMF-634 is a fully enclosed structure. The secondary containment system consists of a concrete floor, concrete sealer, and an epoxy type coating, or equivalent. Additional coating(s) may be placed onto the secondary containment system. This coating(s) is typically used to prevent degradation of or damage to the secondary containment system, by providing protective layers. The secondary containment system is maintained to provide containment that is sufficiently impervious to leaks, spills, and accumulated precipitation until the collected material is detected and removed.

The secondary containment system is designed to resist frost heave and the types of wastes stored. A secondary containment system is also provided for the coring room. The secondary containment system provides sufficient capacity to hold, at a minimum, 10% of the maximum liquid volume stored or the volume of the largest container (whichever is greater) in the storage area(s) in accordance with HWMA/RCRA requirements. Container storage areas holding only wastes that do not contain free liquids do not require a containment system. See Section D-1b for additional information.

D-1a(3)(a) Requirement for the Base or Liner to Contain Liquids [IDAPA 58.01.05.008; 40 CFR 264.175(b)(1)]

The secondary containment system is resistant to a wide range of acids, alkalis, solvents, oxidizers, oils, and grease, as well as radiation. The containment coating(s) is applied per manufacturer's recommendations. The design of the floor and the application of the secondary containment system coating(s) (i.e., concrete sealer and an epoxy type coating, or equivalent), together, are more than sufficient to contain any leaks or spills of waste and prevent migration of spilled contaminants into underlying concrete. As stated above, multiple coatings may be utilized for protective purposes, so long as liquid is contained without allowing contact to the concrete/concrete sealer.

D-1a(3)(b) Containment System Drainage [IDAPA 58.00.05.008 and 58.01.05.012; 40 CFR 264.175(b)(2) and 270.15(a)(2)]

The MWMUs are designed to collect any liquid accumulation resulting from spills or leaks. As described earlier, the wastes stored at the MWMUs are essentially solid in form. There is little likelihood of a spill or leak involving free liquid.

The floor of the Type II Modules is sloped approximately 1 in. in 20 ft from the north and south sides towards the east-west midline of the module. This promotes collection of any snow, ice, or water that may be brought in by trucks entering the building to unload containers and to prevent contact of such material with the containers.

Containers in storage are elevated above the floor slab to preclude container contact with liquids or spills. The pallets or risers may be steel, plastic, wood or other similar type of material; secondary containment-type pallets or pans may also be used. Large steel pallets may be used that are the same as commercially available steel pallets except they are constructed of a heavier gauge steel.

Precipitation is not a factor in the secondary containment system, since the MWMUs are totally enclosed buildings. In addition, the Type II Module entrances are at least 6 in. above grade. The doors of the modules are typically kept closed except when occupied for container handling operations, inspections, maintenance, etc. The area around the MWMUs is graded to promote drainage and run-off away from the module exterior entrances. Run-on and run-off controls are discussed in Section D-1a(3)(d).

The storage areas of the MWMUs are inspected weekly for leaks and spills. In the event that a leak or spill is detected, the spill is removed in accordance with spill response procedures or the Contingency Plan as described in Attachment 7.

D-1a(3)(c) Containment System Capacity [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(b)(3) and 270.15(a)(3)]

The secondary containment systems for the Type II Modules are sized to contain, at a minimum, 10% of the maximum liquid waste volume or the volume of the largest container (whichever is greater) stored in the area at any given time, if secondary containment is required. Section D-1a(2) describes the storage configuration that is typically used in WMF-634. Table D-1 summarizes the secondary containment capacity calculations for WMF-634. Appendix XI presents the calculations and assumptions used in compiling Table D-1.

D-1a(3)(d) Control of Run-On [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(b)(4) and 270.15(a)(4)]

Run-on in the vicinity of the MWMUs is of three types: rainfall, snow, and snowmelt. Meteorological records for the INL indicate that the mean annual total precipitation is slightly less than 9 in. and is well distributed throughout the year. Approximately 0.5 in. falls each month, with 1.2 in. per month during May and June. The maximum historical precipitation experienced in a 24-hr period was 1.6 in. Mean annual precipitation as snow is 27 to 28 in. The maximum recorded monthly snowfall was 22 in., and the maximum 24-hr snowfall totaled approximately 9 in. Precipitation, in one form or another, occurs on the average of about 28 days each year. Average snow depth during the months of December through March ranges from 2 to 4 in. per month. Snowfall extremes of 6 to 9 in. have occurred during a few 24-hr periods. See Attachment 1 for floodplain information details.

Appendix II contains a topographic map indicating the location of the MWMU buildings and the nearby area. As shown on this map, the RWMC is located in a topographic depression and is bounded by higher ground to the north, west, and south. As a result, run-on and run-off controls are present at the TSA and nearby Subsurface Disposal Area (SDA) that are designed to handle local run-on from surrounding high ground and run-off from the RWMC waste management areas. The RWMC/AMWTP topographic map, as shown in Appendix II, illustrates the drainage ditch system comprising the local run-off control system. As shown in the RWMC/AMWTP topographic map, drainage ditches around the TSA and SDA collect run-off, and the ditches lead to a common ditch running to the northeast along Adams Boulevard. Approximately 2,500 ft northeast along Adams Boulevard, the drainage ditch turns to the north-northeast, runs under the road, and continues northward toward the Big Lost River. Culverts direct run-on within the TSA to the main drainage channel via drains placed in paved areas. Snow around the MWMUs is removed when necessary.

The MWMUs are totally enclosed structures, so run-on is prevented from entering the buildings. To aid in local run-off/drainage, the MWMUs are constructed on prepared surfaces. See Section B-3 in Attachment 1 for more details.

Analysis of a 25-yr, 24-hr storm event at the TSA ("25-year, 24-hour Storm Evaluation for the Advanced Mixed Waste Treatment Project," Mark Varvel, April 2007) was conducted to evaluate external and internal drainage at the TSA and the adequacy of the RWMC drainage ditch system. The analysis concluded that the current ditch and culvert system could adequately handle a 25-yr, 24-hr storm event for the MWMUs as required by IDAPA 58.01.05.008 [40 CFR 264.175(b)(4)]. As stated in the "25-year, 24-hour Storm Evaluation for the Advanced Mixed Waste Treatment Project," the drainage system located outside of the TSA is adequate to handle a 25-yr, 24-hr storm event. This evaluation is documented in the "100-Year Floodplain and 25-Year Runoff Analyses for the Radioactive Waste Management Complex Area at the Idaho National Engineering and Environmental Laboratory," T. Mitchell, S. Mitchell, J. Humphrey, D. Kennedy, and T. Funderburg, December, 2001.

D-1a(3)(e) Removal of Liquids from Containment System [IDAPA 58.01.05.008 and 58.01.05.012; 264.175(b)(5) and 40 CFR 270.15(a)(5)]

The MWMUs are inspected for container condition, spills, leaks, and accumulated liquids as described in Attachment 4. Operational history over the past 20 yrs indicates that leaks from the containers in storage are not likely to occur. Any spills, leaks, or accumulated liquids are cleaned up or otherwise mitigated in a timely manner upon discovery within these areas.

In the event of a leak/spill, AMWTP personnel may implement the Contingency Plan as described in Attachment 7. All equipment and any liquids generated during implementation of the Contingency Plan are managed appropriately, depending on the waste being cleaned up.

D-1b Containers Without Free Liquids [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(c) and 270.15(b)]

All containers stored at the MWMUs are managed in compliance with HWMA/RCRA requirements for containers with free liquids, unless documented not to contain any free liquids. Containers documented not to contain any free liquids through means other than historical knowledge (e.g., RTR, visual examination, etc.) may be stored in a MWMU without a secondary containment system that meets the requirements of IDAPA 58.01.05.008 [40 CFR 264.175(b)]. If RTR is used to document that a container does not contain any free liquids, then at least two AMWTP personnel will verify that the container does not contain free liquids.

Containers without free liquids shall be stored in an area that is sloped or otherwise designed to drain and remove liquid resulting from precipitation or the containers without free liquids shall be elevated or otherwise protected from contact with accumulated liquid in accordance with IDAPA 58.01.05.008 [40 CFR 264.175(c)]. Containers received for storage at the MWMUs are handled and stored as described in Section D-1a.

Table D-1. WMF-634 Secondary Containment System Capacity Calculations[a]

PARAMETER	CAPACITY
Maximum Waste Volume Stored	1,231,430 gal
Maximum Liquid Volume Stored	320,172 gal
10% of Maximum Liquid Volume[b]	32,017 gal
Secondary Containment Capacity	123,143 gal
Volume Displaced by Containers, Pallets, and Structural Features	43,047 gal
Available Secondary Containment[c]	72,541 gal

a. Calculations supporting these values are provided in Appendix XI. Volumes are for the maximum number of boxes in the typical storage configuration in the storage areas (south half of the building) plus the approximate maximum number of drums in process in the north half of WMF-634.

b. Minimum secondary containment capacity that must be made available.

c. Available secondary containment equals secondary containment capacity minus the volume displaced by containers, pallets, equipment, and structural features. Must equal or exceed the 10% of maximum liquid waste volume.

HAZARDOUS WASTE

FEDERAL LAW PROHIBITS IMPROPER DISPOSAL

IF FOUND, CONTACT THE NEAREST POLICE, OR PUBLIC SAFETY AUTHORITY, OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY

PROPER D.O.T.
SHIPPING NAME ____________________ UN or NA # __________

GENERATOR INFORMATION

NAME ______________________________________

ADDRESS ____________________________________

CITY____________________ STATE ________ ZIP ____

EPA
ID NO. ____________________

EPA
WASTE NO ____________

ACCUMULATION
START DATE ________________

MANIFEST
DOCUMENT NO __________

HANDLE WITH CARE!

CONTAINS HAZARDOUS OR TOXIC WASTES

Exhibit D-1. Example Hazardous Waste Label

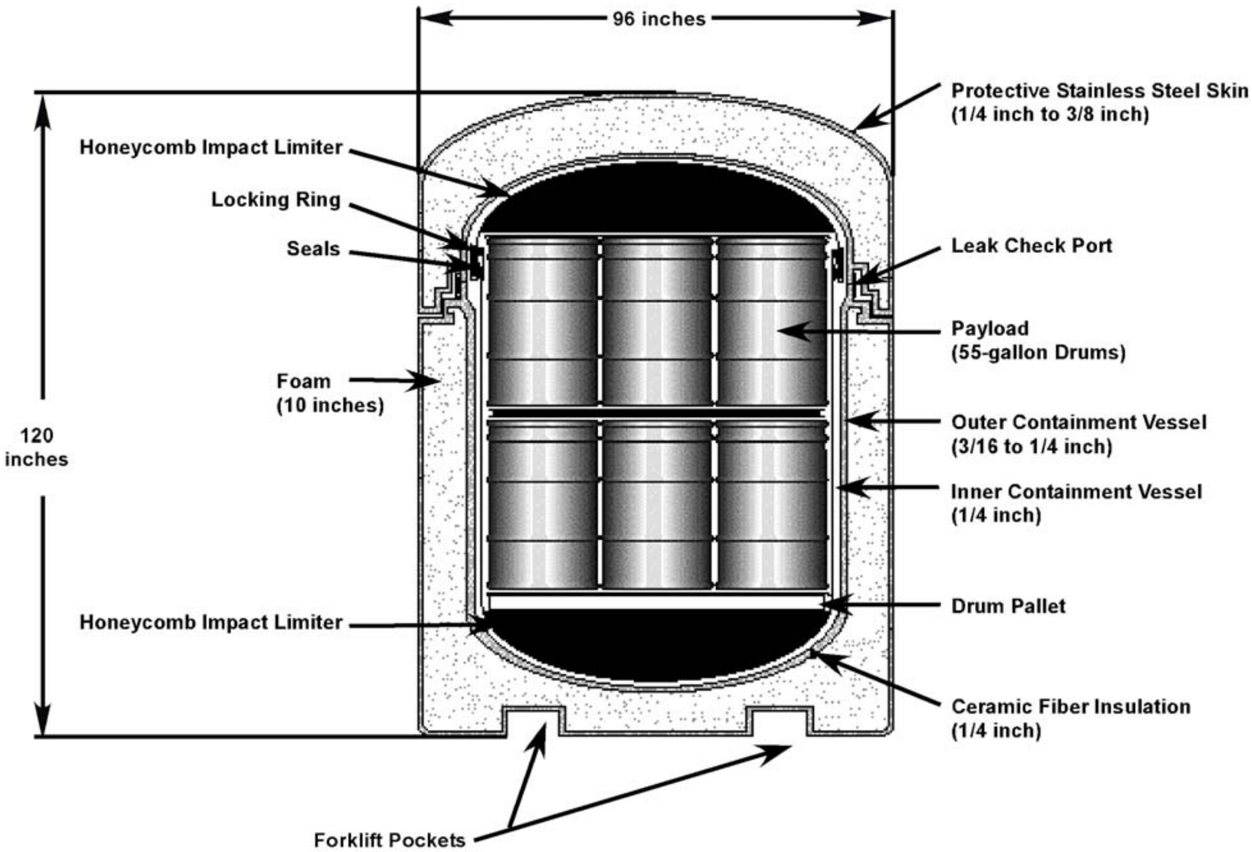

Exhibit D-2. Typical TRUPACT Assemblage

TABLE OF CONTENTS

ATTACHMENT 1.B

PROCESS INFORMATION

LIST OF TABLES

D. PROCESS INFORMATION

D Type II Modules Design

The Type II Modules are used to store and treat ROW and MW. A total of seven Type II Modules currently exist, and as many as ten modules may be constructed. This attachment covers the Type II Modules with the building designations of WMF-629 through WMF-633. The Type II Module designated as WMF-634 is described in Attachment 1.A and the Type II Module designated as WMF-628 is described in Attachment 1.E. Wastes currently in storage, as well as newly generated waste from on- and off-Site generators, may be moved and stored in the Type II Modules.

Unless otherwise noted, drawings for the Type II Modules are located in Appendix III. The Type II Modules house a number of activities, which include:

- Receiving and storing waste containers;
- Performing treatment, via absorption, of liquids;
- Performing treatment, via decanting, of liquids from containers, as required;
- Performing treatment, via neutralization, of liquids in a container;
- Performing visual examination of waste in containers;
- Repackaging of waste;
- Sizing of waste;
- Performing "fast" assay on containers;
- Performing treatment, via mechanical vibration of waste in a container; and
- Performing treatment, via macroencapsulation of waste in containers.

Waste treatment is conducted in a containment enclosure (absorption, decanting, neutralization, repackaging, sizing of waste, and mechanical vibration) or outside a containment enclosure (mechanical vibration and macroencapsulation). See Attachment 1.A for additional information on the containment enclosure requirements and treatment operations.

Fill and Grading

See Attachment 1.A for information on fill and grading requirements for the Type II Modules. See Drawing 52-9501 for additional information on the grading plan for the Type II Modules.

Foundations and Floors

The Type II Module design incorporates reinforced concrete footings. The footing depth is below the maximum frost depth for the RWMC site. The footings are designed to be in conformance with all applicable requirements of the American Concrete Institute (ACI).

The floor of the Type II Modules is comprised of a concrete slab-on-grade, 8-in. thick with #4 bar reinforcement on 12-in. centers, located 3 in. from the top of the floor, placed over 2-in. sand and 4-in. gravel fill. The floor is sloped 1 in. per 20 ft from the north and south sides toward the midline of the building (the midline runs east-west). The floor has been constructed with minimal slope to meet seismic design criteria and to ensure stability of the waste stacks. A 6-in. thick by 6-in. high concrete curb surrounds the open storage area.

The concrete reinforcement is in conformance with all applicable requirements of the ACI, the Concrete Reinforcing Steel Institute (CRSI), and the American Society for Testing and Materials (ASTM). The concrete was proportioned in accordance with ACI requirements to have a specified minimum 28-day compressive strength of 4,000 pounds per square inch (psi) for floor slabs and tiltup wall panels, 3,000 psi for building foundation, and 2,000 psi for conduit encasements. Ready-mix concrete used complies with ASTM requirements. Surfaces not exposed to view are rough formed, while those that can be viewed have a smooth form. The exposed floor slabs are cured and sealed, and a floor hardener applied that is compatible with the paint used on the floors.

The base is constructed with a minimum of expansion joints, and all joints are filled. The field construction joint consists of a backer rod and sealant. Floor slab seams are impermeable and chemically resistant to wastes managed in the Type II Modules. The design includes a backer rod, 9-in. neoprene dumbbell-type waterstop, and compressible joint filler.

Ramps are located at the east and west overhead access doors. The ramps are constructed of concrete and have a slope of approximately 1:15. The personnel access doors on the north, south, east, and west walls of the Type II Modules are 6 in. above grade and have concrete landings or stairs. See Drawings 51-9907 and 51-9913 for further information.

Other coatings may be used (e.g., non-slip coating, traffic and zone marking paint, etc.) that is compatible with the floor coating, may be used to mark aisles and a numbered storage grid on the floor, as necessary, to facilitate operations. The concrete curbing and flooring surfaces are filled with compatible block filler and finished with an epoxy-type coating that is compatible with the wastes stored in the Type II Modules.

Structural Parameters

The Type II Modules are pre-engineered structural steel buildings. The primary and secondary framing design for the buildings comply with Project Design Criteria specified in Department of Energy (DOE) Order 6430.1A and the Metal Building Manufacturers Association (MBMA). All of the primary framing connections utilize high-strength bolts conforming to ASTM A325, A490, or equivalent. The buildings are constructed of metal walls and roof panels (prepainted), and a clear-span rigid frame. No interior columns are used in the basic frame. A long-span rigid frame, approximately 240-ft long by 120-ft wide, is used with an eave height of 26 ft. Each Type II Module has an interior floor space of approximately 28,800 ft^2. The roof slope for the Type II Modules is approximately 1:12. The walls are fastened to the structural girders, which in turn are anchored to the foundation. The building girts and purlins are cold-formed Z- or C-shaped sections. Diagonal bracing rods provide structural bracing for the building.

As shown in Drawing 51-9907, each Type II Module may be accessed through an overhead door located on the east and west sides of each building. The doors are electrically powered and equipped with a manual override. In addition to these doors, there is a metal personnel access door next to each overhead access door; and one on both the north and south sides of the building, approximately mid-way.

The exterior of each Type II Module is clad in ribbed metal siding with a standing seam metal roofing. The roof is of Factory Mutual Class 1 construction. Lightning protection systems in accordance with NFPA requirements are provided.

An electrical room is located along the exterior west wall of each Type II Module midway between the west overhead access door and the southwest corner of the building. This room is a pre-engineered structure that rests on a concrete slab. The metal wall panels are insulated. It has its own exterior personnel access door on the north end of the room. There is a firewall between the electrical room and the module, which is of 2-hr fire-rated construction.

There is a fire sprinkler riser room adjacent to the electrical room. The fire sprinkler riser room houses the fire water riser pipes and connections. This room has its own exterior entrance.

HVAC System

The HVAC system of the Type II Modules conforms to the same standards as those for the WMF-634 building, described in Attachment 1.A.

The Type II Modules are not routinely heated or cooled, but are ventilated by a once-through air distribution system to control CO accumulation from equipment and vehicle operations. The ventilation system is only operated as required to maintain CO within acceptable levels. Ventilation air is drawn into the building through eight louvers equipped with filters for dust control. The louvers are located along the base of the north and south walls of the building, four equally spaced on each wall. The building air is exhausted through eight exhaust grilles and associated ductwork connected to a single ground mounted exhaust fan and then through a single exhaust stack.

The air intakes consist of louvers fitted with a bird screen. A motorized parallel blade damper is used to adjust the air intake. A filter assembly on the louver filters out particulates from the incoming air. The air intakes are designed for an intake of 1,800 cfm each.

Electrical Power

The Type II Module electrical power system and requirements are the same as those listed for WMF-634. See Attachment 1.A for further information. See Drawings 54-9760, 54-9715, 54-9716, and 54-9717 for the electrical one-line diagram for the Type II Modules. See Drawings 56-1901 in Appendix II and 56-9500 in Appendix III for the Site utilities for the Type II Modules.

Lighting

All walkways, entrances, and exits are provided with lighting. Interior building lighting is typically provided by metal halide or fluorescent light fixtures suspended from the ceiling of the building. Exterior lighting is provided along the building exterior and nearby roadways.

Operating Record

Typically, the AMWTP computerized system is used for overall data management, recordkeeping, and waste tracking. See Attachment 1.A for further information on the Operating Record requirements.

D-1 Containers

D-1a Containers with Free Liquids

See Attachment 1.A, Section D-1a for further information on containers with free liquids.

D-1a(1) Description of Containers [IDAPA 58.01.05.008; 40 CFR 264.171 and 264.172]

The containers used to store wastes in the Type II Modules are the same as those described in Attachment 1.A, Section D-1a(1). Container labels and markings are also described in Attachment 1.A, Section D-1a(1).

D-1a(2) Container Management Practices [IDAPA 58.01.05.008; 40 CFR 264.173]

Details on container management practices are described in Section D-1a(2) of Attachment 1.A. The following text addresses variations to those practices that are specific to the Type II Modules designated as WMF-629 through WMF-633.

Main access into a Type II Module is provided by a 20-ft wide center aisle (excluding support beams and portable equipment). If “fast” assay is being performed, then only a 16-ft wide center aisle is required in the area. Three-ft wide aisles (excluding support beams and portable equipment) are provided between the rows of containers and the walls to allow personnel access. All containers are stored on pallets or risers which are arranged into rows. Containers may be located on the floor while in transition (e.g., loading/unloading trailers or other equipment) for a period of time not to exceed the end of the work shift in which the container was placed onto the floor. In the event that emergency equipment is needed, access to the containers is provided through the center aisle of the building. Drawing 51-9907 presents a typical waste storage configuration within a Type II Module.

Any combination of container types may be stored in the Type II Modules at any given time. Boxes, calculated 4-ft by 4-ft by 8-ft, are used in Appendix XI to determine the maximum potential waste volume that can be stored in a Type II Module.

For maximum capacity, containers are stored in the following configuration. There are up to 42 rows of drums per Type II Module. A row is defined as up to four drums wide by up to five drums high by up to 22 drums in length (i.e., depth). The drum storage capacity in a Type II Module is 18,160 55-gal drums. For boxes, the configuration of a row is up to four wide, up to four high, and up to 11 long. The maximum storage capacity per Type II Module is 2,256 boxes. In the corners of the buildings, the length of a row is shorter to allow space for access ramps. TDOPs and TPAs may also be stored in the Type II Modules as described in Section D-1a(2) of Attachment 1.A.

Incompatible wastes are managed in the Type II Modules in accordance with Attachment 6.

D-1a(3) Secondary Containment System Design and Operation [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(a) and (d), and 270.15(a)(1)]

Each Type II Module is a fully enclosed structure. The secondary containment system consists of a concrete floor, concrete sealer, and an epoxy type coating, or equivalent. Additional coating(s) may be placed onto the secondary containment system. This coating(s) is typically used to prevent degradation of or damage to the secondary containment system, by providing protective layers. The secondary containment system is maintained to provide containment that is sufficiently impervious to leaks, spills, and accumulated precipitation until the collected material is detected and removed.

The secondary containment system is designed to resist frost heave and the types of wastes stored. The secondary containment system provides sufficient capacity to hold, at a minimum, 10% of the maximum liquid volume stored or the volume of the largest container (whichever is greater) in the storage area(s) in accordance with HWMA/RCRA requirements. Container storage areas holding only wastes that do not contain free liquids do not require a containment system. See Section D-1b for additional information.

D-1a(3)(a) Requirement for the Base or Liner to Contain Liquids [IDAPA 58.01.05.008; 40 CFR 264.175(b)(1)]

The requirements for the base or liner to contain liquids are the same as those described in Section D-1a(3)(a) of Attachment 1.A. A detailed description of the design and materials of construction of the base and containment curbs is provided in Section D of this attachment.

D-1a(3)(b) Containment System Drainage [IDAPA 58.00.05.008 and 58.01.05.012; 40 CFR 264.175(b)(2) and 270.15(a)(2)]

The containment system drainage requirements are the same as those described in Section D-1a(3)(b) of Attachment 1.A.

D-1a(3)(c) Containment System Capacity [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(b)(3) and 270.15(a)(3)]

The secondary containment system for the Type II Modules is sized to contain, at a minimum, 10% of the maximum liquid waste volume or the volume of the largest container (whichever is greater) stored in the area at any given time, if secondary containment is required. Section D-1a(2) describes the storage configuration that is used in the Type II Modules. Table D-1 summarizes the secondary containment capacity calculations for the Type II Modules. Appendix XI presents the calculations and assumptions used in compiling Table D-1.

D-1a(3)(d) Control of Run-On [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(b)(4) and 270.15(a)(4)]

The requirements for control of run-on are the same are those described in Section D-1a(3)(d) of Attachment 1.A.

D-1a(3)(e) Removal of Liquids from Containment System [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(b)(5) and 270.15(a)(5)]

The requirements for the removal of liquids from the containment system are described in Section D-1a(3)(e) in Attachment 1.A.

D-1b Containers Without Free Liquids [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(c) and 270.15(b)]

Containers without free liquids are managed as described in Section D-1b of Attachment 1.A.

Table D-1. Type II Module Secondary Containment System Capacity Calculations[a]

PARAMETER	CAPACITY
Maximum Waste Volume Stored	2,159,985 gal
Maximum Liquid Volume Stored	561,596 gal
10% of Maximum Liquid Volume[b]	56,160 gal
Secondary Containment Capacity	123,143 gal
Volume Displaced by Containers, Pallets, and Structural Features	40,236 gal
Available Secondary Containment[c]	82,907 gal

a. Calculations supporting these values are provided in Appendix XI. Volumes are for the maximum number of boxes in the typical storage configuration in the storage areas in a Type II Module.

b. Minimum secondary containment capacity that must be made available.

c. Available secondary containment equals secondary containment capacity minus the volume displaced by containers, pallets, and structural features. Must equal or exceed the 10% of maximum liquid volume.

TABLE OF CONTENTS

ATTACHMENT 1.C

PROCESS INFORMATION

LIST OF TABLES

D. PROCESS INFORMATION

D Type I Module Design

The Type I Module is used to store, characterize, treat, and package containers of ROW and MW into TRUPACT casks in preparation for shipment to the WIPP or to another waste management unit.

Unless otherwise noted, drawings for the Type I Module are located in Appendix IV.

The Type I Module houses a number of activities, which include:

- Receiving and storing waste containers for characterization using the DVF and/or the headspace gas sampling equipment;
- Performing treatment, via absorption, of liquids;
- Performing treatment, via decanting, of liquids from containers, as required;
- Performing treatment, via neutralization, of liquids in a container;
- Preparation of containers in the TLA for shipment;
- Performing treatment through the repackaging of waste in containers;
- Performing treatment through the sizing of waste;
- Gas generation testing on containers;
- Performing "fast" assay on containers;
- Performing treatment, via mechanical vibration of waste in a container; and
- Performing treatment, via macroencapsulation of waste in containers.

Waste treatment (absorption, decanting, neutralization, repackaging, sizing, and mechanical vibration) is conducted in the DVF (WMF-615) and in a containment enclosure, which is typically located in the WCRA in WMF-635, but may also be located in the MSA or PAAA. Waste treatment (mechanical vibration and macroencapsulation) may also be performed outside of a containment enclosure. See Attachment 1.A for additional information on the containment enclosure requirements and treatment operations.

The physical layout of the Type I Module is shown on Drawing 51-9912. Typically, waste containers enter the Type I Module on the west side and exit on the east side of the building. Containers are received into the Type I Module, and are off-loaded and stored. As each container is placed into its designated storage area, the container's barcode label is scanned to update the container's location information maintained in the AMWTP Operating Record.

The MSA is used to receive, store, treat, and weigh containers, as appropriate. Drums identified as requiring venting may be sent to the DVF, where the drums are loaded onto a conveyor. Once on the conveyor, drums are moved into the DVF, where the lid and liners, if present, are punctured and a filter is inserted. A HEPA filtration system is part of the DVF. The HEPA filtration system functions to control airborne contamination released during drum venting. See Drawing 51-9912 for further information. After venting, containers are then transferred to storage via equipment or the headspace gas is sampled using portable headspace gas sampling equipment. Portable headspace gas sampling equipment may be located in either the MSA, PAAA, or the WCRA. The sample is collected by drawing the sample through the existing filter or through a sampling port specifically designed for sampling through a drum lid.

The DVF is also used to perform treatment of liquids, via absorption. Equipment consisting of a portable gantry crane, vented fume hood, and radiological containment systems (for personnel access) is available in the DVF/MSA to facilitate treatment activities. Once a container requiring treatment is inside the DVF silo, the container is positioned under the fume hood, which is vented to the DVF HEPA exhaust system. Following placement of the container under the fume hood, the drum lid is removed and any free liquids may be absorbed in place by the addition of absorbent to the container. Containers with liquids requiring absorption are treated as described in Section D of Attachment 1.A.

Drums identified for gas generation testing are transferred to the gas generation testing units, and are stored within the Type I Module while testing is performed. Up to 100 gas generation testing units may be located within the Type I Module. See Drawing 51-9912 for further information. The gas generation testing units consist of a gas test canister, which is a closed canister (shell and base plate) that can hold a drum and retain all gases released from the drum until the canister is sampled at the end of the test. A mobile analytical system is used to sample and analyze the gas in each canister.

TRUPACT cask assembly is conducted in the TLA by retrieving containers from storage in the PAAA/WCRA. The containers are typically assembled into either TDOPs, TPAs, or SWBs, which are subsequently packaged into a TRUPACT cask. TPA stabilization is provided by wrapping individual levels of drums with a clear plastic stretch-wrap material under tension. TPAs are assembled on the stretch wrapper by placing two levels of drums on a circular TRUPACT pallet. Each level consists of multiple drums arranged in a circular manner. See Exhibit D-2 in Attachment 1.A for an example of a TPA in a TRUPACT cask. A single level of the TPA consists of a maximum of seven 55-gal drums or 3 100-gal drums. The pallet and inter-level reinforcing plate have slipsheets installed between the drums and metallic support surfaces, to stabilize the TPAs during handling operations.

Once the containers are assembled into TDOPs, TPAs, or SWBs, they may be stored in the TLA pending loading into a TRUPACT cask. If free liquids are present in a container, then the container will be stored on a spill pallet, or equivalent, in accordance with Section D-1a(3). Assembled TPAs, two SWBs, or one TDOP may be loaded into a TRUPACT cask, using an overhead crane system in the TLA. After loading, TRUPACT casks may either be loaded directly onto a truck for shipment to the WIPP or to another waste management unit, or are placed into storage, typically within the TLA of the Type I Module. See Drawing 51-9912 for TRUPACT cask storage areas located in the TLA.

The Type I Module does not contain toilet facilities. There are no areas designated for smoking in the Type I Module.

Fill and Grading

The area on which the Type I Module is built was graded prior to construction. A minimum slope of 1% has been provided to ensure adequate drainage away from the Type I Module. See Drawing 52-9500 for further information on the grading plan.

Backfill compaction requirements and fill material for the Type I Module are the same as those identified in Attachment 1.A.

Foundations and Floors

The Type I Module design uses concrete pedestals supported by footings. The footing depth is below the maximum frost depth for the RWMC site. The footings are designed to be in conformance with all applicable requirements of the ACI.

The concrete floors of the MSA and TLA are 8-in. thick with #5 bar reinforcement on 15-in. centers, placed 2 in. from top, over a 6 in. gravel fill. The TRUPACT cask storage room floors in the TLA are 8-in. thick concrete. The PAAA/WCRA floor is 12-in. thick, constructed with #6 bar reinforcement on 15-in. centers. Secondary containment is provided by a 6-in. thick by 6-in. high curb installed around the MSA and PAAA/WCRA and where column piers and pipes penetrate the floor.

The concrete reinforcement is in conformance with all applicable requirements of the ACI, the CRSI, and the ASTM. The concrete was proportioned in accordance with ACI requirements to have a specified minimum 28-day compressive strength of 4,000 psi for floor slabs and tiltup wall panels, 3,000 psi for building foundation, and 2,000 psi for conduit encasements. Ready-mix concrete used complies with ASTM requirements. Surfaces not exposed to view are rough formed, while those that can be viewed have a smooth form. The exposed floor slabs are cured and sealed, and a floor hardener applied that is compatible with the paint used on the floors.

The base is constructed with a minimum of expansion joints, and all joints are filled. Floor slab seams are impermeable and chemically resistant to wastes managed in the Type I Module. The design includes a stainless steel plate at floor elevation, backer rod, 9-in. neoprene dumbbell-type waterstop, and compressible joint filler.

A depression is located in the interior of the Type I Module from one access door to the other. The depression runs east-west, 252-ft long by 12-ft wide, and is sloped to the midline from the north and south edges. The slope is 1/8 in. per ft; therefore, the east-west midline is about 3/4 in. below grade. This depression collects any water, snow, or ice that may be tracked in with equipment or containers entering the building, thereby precluding contact of the containers with such material. The floors of the MSA and TLA are sloped approximately 1 in. in

20 ft. The PAAA/WCRA floor is flat to meet seismic design criteria and ensure stability of the equipment and containers during storage.

Ramps are located at the east and west access doors, between the MSA and TLA, and at the west and north interior entrances to the PAAA/WCRA. Ramps are also located on the north, south, east, and west personnel doors. Additional ramps are located at the north and west PAAA/WCRA doors. See Drawing 51-9912 for further information. All the ramps are constructed of concrete, with a slope of approximately 5%. All personnel access doors are elevated approximately 6 in. above grade. There is no ramp in the doorway between the PAAA and WCRA.

Other coatings may be used (e.g., non-slip coating, traffic and zone marking paint, etc.) that is compatible with the floor coating, may be used to mark aisles and a numbered storage grid on the floor, as necessary, to facilitate operations. The concrete curbing and flooring surfaces in the MSA, PAAA, and WCRA are filled with compatible block filler, finished with two coats of an epoxy-type coating, or equivalent, that is compatible with the wastes stored in the Type I Module. The TLA may be coated with an epoxy-type coating, or equivalent, that is compatible with the wastes stored in the Type I Module.

Structural Parameters

The Type I Module is a pre-engineered structural-steel building. The primary and secondary framing design for the pre-engineered building complies with Project Design Criteria specified in DOE Order 6430.1A and the MBMA. The framing consists of a clear-span rigid frame with a gabled roof and building width extensions. The roof has a slope of approximately 1:12. All of the primary framing connections utilize high-strength bolts conforming to ASTM A325, A490, or equivalent. The roof and wall coverings are preformed metal siding and roofing. The roof and walls of the Type I Module are insulated with glass fiber insulation, which is partially covered with metal liner panels. The walls are fastened to the structural girders, which in turn are anchored to the foundation. The wall separating the PAAA and WCRA is fastened to 6 in. metal studs, which are fastened to the bottom runners of the metal wall anchored directly to the concrete floor. The building girts and purlins are cold-formed Z- or C-shaped sections.

Diagonal bracing rods provide structural bracing for the building. See Drawings 51-9926 and 51-9919 for further information.

The Type I Module is designed to withstand a 50-year, 80-miles-per-hour wind at a 33-ft elevation. A snow load of 30 lbs per ft^2 is used for roof design, with the effects of drifting snow added, in accordance with ANSI standards.

The Type I Module is clad in ribbed metal siding with a standing seam metal roof. The roof is Factory Mutual Class 1 construction. The Type I Module has a long-span rigid frame, approximately 254-ft long by 160-ft wide, with a 26-ft eave height. This provides an interior space of approximately 40,745 ft^2. Lightning protection systems, in accordance with NFPA requirements, are provided. See Drawing 51-9919 for further information.

Exposed exterior concrete walls are coated with a washable enamel painted finish, or equivalent. Insulation is provided throughout the Type I Module on the roof, foundation perimeter, exterior doors, and door frames. Interior partitions are metal panels or concrete masonry units covered with metal panels. The partitions are coated in a washable enamel finish. An 8-in. thick concrete firewall, 4-hr-rated, is located between WMF-617 (located on the southeast exterior of the Type I Module) and the Type I Module. A 2-hr rated firewall separates the electrical room from the rest of the building.

As shown in Drawing 51-9912, there are two waste access doorways, one on the east side and one on the west side of the building. These doorways are equipped with overhead doors approximately 12-ft wide by 16-ft high. Internal doorways providing access to the PAAA and WCRA are equipped with overhead doors approximately 10-ft wide by 16-ft high. The doors are horizontal sectional or coil type, electrically operated with manual override.

Metal personnel entrance/egress doors are located on the west, north, south, and east side of the building. Metal personnel doors are also located near the internal west PAAA and north WCRA access doors.

As described previously, the interior of the Type I Module is divided into three storage areas: the MSA, TLA, and PAAA/WCRA. The north portion of the MSA measures approximately 82-ft by 72-ft and the south portion, by the DVF, measures approximately 84-ft by 84-ft. The TLA measures approximately 169-ft by 72-ft. Five storage rooms are located along the north wall of the TLA. These storage areas may be removed from the TLA, based upon operational needs. Three of the storage rooms are approximately 11-ft wide by 10-ft long, and two of the storage rooms are approximately 15-ft wide by 10-ft long. All five storage rooms are approximately 12-ft high.

The electrical room, located along the north wall of the TLA, is approximately 16-ft wide by 10-ft long. The PAAA is approximately 86-ft by 113-ft, and is located in the south central part of the building. The WCRA, approximately 86-ft by 56-ft, is located in the southeast portion of the building adjacent to the PAAA. The interior wall separating the WCRA and the PAAA is constructed of heavy gauge metal studs, covered with metal corrugated siding similar to the other walls of the PAAA/WCRA. The wall extends from floor to the ceiling and is built directly on the concrete floor slab.

HVAC System

The HVAC system conforms with the requirements of ASHRAE. The Type I Module is heated and ventilated to control CO accumulation from equipment and vehicle operations. The ventilation system is only operated as required to maintain CO within acceptable levels. The fire protection and electrical room in the northwest corner of the MSA is heated to prevent freezing. All heaters are equipped with safety controls to disconnect the heater in the event normal operating temperatures are exceeded.

Ventilation air is drawn into the building through multiple louvers. The intakes are fitted with interlocked dampers and are equipped with filters for dust control. A total of six roof-mounted intakes are located in the PAAA/WCRA. Air is exhausted through two louvers into the central exhaust duct. Approximately 5,800 cfm is exhausted via an electrically powered fan through the building stack.

Electrical Power

The Type I Module electrical system complies with the NEC, NFPA, NEMA, and OSHA requirements. The Type I Module is equipped with a 12.5-kV primary stepdown transformer exclusive to the building. The transformer is located outside the building, providing 480-V three-phase distribution within the building. 120-V nominal, single-phase power is also provided. In addition, the Type I Module has an exclusive 480-V main service distribution panel board, 480- to 120/208-V transformer, and 208/120-V power panels. See Drawings 54-9721, 54-9722, and 54-10380 for further information. See the Site utilities, Drawing 56-9500 in Appendix III for further information. The system is grounded and equipped with circuit breakers.

Lighting

All walkways, entrances, and exits are provided with lighting. Interior building lighting is typically provided by metal halide or fluorescent light fixtures from the ceiling of the building. Exterior lighting is provided along the building exterior and nearby roadways.

Operating Record

Typically, the AMWTP computerized system is used for overall data management, recordkeeping, and waste tracking. See Attachment 1.A for further information on the Operating Record requirements.

D-1 Containers

D-1a Containers with Free Liquids

See Attachment 1.A, Section D-1a for further information on containers with free liquids.

D-1a(1) Description of Containers [IDAPA 58.01.05.008; 40 CFR 264.171 and 264.172]

The containers used to store wastes in the Type I Module are the same as those described in Attachment 1.A, Section D-1a(1). Container labels and markings are also described in Attachment 1.A, Section D-1a(1).

D-1a(2) Container Management Practices [IDAPA 58.01.05.008; 40 CFR 264.173]

Details on container management practices are described in Section D-1a(2) of Attachment 1.A. The following addresses variations to those practices that are specific to the Type I Module.

The storage configuration in the MSA, PAAA, and WCRA areas is based on the placement of containers on pallets or risers. All containers are stored on pallets or risers, which are arranged into rows. Containers may be located on the floor while in transition (e.g., loading/unloading trailers or other equipment) for a period of time not to exceed the end of the work shift in which the container was placed onto the floor. The storage configuration presented in Drawing 51-9912, represents the number of pallets or risers that are stored while maintaining a minimum 3-ft aisle space (excluding support beams and portable equipment) between the rows and walls and providing a 10-ft access aisle (excluding support beams and portable equipment) in the PAAA/WCRA. Storage of containers in the TLA is on spill pallets/pans, or equivalent, if free liquids are present. The TLA floor may also be coated with an epoxy-type coating that is compatible with the types of waste stored.

Any combination of container types may be stored in the Type I Module at any given time. Boxes, calculated at 4-ft by 4-ft by 8-ft, are used in Appendix XI to determine the maximum potential waste volume that could be stored. Calculations for containers other than boxes and 55-gal drums have not been provided for the MSA and PAAA/WCRA because the potential maximum waste volumes for other containers are less than the corresponding values for boxes. Calculations related to volumes of waste stored in the TLA are based on the volumes of the TPA and SWB containers.

For maximum capacity in the PAAA/WCRA, containers are stored in the following configuration:

- six 60-ft rows (90 pallets),
- two 24-ft rows (12 pallets)
- one 32-ft row (8 pallets), and
- three 36-ft rows (27 pallets).

This maximum storage configuration, as shown in Drawing 51-9912, allows the placement of 137 individual pallets within the PAAA/WCRA. Each pallet may support eight 55-gal drums per layer (four wide by two long), up to five drums high for a total of 40, 55-gal drums per pallet. The drum storage capacity of the PAAA/WCRA is 5,160 drums. A total of four boxes may be placed on each pallet (one box layer, up to four boxes high). The box storage capacity is 516 boxes.

All containers stored in the MSA are arranged on pallets or risers, as described for the PAAA/WCRA. Based on the storage configuration shown in Drawing 51-9912, the storage capacity for the MSA is as follows:

- one 56-ft long by 8-ft wide row (14 pallets),
- one 16-ft long by 8-ft wide row (4 pallets), and
- four 24-ft long by 8-ft wide rows (24 pallets).

This configuration allows the placement of 42 individual pallets within the MSA. Based upon this, the drum storage capacity is 1,680 55-gal drums, and the box storage capacity is 168 boxes.

Containers stored in the TLA are typically TPAs, TDOPs, SWBs, or TRUPACT casks on spill pallets/pans, or equivalent. There are 17 locations identified for storage of these containers in the TLA:

- five along the north wall,
- four to the east of the electrical room along the north wall, and
- eight between the TLA platforms used for TRUPACT cask loading/unloading.

See Drawing 51-9912, for the storage locations. The maximum storage capacity in the TLA is when all 17 locations are occupied by TPAs in TRUPACT casks or on spill pallets/pans. Based upon this, the drum storage configuration is 238 55-gal drums, and the box storage configuration is 34 boxes.

Incompatible wastes are managed in the Type I Module in accordance with Attachment 6.

D-1a(3) Secondary Containment System Design and Operation [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(a) and (d), and 270.15(a)(1)]

The PAAA/WCRA and MSA are fully-enclosed structures. The secondary containment system consists of a concrete floor, concrete sealer, and an epoxy type coating, or equivalent. Additional coating(s) may be placed onto the secondary containment system. This coating(s) is typically used to prevent degradation of or damage to the secondary containment system, by providing protective layers. The secondary containment system is maintained to provide containment that is sufficiently impervious to leaks, spills, and accumulated precipitation until the collected material is detected and removed.

The secondary containment system is designed to resist frost heave and the types of wastes stored. The secondary containment system provides sufficient capacity to hold, at a minimum, 10% of the maximum liquid volume stored or the volume of the largest container (whichever is greater) in the storage area(s) in accordance with HWMA/RCRA requirements.

Secondary containment, as required, in the TLA is provided by the TRUPACT casks, spill pallets, containment pans, or equivalent. Secondary containment in the TLA may also be provided by a secondary containment system, as described for the PAAA/WCRA and MSA, designed to resist the types of waste stored. These secondary containment systems provide sufficient capacity to hold, at a minimum, 10% of the maximum liquid volume or the volume of the largest container (whichever is greater) stored on them. During the loading process of TDOPs within the TLA, secondary containment is not provided as the TDOP provides the secondary containment for containers being loaded into the TDOP. After the lid of the TDOP has been secured, secondary containment will be provided, as required. Container storage areas with containers that do not contain free liquids do not require a containment system. See Section D-1b of Attachment 1.A for additional information.

D-1a(3)(a) Requirement for the Base or Liner to Contain Liquids [IDAPA 58.01.05.008; 40 CFR 264.175(b)(1)]

A detailed description of the design and materials of construction of the base and containment curbs is provided in Section D. The concrete base is free of significant cracks and gaps. The base is constructed with a minimum of expansion joints, and all joints are filled. All expansion joints are equipped with dumbbell-type neoprene waterstops, except for the expansion joint in the ramp between the TLA and MSA.

The MSA and PAAA/WCRA secondary containment systems are resistant to a wide range of acids, alkalis, solvents, oxidizers, oils, and greases, as well as radiation. The containment coating(s) is applied per manufacturer's recommendations. The design of the floor and the application of the secondary containment system coating(s) (i.e., concrete sealer and an epoxy type coating, or equivalent), together, are more than sufficient to contain any leaks or spills of waste and prevent migration of spilled contaminants into underlying concrete. As stated above, multiple coatings may be utilized for protective purposes, so long as liquid is contained without allowing contact to the concrete/concrete sealer.

D-1a(3)(b) Containment System Drainage [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(b)(2) and 270.15(a)(2)]

The MSA and PAAA/WCRA are designed to collect any liquid accumulation from spills or leaks. As described earlier, the wastes stored at the Type I Module are essentially solid in form. There is little likelihood of a spill or leak involving free liquids. Nevertheless, containers stored in the Type I Module are placed on pallets or risers to ensure spill drainage away from the containers.

The Type I Module is an enclosed building. The external pavement is sloped to promote run-off away from the building exterior and entrances. The doors of the building are typically kept closed except when occupied for container handling operations, inspections, maintenance, etc. Run-on controls are discussed in Section D-1a(3)(d).

The storage areas of the Type I Module are inspected weekly for leaks and spills. In the event that a leak or spill is detected, the spill is removed in accordance with spill response procedures or the Contingency Plan, as described in Attachment 7.

D-1a(3)(c) Containment System Capacity [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(b)(3) and 270.15(a)(3)]

The secondary containment system for the Type I Module is sized to contain, at a minimum, 10% of the maximum liquid volume or the volume of the largest container (whichever is greater) stored in the area at any given time, if secondary containment is required. Section D-1a(2) describes the storage configuration that is typically used in the Type I Module. Table D-1 summarizes the secondary containment capacity calculations for the Type I Module. Appendix XI presents the calculations and assumption used in compiling Table D-1.

D-1a(3)(d) Control of Run-On [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(b)(4) and 270.15(a)(4)]

The control of run-on requirements are the same as those described in Section D-1a(3)(d) of Attachment 1.A.

D-1a(3)(e) Removal of Liquids from Containment System [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(b)(5) and 270.15(a)(5)]

The requirements for the removal of liquids from the containment system are described in Section D-1a(3)(e) of Attachment 1.A.

D-1b Containers Without Free Liquids [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(c) and 270.15(b)]

Containers without free liquids are managed as described in Section D-1b of Attachment 1.A.

Table D-1. Type I Module Secondary Containment Capacity Estimate[a]

Storage Area	Maximum Waste Volume Stored (gal)	Maximum Liquid Volume Stored (gal)	10% Of Maximum Liquid Volume[b] (gal)	Volume Displaced By Containers, Pallets, and Structural Features (gal)	Secondary Containment Capacity (gal)	Available Secondary Containment[c] (gal)
MSA	160,850 (boxes)	41,821	4,182	12,314	48,775	36,463
PAAA/WCRA	494,039 (boxes)	128,450	12,845	12,066	52,528	40,462
TLA	13,090 (17 TPAs)	200 [in 1 TPA (14 drums)]	20	N/A[d]	85[e]	85
Totals	667,979	170,471	17,047	24,380	101,388	77,010

a. Calculations supporting these values are provided in Appendix XI. Volumes are for the maximum number of boxes in the typical storage configuration in the storage areas.

b. Minimum secondary containment capacity that must be made available.

c. Available secondary containment equals secondary containment capacity minus the volume displaced by containers, pallets, and structural features. Must equal or exceed the minimum capacity.

d. TPAs stored in the TLA are on spill pallets, pans, TRUPACT cask, or equivalent or the concrete floor is coated with an epoxy-type coating that is resistant to the types of waste managed.

e. Minimum available secondary containment system capacity associated with using spill pans.

TABLE OF CONTENTS

ATTACHMENT 1.D

PROCESS INFORMATION

LIST OF TABLES

D. PROCESS INFORMATION

D SWEPP Design

The SWEPP, commonly known as WMF-610, is used to store and characterize ROW and MW. Wastes currently in storage, as well as newly-generated waste from on- and off-Site generators, may be moved, stored, and characterized in SWEPP.

Unless otherwise noted, drawings for SWEPP are located in Appendix V.

SWEPP houses a number of activities, which include:

- Receiving and storing of waste containers;
- Staging of containers;
- Performing nondestructive assay;
- Examining containers using RTR;
- Performing treatment, via absorption, of liquids;
- Performing treatment, via decanting, of liquids from containers, as required;
- Performing treatment, via neutralization, of liquids in a container;
- Performing visual examination of waste in containers;
- Repackaging of waste;
- Sizing of waste;
- Performing “fast” assay on containers;
- Performing treatment, via mechanical vibration of waste in a container; and
- Performing treatment, via macroencapsulation of waste in containers.

Waste treatment is conducted in a containment enclosure (absorption, decanting, neutralization, repackaging, sizing, and mechanical vibration) or outside a containment enclosure (mechanical vibration and macroencapsulation). See Attachment 1.A for additional information on the containment enclosure requirements and treatment operations.

The physical layout of the equipment in SWEPP is shown on the general arrangement drawing (see Drawing 51-9906). As shown on the general arrangement drawing, the SSA is located on the south end of the building. The storage area is used to store containers before, during, and after examination (e.g., assay, RTR), pending transfer to another waste management unit. The container staging areas, designated as Staging Areas 1 and 2, are located in the SWEPP High Bay. Additional staging areas are located in the north and south loading/unloading areas.

Loading and unloading areas are located on the north and south ends of SWEPP. These areas are steel framed, fabric-covered buildings, which are constructed on asphalt pads. See Drawing 51-9906 for the location of the north and south loading/unloading areas. Up to two trailer characterization units (RTR and/or assay unit) may be connected to or located within the loading/unloading areas of SWEPP. A conveyor system may be located within the loading/unloading areas to assist in transporting containers.

Containers are typically received on the south side of SWEPP, where they are off-loaded and stored in the SSA. As each container is placed into its designated storage area, the container’s barcode label is scanned to update the container’s location information maintained in the AMWTP Operating Record. Typically, the first characterization operation performed on containers is RTR examination. See Attachments 1.A and 2 for further information on RTR examination. Containers are then assayed to determine the amount of fissile material present in each container. At this point, containers are stored in preparation for shipment to another waste management unit.

Fill and Grading

The area on which SWEPP is constructed was graded prior to the construction of the building. The area was excavated and a subbase was placed under the building foundation. Six-in. layers of drainage fill material (crushed stone or gravel) was placed on the subbase and compacted up to the level of the building slabs (up to 4.4 ft in places). The fill was graded as appropriate to obtain a level base, compacted, and overlain by 4 in. of gravel. See Drawing 52-9500 in Appendix IV for further information on the grading plan.

The area around the SWEPP building is paved with concrete and/or asphalt, and the areas are sloped to promote drainage away from the building. A 6-in. thick, 10-ft wide concrete pad runs along the entire length of the west side of SWEPP. This concrete area has a slope of approximately 0.5%. Adjoining the concrete area is 3-in. thick asphalt paving. The asphalt paving is underlain by 2 in. of crushed gravel and 6 in. of pit run gravel base. A 38-ft wide concrete grout paved area runs along the entire length of the east side of SWEPP.

Prior to placement of the pit run gravel base for the asphalt paving, the existing area was stripped of all vegetation, brought to the optimum moisture content, and compacted to at least 90% maximum density as determined by AASHTO requirements. Pit run gravel was then added to make grade. Each layer of pit run gravel was uniformly compacted to 95% of maximum density as determined in accordance with AASHTO requirements. A 3.5-in. thick crushed gravel base was then spread and compacted for its full width. This base was then covered with an asphalt layer approximately 2.5-in. thick. The asphalt surface is finished with approximately a 2% grade from the centerline to allow for drainage.

Foundations and Floorings

The foundation of the SWEPP building is constructed of reinforced concrete, and is designed in accordance with applicable ACI requirements. The concrete has a minimum specified 28-day compressive strength of 4,000 psi. Reinforcing steel conforms to ASTM requirements.

An 8-in. wide by 3-ft deep concrete frost wall, reinforced by steel, extends around the perimeter of the SWEPP building. The concrete slab-on-grade at the SSA is 6-in. thick, reinforced with 6-in. by 6-in. welded wire fabric. The floor slab was poured in 20-ft by 20-ft sections. Individual pours were joined by notching or overlapping sections. The entire floor slab is coated with an epoxy coating, or equivalent. The floor has a load-bearing capacity of 250 lb per ft^2. Specific floor areas have been reinforced to support heavier system components.

The floor for the SWEPP High Bay slopes approximately 0.5% toward the north. On the east side of the SSA, the floor is sloped from the south side toward the north at approximately 0.4%. The floor on the west side of the SSA is sloped from the northwest corner to the east at approximately 0.6%.

Structural Parameters

SWEPP is a pre-engineered structural steel building which measures approximately 162-ft 8-in. by 60-ft. The roof framing for the SWEPP High Bay is supported by 8-in. wide steel frames, which form the columns, located on 20-ft centers. Interior surfaces of the columns are furred with 3.5-in. metal girts and wrapped in gypsum board. Exterior metal wall panels are attached to the metal girts. The interior wall surfaces are metal liner panels. A standing seam metal roof is attached to 8-in. roof purlins. The finished surface of the ceiling consists of metal liner panels. See Drawing 51-9914 for additional information.

SWEPP is designed to meet the 1982 edition of the UBC. The building is designed to withstand a snow load of 30 lb per ft^2 and a wind load of 20 lb per ft^2.

All interior walls, except office area walls, are constructed of reinforced concrete block. The interior wall surfaces of the south, west, and east sides of the SSA are metal liner panels finished with factory paint. The north wall on the west side is concrete block finished with masonry paint.

Curbing has been installed around the outer portions of the SSA other than by the access ramp located in the center of the building and around certain building columns. Columns without curbing have flashing installed around them, approximately 6 in. above floor level. The flashing is 6-in. by 4-in. by 5/16-in. angle iron fastened to the floor with slotted sleeve anchor bolts. Joints between the flashing, floor, and wall are sealed with caulking. The SSA concrete curbing is 6.5-in. high and ranges from 6.5-in. to 8-in. wide, and is sealed with an epoxy coating. Flashing is also coated with epoxy, or equivalent. The sloped area on each side of the ramp, located on the north end of the SSA, is approximately 8.5-ft long, with a level area approximately 2-ft long at the ramp center. The ramp is approximately 22-ft wide, with curbing installed on each side. The 3.5-in. high center of the ramp is the north central boundary of the SSA. A second ramp is located under the 16-ft wide overhead door on the south end of the SSA. This ramp is 3-ft wide and extends 0.5 in. above the adjoining floor. The ramps are concrete or steel and are sealed with an epoxy coating, or equivalent.

As shown in Drawing 51-9906, personnel doors provide access to the High Bay area of SWEPP from the building exterior. One personnel door, with a raised threshold of 2 in., is located on the west wall of the SSA. The other personnel door is located on the east wall north of the SSA. Two 16-ft wide by 12-ft high roll-up doors, with adjacent personnel doors, are located on the north and south ends of the High Bay area. These doors provide access to the north and south SWEPP loading/unloading areas. The south door is part of the storage boundary. This door has a raised threshold that is approximately 1/2-in. high by 36-in. wide, and is ramped on both sides to allow equipment access. The adjacent personnel door has a raised threshold of 1-3/8 in.

A bridge crane is located over the southwest portion of the SSA. The bridge portion is approximately 20-ft wide in the east-west direction, running north-south on parallel rails approximately 41-ft long. The crane rails are suspended from the building rigid frame, approximately 13 ft above the floor.

An L-shaped monorail crane rail runs north-south along the east wall, and east-west along the south end of the SSA. The monorail originates north of the SSA, runs parallel to the east wall, makes a 90 degree turn adjacent to the southwest wall of the SSA, and ends five ft from the west wall of the SSA.

HVAC System

The SWEPP is ventilated by a once-through air distribution system to control CO accumulation from equipment and vehicle operations. The ventilation system is only operated as required to maintain CO within acceptable levels. Ventilation air is drawn into the SWEPP High Bay through a louver on the west wall of Room 103 (HVAC equipment room). Air intake is controlled by a motor-operated damper. The air is distributed by air ducts throughout the High Bay area. A louver is located on the south wall of Room 103 to provide inside air return. Airflow through this louver is controlled by a motor-operated damper. The capacity of each of the louvers described above is approximately 7,500 cfm.

Air is exhausted from the High Bay area through three roof mounted power ventilators spaced equally along the length of the building. The ventilators provide a total exhaust rate of 8,500 cfm.

Heat is provided by a propane-fired furnace located in Room 103. The furnace heats the incoming ventilation air. Cooling is provided by circulation of incoming air. There is no provision for air conditioning.

Electrical Power

The electrical system for SWEPP complies with the standards listed in Attachment 1.A. The electrical one-line diagram is presented in Drawing 54-9759. The Site utilities are presented in Drawing 56-9500 in Appendix III.

Commercial electrical power is transmitted to the SWEPP building via a 12.5-kV, 3-phase power line that connects to a 500-kV, 12.5-kV-480-V/277-V pad-mounted transformer. The transformer is located 30 ft west of the building. The transformer supplies power to SWEPP via the electrical room (Room 104). The 480-V service connects to two main power panels and one standby power panel in the electrical room. Grounding is provided by a main conductor grounding grid beneath the building connecting to grounding wires within the building walls.

Lighting

All walkways, entrances, and exits provided with lighting. Interior building lighting is provided by overhead lighting fixtures. Exterior lighting is provided along the building and nearby roadways.

Operating Record

Typically, the AMWTP computerized system is used for overall data management, recordkeeping, and waste tracking. See Attachment 1.A for further information on the Operating Record requirements.

D-1 Containers

D-1a Containers with Free Liquids

See Attachment 1.A, Section D-1a for further information on containers with free liquids.

D-1a(1) Description of Containers [IDAPA 58.01.05.008; 40 CFR 264.171 and 264.172]

The containers used to store wastes in SWEPP are the same as those described in Attachment 1.A, Section D-1a(1). Container labels and markings are also described in Attachment 1.A, Section D-1a(1).

D-1a(2) Container Management Practices [IDAPA 58.01.05.008; 40 CFR 264.173]

Details on container management practices are described in Section D-1a(2) of Attachment 1.A. The following text addresses variations to those practices that are specific to SWEPP.

Containers of MW are processed through the SWEPP for characterization (e.g., RTR, assay). Characterization activities may take up to 30 calendar days. During this period, containers are staged in two areas within SWEPP, as described below.

Staging Areas 1 and 2 are designated for containers awaiting characterization. The containers are staged such that a row of containers is no more than three containers wide, six containers long, and one container high. Aisles are maintained with a minimum 3-ft aisle space (excluding support beams and portable equipment) between any other row of containers and between all interior and exterior walls for these staging areas. All containers located in Staging Areas 1 and 2 are stored on pallets or risers which are arranged into rows. Containers may be located on the floor while in transition (e.g., loading/unloading trailers or other equipment) for a period of time not to exceed the end of the work shift in which the container was placed onto the floor. Drawing 51-9906 shows the location of the areas used for staging containers pending characterization.

Staging Area 1 is located next to the north SWEPP loading/unloading area door and Staging Area 2 is located north of the access ramp. Container configurations which may be used in Staging Areas 1 and 2 are as follows:

- Eighteen (18) drums, or
- One (1) box.

Containers may be located in the north and/or south SWEPP loading/unloading areas on transport devices, pallets, or risers for up to 10 working days. The maximum storage capacity for the north and south loading/unloading areas is 10,056 gallons per loading/unloading area. Containers staged within the loading/unloading areas that are not located on a transport trailer are stored in the following manner:

- A row of containers is no more than two wide and two high, and
- Aisles (excluding support beams and portable equipment) are 3-ft wide, minimum, between rows of containers, and between rows of containers and the interior/exterior walls.

Containers located in Staging Areas 1 and 2 and the loading/unloading areas are inspected each working day for leakage and corrective action is initiated, as required.

Any combination of containers may be stored in the SSA at any given time. Containers in the SSA are stored in the following configuration:

- A row of containers is no more than four wide and two high, and
- Aisles (excluding support beams and portable equipment) are 3-ft wide, minimum, between rows of containers, and 2-ft wide, minimum, between rows of containers and the interior/exterior walls.

The storage configuration as described above is depicted in Drawing 51-9906 for 55-gal drums. All containers located within the SSA are stored on pallets or risers which are arranged into rows. Containers may be located on the floor while in transition (e.g., loading/unloading trailers or other equipment) for a period of time not to exceed the end of the work shift in which the container was placed onto the floor.

The maximum storage capacity for the SWEPP is approximately 28,380 gal, which is based on the assumption that only 55-gal drums are stored in the SWEPP area. See Appendix XI for specific calculations.

Incompatible wastes are managed in the SWEPP in accordance with Attachment 6.

D-1a(3) Secondary Containment System Design and Operation [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(a) and (d), and 270.15(a)(1)]

The secondary containment system for the SSA consists of a concrete floor, concrete sealer, and an epoxy type coating, or equivalent. Additional coating(s) may be placed onto the secondary containment system. This coating(s) is typically used to prevent degradation of or damage to the secondary containment system, by providing protective layers. The secondary containment system is maintained to provide containment that is sufficiently impervious to leaks, spills, and accumulated precipitation until the collected material is detected and removed.

The secondary containment system is designed to resist frost heave and the types of wastes stored. The secondary containment system provides sufficient capacity to hold, at a minimum, 10% of the maximum liquid volume stored or the volume of the largest container (whichever is greater) in the storage area(s) in accordance with HWMA/RCRA requirements. Container storage areas holding only wastes that do not contain free liquids do not require a containment system. See Section D-1b for additional information.

D-1a(3)(a) Requirement for the Base or Liner to Contain Liquids [IDAPA 58.01.05.008; 40 CFR 264.175(b)(1)]

A detailed description of the design and materials of construction of the base and containment curbs is provided in Section D. The concrete base is free of significant cracks and gaps.

The SSA secondary containment system is resistant to a wide range of acids, alkalis, solvents, oxidizers, oils, and greases, as well as radiation. The containment coating(s) is applied per manufacturer’s recommendations. The design of the floor and the application of the secondary containment system coating(s) (i.e., concrete sealer and an epoxy type coating, or equivalent), together, are more than sufficient to contain any leaks or spills of waste and prevent migration of spilled contaminants into underlying concrete. As stated above, multiple coatings may be utilized for protective purposes, so long as liquid is contained without allowing contact to the concrete/concrete sealer.

D-1a(3)(b) Containment System Drainage [IDAPA 58.00.05.008 and 58.01.05.012; 40 CFR 264.175(b)(2) and 270.15(a)(2)]

The SSA containment system is designed to collect any liquid accumulation resulting from spills or leaks and all containers in storage are elevated.

Precipitation is not a factor regarding the secondary containment system for the SSA because the storage area is an enclosed structure. In addition, paving in the vicinity of SWEPP is sloped to direct run-off away from the building. The doors of the building are typically kept closed except when occupied for container handling operations, inspections, maintenance, etc. Run-on controls are discussed in Section D-1a(3)(d).

The containers located in the SSA are inspected weekly for leaks and spills. In the event that a leak or spill is detected, it is removed as described in Attachment 7.

D-1a(3)(c) Containment System Capacity [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(b)(3) and 270.15(a)(3)]

The secondary containment system for the SSA is sized to contain, at a minimum, 10% of the maximum liquid volume or the volume of the largest container (whichever is greater) stored in the area at any given time, if secondary containment is required. Section D-1a(2) describes the storage configuration that is used in the SSA. Table D-1 summarizes the secondary containment capacity calculations for the SSA. Appendix XI presents the calculations and assumptions used in compiling Table D-1.

D-1a(3)(d) Control of Run-On [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(b)(4) and 270.15(a)(4)]

The control of run-on requirements are the same as those described in Section D-1a(3)(d) of Attachment 1.A.

D-1a(3)(e) Removal of Liquids from Containment System [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(b)(5) and 270.15(a)(5)]

The requirements for the removal of liquids from the containment system are described in Section D-1a(3)(e) in Attachment 1.A.

D-1b Containers Without Free Liquids [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(c) and 270.15(b)]

Containers without free liquids are managed as described in Section D-1b of Attachment 1.A.

Table D-1. SWEPP Storage Area Secondary Containment Capacity Estimate[a]

PARAMETER	CAPACITY
Maximum Waste Volume Stored	28,380 gal
10% of Maximum Liquid Volume[b]	2,838 gal
Secondary Containment Capacity	4,003 gal
Volume Displaced by Containers, Pallets, and Structural Features	709 gal
Available Secondary Containment[c]	3,294 gal

a. Calculations supporting these values are provided in Appendix XI. Volumes are for the maximum number of drums in the storage configuration in the SSA.

b. Minimum secondary containment capacity that must be made available.

c. Available secondary containment equals secondary containment capacity minus the volume displaced by containers, pallets, and structural features. Must equal or exceed the minimum capacity.

TABLE OF CONTENTS

ATTACHMENT 1.E

WMF-628 PROCESS INFORMATION

LIST OF TABLES

D. PROCESS INFORMATION

D WMF-628 Design

The Type II Module WMF-628 is used to characterize, store, and treat ROW and MW. A total of seven Type II Modules currently exist, and as many as ten modules may be constructed. This attachment covers the Type II Module with the building designation of WMF-628. The Type II Module designated as WMF-634 is described in Attachment 1.A and the Type II Modules designated as WMF-629 through WMF-633 are described in Attachment 1.B. Wastes currently in storage, as well as newly generated waste from on- and off-Site generators, may be moved and stored in WMF-628.

Unless otherwise noted, drawings for WMF-628 are located in Appendix VI. WMF-628 houses a number of activities, which include:

- Receiving and storing waste containers for characterization;
- Examining containers using RTR;
- Performing visual examination of waste in containers;
- Performing headspace gas sampling on drums, as required;
- Performing gas generation testing;
- Radiological surveying of containers;
- Performing treatment, via absorption, of liquids;
- Performing treatment, via decanting, of liquids from containers, as required;
- Performing treatment, via neutralization, of liquids in a container;
- Repackaging of waste;
- Sizing of waste;
- Performing “fast” assay on containers;
- Performing treatment, via mechanical vibration of waste in a container; and
- Performing treatment, via macroencapsulation of waste in containers.

Waste treatment is conducted in a containment enclosure (absorption, decanting, neutralization, repackaging, sizing, and mechanical vibration) or outside a containment enclosure (mechanical vibration and macroencapsulation). See Attachment 1.A for additional information on the containment enclosure requirements and treatment operations.

The physical layout of the equipment in WMF-628 matches the sequence of operations in a west to east flow. Drawing 51-10009 presents a plan view layout of WMF-628. Typically, waste containers enter WMF-628 on the west side and exit on the east side, after characterization is complete. Containers are received into WMF-628, and are off-loaded and stored on the south side of the building. As each container is placed into its designated input storage area, the container's barcode label is scanned to update the container's location information maintained in the AMWTP Operating Record.

Typically, the first characterization operation performed on containers is RTR examination. RTR is used to determine the waste material parameters and detect prohibited items and special conditions. RTR examination is also used to validate existing waste characterization data, or in the case of unidentified waste containers, to correlate the contents of the container with known waste types from generator sites. The containers are assayed in order to determine the amount and isotopic composition of nuclear material, TRU isotope activity, and decay heat. The data are used to implement criticality control throughout the AMWTP waste management units. Up to six mobile characterization units (e.g., RTR, assay unit, etc.) may be located in WMF-628. Drums identified as requiring headspace gas analysis are usually then transferred to portable headspace gas sampling units. See Attachment 1.A for additional information on RTR, assay, and headspace gas sampling operations.

Fill and Grading

See Attachment 1.B for information on fill and grading requirements for WMF-628.

Foundations and Floors

See Attachment 1.B for information on foundation and floor requirements for WMF-628.

Structural Parameters

See Attachment 1.B for information on structural parameter requirements for WMF-628. See Drawing 51-10010 for additional information on WMF-628.

HVAC System

WMF-628 is heated and ventilated by a once-through air distribution system, which is used to control CO accumulation from equipment and vehicle operations. The ventilation system is only operated as required to maintain CO within acceptable levels. Two propane fired makeup air heaters, located outside, preheat makeup air entering the building. The makeup air heaters are supplied with fans, inlet filters, and bird screens to direct the preheated makeup air into the module via wall penetrations.

Electrical Power

See Attachment 1.B for information on electrical power requirements for WMF-628. See Drawing 54-10442 for the WMF-628 electrical one-line diagram. See Drawings 56-1901 in Appendix II and 56-9500 in Appendix III for the information on the Site utilities for WMF-628.

Lighting

See Attachment 1.B for information on lighting requirements for WMF-628.

Operating Record

Typically, the AMWTP computerized system is used for overall data management, recordkeeping, and waste tracking. See Attachment 1.A for further information on the Operating Record requirements.

D-1 Containers

D-1a Containers with Free Liquids

See Attachment 1.A, Section D-1a for further information on containers with free liquids.

D-1a(1) Description of Containers [IDAPA 58.01.05.008; 40 CFR 264.171 and 264.172]

The containers used to store wastes in WMF-628 are the same as those described in Attachment 1.A, Section D-1a(1). Container labels and markings are also described in Attachment 1.A, Section D-1a(1).

D-1a(2) Container Management Practices [IDAPA 58.01.05.008; 40 CFR 264.173]

Details on container management practices are described in Section D-1a(2) of Attachment 1.A. The following text addresses variations to those practices that are specific to WMF-628.

Main access into WMF-628 is provided by a 20-ft wide center aisle (excluding support beams and portable equipment). If “fast” assay is being performed, then only a 16-ft wide center aisle is required in the area. Three-ft wide aisles (excluding support beams and portable equipment) are provided between the rows of containers and the interior/exterior walls to allow personnel access. All containers are stored on pallets or risers which are arranged into rows. Containers may be located on the floor while in transition (e.g., loading/unloading trailers or other equipment) for a period of time not to exceed the end of the work shift in which the container was placed onto the floor. In the event that emergency equipment is needed, access to the containers is provided through the center aisle of the building. Drawing 51-10009 presents a typical waste storage configuration within WMF-628.

Any combination of container types may be stored in WMF-628 at any given time. Boxes, calculated 4-ft by 4-ft by 8-ft, are used to determine the maximum potential waste volume that can be stored in WMF-628. See Appendix XI for specific calculations. Calculations for containers other than boxes and 55-gal drums are not provided because the potential maximum waste volumes for other containers are less than the corresponding values for boxes.

For maximum capacity, containers are stored in the following configuration. There are up to 42 rows of drums in WMF-628. A row is defined as up to four drums wide by up to five drums high by up to 22 drums in length (i.e., depth). The drum storage capacity in WMF-628 is 18,160 55-gal drums. For boxes, the configuration of a row is up to four wide, up to four high, and up to 11 long. The maximum storage capacity in WMF-628 is 2,256 boxes. In the corners of the buildings, the length of a row is shorter to allow space for access ramps. TDOPs and TPAs may also be stored in WMF-628 as described in Section D-1a(2) of Attachment 1.A.

Incompatible wastes are managed in WMF-628 in accordance with Attachment 6.

D-1a(3) Secondary Containment System Design and Operation [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(a) and (d), and 270.15(a)(1)]

WMF-628 is an enclosed structure. The secondary containment system consists of a concrete floor, concrete sealer, and an epoxy type coating, or equivalent. Additional coating(s) may be placed onto the secondary containment system. This coating(s) is typically used to prevent degradation of or damage to the secondary containment system, by providing protective layers. The secondary containment system is maintained to provide containment that is sufficiently impervious to leaks, spills, and accumulated precipitation until the collected material is detected and removed.

The secondary containment system is designed to resist frost heave and the types of wastes stored. The secondary containment system provides sufficient capacity to hold, at a minimum, 10% of the maximum liquid volume stored or the volume of the largest container (whichever is greater) in the storage area(s) in accordance with HWMA/RCRA requirements. Container storage areas holding only wastes that do not contain free liquids do not require a containment system. See Section D-1b for additional information.

D-1a(3)(a) Requirement for the Base or Liner to Contain Liquids [IDAPA 58.01.05.008; 40 CFR 264.175(b)(1)]

The requirements for the base or liner to contain liquids are the same as those described in Section D-1a(3)(a) of Attachment 1.A. A detailed description of the design and materials of construction of the base and containment curbs is provided in Section D of this attachment.

D-1a(3)(b) Containment System Drainage [IDAPA 58.00.05.008 and 58.01.05.012; 40 CFR 264.175(b)(2) and 270.15(a)(2)]

The containment system drainage requirements are the same as those described in Section D-1a(3)(b) of Attachment 1.A.

D-1a(3)(c) Containment System Capacity [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(b)(3) and 270.15(a)(3)]

The secondary containment system for WMF-628 is sized to contain, at a minimum, 10% of the maximum liquid volume or the volume of the largest container (whichever is greater) stored in the area at any given time, if secondary containment is required. Section D-1a(2) describes the storage configuration that is used in WMF-628. Table D-1 summarizes the secondary containment capacity calculations for WMF-628. Appendix XI presents the calculations and assumptions used in compiling Table D-1.

D-1a(3)(d) Control of Run-On [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(b)(4) and 270.15(a)(4)]

The requirements for control of run-on are the same are those described in Section D-1a(3)(d) of Attachment 1.A.

D-1a(3)(e) Removal of Liquids from Containment System [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(b)(5) and 270.15(a)(5)]

The requirements for the removal of liquids from the containment system are described in Section D-1a(3)(e) in Attachment 1.A.

D-1b Containers Without Free Liquids [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(c) and 270.15(b)]

Containers without free liquids are managed as described in Section D-1b of Attachment 1.A.

Table D-1. WMF-628 Secondary Containment System Capacity Calculations[a]

PARAMETER	CAPACITY
Maximum Waste Volume Stored	1,214,304 gal
Maximum Liquid Volume Stored	331,222 gal
10% of Maximum Liquid Volume[b]	33,122 gal
Secondary Containment Capacity	123,143 gal
Volume Displaced by Containers, Pallets, and Structural Features	45,215 gal
Available Secondary Containment[c]	77,928 gal

a. Calculations supporting these values are provided in Appendix XI. Volumes are for the maximum number of boxes in the typical storage configuration in the storage areas plus the approximate maximum number of containers in process in WMF-628.

b. Minimum secondary containment capacity that must be made available.

c. Available secondary containment equals secondary containment capacity minus the volume displaced by containers, pallets, and structural features. Must equal or exceed the 10% of maximum liquid volume.

TABLE OF CONTENTS

ATTACHMENT 1.F

PROCESS INFORMATION

D. PROCESS INFORMATION

D WMF-636 Pad 2 Design

WMF-636 Pad 2 is used to store and treat ROW and MW. Wastes currently in storage (i.e., existing AMWTP waste), as well as AMWTP newly generated waste from on- and off-Site generators, may be moved, stored, and treated in the WMF-636 Pad 2 building.

Unless otherwise noted, drawings for WMF-636 Pad 2 are located in Appendix VII. WMF-636 Pad 2 houses a number of activities, which include:

- Receiving and storing waste containers;
- Performing treatment, via macroencapsulation of waste in containers; and
- Performing “fast” assay on containers.

The physical layout of the storage areas for WMF-636 Pad 2 is shown on the general arrangement drawing (see Drawing 51-10038). See Attachment 1.A for additional information on the macroencapsulation treatment operations.

Originally, WMF-636 Pad 2 was built in the late 1960’s for the long term storage of MW containers in storage cells. A total of four waste storage cells existed on WMF-636 Pad 2, three of which are still in use today (i.e., Pad 1, Pad 1A, and Pad 2) and one (i.e., Cell 3) which was closed under HWMA/RCRA in 1999. During the initial storage of waste on WMF-636 Pad 2, waste drums were stacked either horizontally or vertically. Typically, a sheet of wood was placed between the layers of drums in order to stabilize the stacking surface and increase overall stack rigidity. Boxes were then used to outline the sides of the cells on the asphalt pad. As WMF-636 Pad 2 was filled, the waste containers were covered with wood, a tarp or plastic sheeting, and approximately 4 ft of soil on top with sloped side burden soils. Side burden soil was then placed along the sides of each cell and between adjacent cells to act as a fire break. Side burden soil averaged around 16-ft thick to the top edge of the cells, although some areas had nearly vertical slopes held in place by wooden retaining walls. The soil in the area between the cells was approximately 4-ft thick.

In the 1990’s the DOE built the TSA-RE building, which enclosed all of the asphalt pads (i.e., Pad 1, Pad R, and Pad 2) and soil surrounding the outer portion of the asphalt pads. The purpose of the TSA-RE building was to provide a weather enclosure to assist in future retrieval operations. Per agreement between the State of Idaho DEQ and the DOE, all of the asphalt pads were to be regulated under the HWMA/RCRA Interim Status regulations found at IDAPA

58.01.05.009 (40 CFR 265) and all waste stored on the asphalt pads were to be retrieved and placed into a compliant storage configuration by December 31, 2018. The TSA-RE building and the soil surrounding the asphalt pads was not originally considered to be part of the HWMA/RCRA Interim Status units. In the late 1990's, the DOE commissioned the AMWTP to start the retrieval of the waste from the asphalt pads within the TSA-RE building and place the waste into HWMA/RCRA compliant storage configuration either on the Interim Status asphalt pads or in the other AMWTP MWMUs.

Since the inception of the AMWTP, a few modifications have been made to the soil areas surrounding the original WMF-636 Pad 2 asphalt. In 2004, a concrete pad of approximately 38 ft by 32 ft was poured on the soil area south of the original WMF-636 Pad 2 asphalt pad. The purpose of this concrete pad was for the storage of non HWMA/RCRA-regulated containers and operational equipment. Additionally, in 2007 and 2008 the majority of the soil south of WMF-636 Pad 2 was asphalted. In 2008 and 2009, the majority of the soil located to the east, north, and west of the original WMF-636 Pad 2 was asphalted. See Drawing 51-10038 for additional information on the locations of soil areas remaining within the portion of the TSA-RE building covering WMF-636 Pad 2.

Building Structure

The TSA-RE is a "T" shaped, engineered metal building covering an area of about 313,000 ft^2. The primary structure, which is oriented north-south, encloses Pad 1 and Pad R which are regulated as Interim Status Units under IDAPA 58.01.05.009 (40 CFR 265). A secondary structure encloses the WMF-636 Pad 2 area, which is approximately 185-ft wide by 430-ft long. The eave height of the structure over WMF-636 Pad 2 is approximately 33.5 ft. The primary and secondary framing design for the TSA-RE building complies with Project Design Criteria specified in DOE Order 6430.1A. More detailed information on the building over WMF-636 Pad 2 is provided below.

WMF-636 Pad 2 Base

The areas on which the original asphalt pad, new asphalt pads, and concrete pad of WMF-636 Pad 2 were graded prior to construction. The original asphalt pad consists of 4 in. of asphalt over 3 in. of crushed gravel. The original asphalt pad slopes towards the north-south center-line at a grade of approximately 1%. The original asphalt pad then slopes towards the north. The newly installed asphalt pads consist of 4 in. of asphalt over 6 in. of crushed gravel. The newly installed asphalt pads slope to the north-south center and then slope either to the north or south at a grade of approximately 1%. The concrete pad consists of 6 in. of concrete reinforced with rebar over 4 in. of crushed gravel. The concrete pad slopes to the south at approximately 1%. The slopes of the original asphalt pad, newly installed asphalt pad, and concrete pad helps prevent water from accumulating around the stored waste. See Drawings 51-10038, 52-0241 Sheet 1 of 2, and 52-0241 Sheet 2 of 2 for additional information on the grading plan for WMF-636 Pad 2.

WMF-636 Building Walls and Ceiling over Pad 2

The building over the WMF-636 Pad 2 container storage area is constructed of metal siding and roofing installed over a steel frame. The building is insulated. A continuous sheet metal liner is affixed to the interior of the steel girts for the wall sections and to the underside of the purlins that span between the bottom chords of the roof trusses for the ceiling. The structural steel columns are framed and enclosed with a sheet metal liner. See Drawings 51-10039 and 51-10037 for additional information on the construction of the walls and ceiling and section views of the WMF-636 building located over WMF-636 Pad 2.

As shown in Drawing 51-10038, WMF-636 Pad 2 may be accessed through overhead doors located on the east and south sides of the building. The doors are electrically powered and equipped with a manual override. In addition to these doors, there are five personnel access doors; two on the south wall and three on the east wall of the building. There are two fire sprinkler riser rooms along the east wall of the building. The fire sprinkler riser rooms house the fire water riser pipes and connections. These rooms have their own exterior entrance.

HVAC System

No general ventilation of the TSA-RE building is provided. An extensive ventilation system is installed, but it is of limited capacity given the size of the TSA-RE building. No general space heating is provided for WMF-636 Pad 2. Portable heating equipment may be provided during colder weather seasons for AMWTP personnel, if deemed necessary. The two fire riser rooms are provided with space heaters.

Electrical Power

The WMF-636 Pad 2 electrical power system complies with NEC, NFPA, NEMA, and OSHA. See the electrical one-line diagrams, Drawings 54-0701, 54-9787, and 54-9788 for additional information on the WMF-636 Pad 2 electrical power system. The WMF-636 Pad 2 electrical power system is grounded and equipped with circuit breakers.

Lighting

Walkways, entrances, and exits are provided with lighting, as required. Interior building lighting is typically provided by light fixtures suspended from the ceiling of the TSA-RE building. Exterior lighting is provided along the building exterior and nearby roadways.

Fire Water Collection

Fire water collection for WMF-636 Pad 2 is provided by a drainage system located on the north and east sides of the WMF-636 building. Cast-in-place concrete drainage troughs lead to a collection basin, which is connected to a 12-in. diameter drainage pipe that ends in a fire water collection tank. The collection tank is a 20,000 gal double-walled tank located underground outside of the TSA-RE building. The drainage troughs are covered with metal grating over the full length, except at entrance doors, where fabricated steel or pre-cast concrete covers protect the troughs. Water collected in this tank from a fire event is characterized for control and disposition in accordance with HWMA/RCRA requirements.

Operating Record

Typically, the AMWTP computerized system is used for overall data management, recordkeeping, and waste tracking. See Attachment 1.A for further information on the Operating Record requirements.

D-1 Containers

D-1a Containers with Free Liquids

In general, only containers with no free liquids are stored within WMF-636 Pad 2. The presence of (or absence of) liquid in the containers stored within WMF-636 Pad 2 is determined using either of three methods. The first method involves process knowledge supplied by the waste generators. Process knowledge is substantiated by the waste acceptance process described in Attachment 2. The second method is the use of RTR to remotely examine the waste containers for liquids and other parameters. The RTR process description is presented in more detail in Attachments 1 and 2. The third method for identifying free liquids is through the visual examination of waste in the various AMWTP MWMUs. Incompatible wastes, if present, are segregated into discrete areas within WMF-636 Pad 2.

If containers with free liquids are managed within WMF-636 Pad 2, then secondary containment shall be provided through the use of portable spill pallets/pans. See Section D-1a(3) for additional information on the use of portable spill pallets/pans within WMF-636 Pad 2.

D-1a(1) Description of Containers [IDAPA 58.01.05.008; 40 CFR 264.171 and 264.172]

The containers used to store wastes in the WMF-636 Pad 2 are the same as those described in Attachment 1.A, Section D-1a(1). Container labels and markings are also described in Attachment 1.A, Section D-1a(1).

D-1a(2) Container Management Practices [IDAPA 58.01.05.008; 40 CFR 264.173]

Details on container management practices are described in Section D-1a(2) of Attachment 1.A. The following text addresses variations to those practices that are specific to WMF-636 Pad 2. Containers are stored on pallets.

Main access into WMF-636 Pad 2 is provided by a 20-ft wide center aisle (excluding support beams and portable equipment) that runs north to south from the overhead access door on the south side of the building. An additional 20-ft wide aisle (excluding support beams and portable equipment) is provided from the overhead access door on the east side of the building to the center aisle space that runs north-south. See Drawing 51-10038 for additional information. If “fast” assay is being performed, then only a 16-ft wide center aisle is required in the area where “fast” assay is being performed. Three-ft wide aisles (excluding support beams and portable equipment) are provided between the rows of containers and all interior/exterior walls to allow personnel access. All containers are stored on pallets or risers which are arranged into rows. See Appendix XII for additional information on the storage requirements of containers on pallets and risers on WMF-636 Pad 2. Containers will be stored either on the asphalt or concrete pads. Containers will not be stored over any of the soil areas remaining around WMF-636 Pad 2.

Containers may be located on the floor while in transition (e.g., loading/unloading trailers or other equipment) for a period of time not to exceed the end of the work shift in which the container was placed onto the floor. In the event that emergency equipment is needed, access to the containers is provided through the center aisles of the building. Un-characterized waste may be stored on WMF-636 Pad 2. All un-characterized waste will be stored on spill pallets/pans within WMF-636 Pad 2.

Any combination of container types may be stored in WMF-636 Pad 2 at any given time. Boxes, calculated 4-ft by 4-ft by 8-ft, are used in Appendix XI to determine the maximum potential waste volume that can be stored in WMF-636 Pad 2. The calculations performed in Appendix XI for determining the maximum drum and box storage capacity assume that all soil areas located within the WMF-636 Pad 2 building are either asphalted or concreted. See Appendix XI for additional information.

For determining the drum maximum storage capacity, containers are stored in the following configuration. There are up to 35 rows of drums which are 4 wide by 5 high by up to 34 drums in length on the east side of WMF-636 Pad 2. There are up to 36 rows of drums which are 4 wide by 5 high by up to 40 drums in length on the west side of WMF-636 Pad 2. The maximum drum storage capacity in WMF-636 Pad 2 is 52,600 55-gal drums, which corresponds to a waste storage capacity of 2,893,000 gals.

For determining the box maximum storage capacity, containers are stored in the following configuration. There are up to 11 rows of boxes which are 4 wide by 4 high by up to 17 boxes in length on the east side of WMF-636 Pad 2. There are up to 11.375 rows of boxes which are 4 wide by 4 high by up to 20 boxes in length on the west side of WMF-636 Pad 2. The maximum box storage capacity in WMF-636 Pad 2 is 6,632 boxes, which corresponds to a waste storage capacity of 6,350,140 gals.

Incompatible wastes are managed in WMF-636 Pad 2 in accordance with Attachment 6.

D-1a(3) Secondary Containment System Design and Operation [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(a) and (d), and 270.15(a)(1)]

WMF-636 Pad 2 is a fully enclosed structure. As mentioned previously, containers with free liquids are not typically stored on WMF-636 Pad 2. Therefore, WMF-636 Pad 2 does not have a secondary containment system. If free liquids are stored on WMF-636 Pad 2, then secondary containment will be provided by portable spill pallets/pans. Additionally, if un-characterized waste is stored in WMF-636 Pad 2, then the un-characterized waste shall be stored on spill pallets/pans. The spill pallets/pans used to provide secondary containment will provide at a minimum, 10% of the maximum liquid volume stored or the volume of the largest container (whichever is greater) in accordance with HWMA/RCRA requirements. See Section D-1b for additional information.

D-1a(3)(a) Requirement for the Base or Liner to Contain Liquids [IDAPA 58.01.05.008; 40 CFR 264.175(b)(1)]

All portable spill pallets/pans used for providing secondary containment system are resistant to a wide range of acids, alkalis, solvents, oxidizers, oils, and grease. The use of spill pallets/pans is more than sufficient to contain any leaks or spills of waste and prevent the migration of spilled contaminants until the spill is detected and removed.

D-1a(3)(b) Containment System Drainage [IDAPA 58.00.05.008 and 58.01.05.012; 40 CFR 264.175(b)(2) and 270.15(a)(2)]

All containers with free liquids stored within WMF-636 Pad 2 are elevated on the spill pallets/pans above the area used for providing secondary containment. Additionally, all containers in storage within WMF-636 Pad 2 are elevated on pallets or risers. This prevents containers from coming into contact with spills and accumulated liquids.

D-1a(3)(c) Containment System Capacity [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(b)(3) and 270.15(a)(3)]

The spill pallets/pans used to provide secondary containment will provide at a minimum, 10% of the maximum liquid volume stored or the volume of the largest container (whichever is greater) in accordance with HWMA/RCRA requirements.

D-1a(3)(d) Control of Run-On [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(b)(4) and 270.15(a)(4)]

The requirements for control of run-on are the same are those described in Section D-1a(3)(d) of Attachment 1.A.

D-1a(3)(e) Removal of Liquids from Containment System [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(b)(5) and 270.15(a)(5)]

The requirements for the removal of liquids from the containment system (i.e., spill pallets/pans) are described in Section D-1a(3)(e) in Attachment 1.A.

D-1b Containers Without Free Liquids [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(c) and 270.15(b)]

All containers stored in WMF-636 Pad 2 are managed in compliance with HWMA/RCRA requirements for containers with free liquids, unless documented not to contain any free liquids. Containers documented not to contain any free liquids through means other than historical knowledge (e.g., RTR, visual examination, process knowledge, etc.) may be stored without a secondary containment system that meets the requirements of IDAPA 58.01.05.008 [40 CFR 264.175(b)]. If RTR is used to document that a container does not contain any free liquids, then at least two AMWTP personnel will verify that the container does not contain free liquids.

Containers without free liquids shall be stored in an area that is sloped or otherwise designed to drain and remove liquid resulting from precipitation or the containers without free liquids shall be elevated or otherwise protected from contact with accumulated liquid in accordance with IDAPA 58.01.05.008 [40 CFR 264.175(c)]. Containers received for storage at WMF-636 Pad 2 are handled and stored as described in Section D-1a.

TABLE OF CONTENTS

ATTACHMENT 1.G

PROCESS INFORMATION

D. PROCESS INFORMATION

D AMWTP Outside Storage Area Design

The AMWTP Outside Storage Area is an asphalted area used to store and treat ROW and MW. Wastes currently in storage, as well as newly generated waste from on- and off-Site generators, may be moved to, stored, and treated in the AMWTP Outside Storage Area.

Unless otherwise noted, drawings for the AMWTP Outside Storage Area are located in Appendix VIII. The AMWTP Outside Storage Area is used for the receiving and storing of waste containers, transport trailers loaded with containers, and treating containers via macroencapsulation. See Attachment 1.A for additional information on the macroencapsulation treatment operations. The physical layout of the AMWTP Outside Storage Area is shown on the general arrangement drawing (see Drawing 51-10040).

AMWTP Outside Storage Area Base

The area on which the AMWTP Outside Storage Area asphalt pad is built was graded prior to installation of the asphalt pad. The asphalt pad consists of 4 in. of asphalt over 3 in. of crushed gravel. Minor areas were improved in 2012 as a result of adjacent asphalt maintenance, which consisted of a 3 in. layer of asphalt over 5 in. of crushed base, with 10 in. of aggregate sub-base over a geotextile fabric layer. The asphalt pad slopes towards the north at a grade of approximately 1%. See Drawings 51-10040 in Appendix VIII and 52-0241 Sheet 2 of 2 in Appendix VII for additional information on the grading plan for the AMWTP Outside Storage Area.

Electrical Power

There is no electrical power provided specifically for the AMWTP Outside Storage Area. If electrical power is needed, then portable generators may be used.

Lighting

Walkways near the AMWTP Outside Storage Area are provided with lighting, as required. Exterior lighting is provided along the TSA-RE building exterior to the east of the AMWTP Outside Storage Area and nearby roadways to the north and west.

Operating Record

Typically, the AMWTP computerized system is used for overall data management, recordkeeping, and waste tracking. See Attachment 1.A for further information on the Operating Record requirements.

D-1 Containers

D-1a Containers with Free Liquids

Containers with free liquids are not managed in the AMWTP Outside Storage Area, unless the containers are located within a TRUPACT container. Containers located within a TRUPACT container are allowed to contain up to 1% free liquids by volume. See Section D-1b for information on the storage of containers without free liquids.

D-1b Containers Without Free Liquids [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(c) and 270.15(b)]

As mentioned above, only containers without free liquids, unless stored within a TRUPACT container, will be stored in the AMWTP Outside Storage Area. TRUPACT containers are allowed to contain containers with up to 1% free liquids by volume. Containers are documented not to contain any free liquids through means other than historical knowledge (e.g., RTR, visual examination, direct process knowledge, etc.). If RTR is used to document that a container does not contain any free liquids, then at least two AMWTP personnel will verify that the container does not contain free liquids. Containers without free liquids stored in the AMWTP Outside Storage Area shall be elevated on pallets, risers, or trailers such that the containers are protected from contact with accumulated liquids in accordance with IDAPA 58.01.05.008 [40 CFR 264.175(c)].

D-1b(1) Description of Containers [IDAPA 58.01.05.008; 40 CFR 264.171 and 264.172]

The containers used to store wastes in the AMTWP Outside Storage Area are the same as those described in Attachment 1.A, Section D-1a(1). Container labels and markings are also described in Attachment 1.A, Section D-1a(1).

D-1b(2) Container Management Practices [IDAPA 58.01.05.008; 40 CFR 264.173]

Details on container management practices are described in Section D-1a(2) of Attachment 1.A. The following text addresses variations to those practices that are specific to the AMTWP Outside Storage Area.

Repaired containers, bags and plastic wrapping material used as containers, and containers identified as pyrophoric radionuclides are not stored in the AMWTP Outside Storage Area. A 50-ft access aisle running north-south is provided between the west wall of the TSA-RE building and rows of containers or trailers loaded within containers. A 5-ft access aisle running east-west is provided between rows of containers or trailers loaded within containers and the bollards surrounding the fire hydrant/valve. A 20-ft perimeter access road for operational and emergency equipment is provided along the west and north sides of the AMWTP Outside Storage Area. See Drawing 51-10040 for additional information. Three-ft wide aisles (excluding support beams and portable equipment) are provided between the rows of containers and trailers loaded with containers to allow for personnel access. All containers are stored on pallets, risers, or trailers which are arranged into rows.

Containers may be located on the asphalt in and around the AMWTP Outside Storage Area while in transition (e.g., loading/unloading trailers or other equipment) for a period of time not to exceed the end of the work shift in which the container was placed onto the asphalt. In the event that emergency equipment is needed, access to the containers is provided through the perimeter access road. Drawing 51-10040 presents a typical waste storage configuration for boxes and trailers loaded with containers.

Any combination of container types (e.g., drums, boxes, loaded trailers) may be stored in the AMWTP Outside Storage Area at any given time. Boxes, calculated 4-ft by 4-ft by 8-ft, are used in Appendix XI to determine the maximum potential waste volume that can be stored in the AMWTP Outside Storage Area. For box maximum capacity, containers are stored in the following configuration. There are up to 5 rows of boxes that are 2 boxes wide by 3 boxes high, each with a different length given aisle spacing requirements. Moving east to west, row 1 is 19 boxes in length, row 2 is 18 boxes in length, row 3 is 16.5 boxes in length, row 4 is 13 boxes in length, and row 5 is 8 boxes in length. The maximum box storage capacity is 447 boxes, which corresponds to a waste storage capacity of 404,997 gals. The maximum trailer storage configuration is six trailers loaded within containers. See Drawing 51-10040 for additional information.

Incompatible wastes are managed in the AMWTP Outside Storage Area in accordance with Attachment 6.

TABLE OF CONTENTS

ATTACHMENT 1.H

WMF-676 PROCESS INFORMATION

LIST OF TABLES

LIST OF EXHIBITS

D. PROCESS INFORMATION

D WMF-676 Design

WMF-676 is designed with many features that control MW on its path through the building. This section describes the systems that route and control emissions from WMF-676 activities, the general building structures that provide containment, the system that tracks and manages the flow of waste containers through designated treatment paths, and the areas designated to store containers while in transit through WMF-676.

Section D-8, which presents process information for the miscellaneous treatment units at WMF-676, is provided in Attachments 1.H.i, 1.H.ii, 1.H.iii, and 1.H.iv. Unless otherwise noted, drawings for WMF-676 are located in Appendix IX.

Emissions Control

Exhaust from process areas and ventilation zones is conveyed to the atmosphere in individual flues of varying sizes, surrounded structurally by an open, rectangular steel frame (the flues, along with the support frame, comprise the main WMF-676 stack). Table D-1 lists each of the extract flues along with the emissions area(s) each flue serves, and Exhibit D-1 illustrates the arrangement of the individual extract flues. Exhaust is transported to the main stack via horizontal ducts located in the upper level of WMF-676. The ducts extend horizontally from the penthouse before reaching the stack enclosure. Once the ducts transition to vertical flues, the diameter of each is reduced such that the design discharge velocity of each extract flue is approximately 4,000 ft/minute (fpm). The stack height (approximately 90 ft) is sufficient to ensure that the emissions do not result in excessive concentrations of any air pollutant as a result of atmospheric downwash, wakes, or eddy effects created by the source itself, nearby structures, or nearby terrain features and prevent exhaust air discharged from the stack from returning into the building via the HVAC air intakes.

Ventilation Systems

Engineered ventilation systems control gaseous emissions in WMF-676. WMF-676 is divided into clean areas and ventilation confinement zones. Areas of the process are re-designated between the ventilation confinement zones as operational needs and contamination levels dictate.

Clean Areas. Exhaust from clean areas, such as administrative and support areas, is primarily drawn through other clean areas or to areas with a higher potential for radiological contamination, although some will exhaust via a vent in the second floor roof.

Zone 1 and 2 Areas. The design of WMF-676 has a single-stage bank of HEPA filters that serves the Zone 1 area exhaust. Likewise, the design of WMF-676 has Zone 2 area extracts with two stages of HEPA filtration. Due to waste handling and operational activities, Zone 1 and Zone 2 areas may be re-designated between Zone 1 and Zone 2 areas, and potentially Zone 3 areas or clean areas, as necessary. If a Zone 1 or 2 area is designated as a Zone 3 area, then the newly designated Zone 3 area may not have three stages of HEPA filters, as stated below. However, all re-designations of contamination areas will be done such that particulate and radiological constituents are maintained within the limits specified in the "AMWTF Permit to Construct an Air Pollution Emitting Source at the Idaho National Engineering and Environmental Laboratory," Permit Number 023-000001, current version.

Zone 3 Areas. The design of WMF-676 has three stages of HEPA filters that serve a Zone 3 area extract. The first stage filter banks are positioned locally near the areas served, then the local ducts combine to form the Zone 3 extract system. The exhaust then passes through the second and third HEPA filter banks before being exhausted through the main stack. Exhibit D-2 is a simple schematic of the ventilation extract system for the Zone 3 areas. Areas typically operated as Zone 3 areas may be re-designated as lower zone areas based upon operational needs, such as during times of personnel entry into the areas. As previously described, areas re-designated as a Zone 3 area may not have three stages of HEPA filters.

Gloveboxes. The glovebox extract system serves gloveboxes, typically in Zone 3 environments, and is similar to the Zone 3 extract system, except that the flow rate requirements are much lower. This system also has first stage HEPA banks, followed by second and third stage HEPA filter banks. Exhibit D-3 shows a simple schematic of the glovebox ventilation extract system. The gloveboxes may be re-designated as lower zone areas based upon operational needs, such as during times of opening or personnel entry into the areas.

Other Emission Control Systems

Filter Systems. A local dust extraction unit is provided in the box opening area. The unit is designed to extract material (e.g., sawdust) from the box lid cutting tool(s) and discharge it into a container. The extract unit is fitted with a fire detection/suppression system for the collection container. The box shredder may also have a fire detection/suppression system and/or a dust control system.

Monitoring

HEPA Filter Monitoring. The efficiency of each HEPA filter or HEPA filter bank, as applicable, is routinely tested according to the American Society of Mechanical Engineers (ASME) N510-1989, Section 10 standards. In addition, the differential pressure across each HEPA filter bank is monitored. Any significant loss of pressure differential across HEPA filters will be evaluated for filter failure.

Recordkeeping and Reporting. Measurements and data correspondence relating to sampling or monitoring systems, performance testing measurements, equipment calibration checks, and maintenance performed on the equipment are kept in accordance with the AMWTP quality assurance program and are part of the Operating Record. A remedy schedule is provided in Appendix XIII that describes the response and consequences of ventilation equipment failure.

Building Structure

Exterior Walls

The exterior walls of the building are clad with prefinished metal siding over steel girts mounted on steel columns. The interior face of the siding system includes a prefinished metal liner panel to minimize air transfer and afford a smooth finished surface. The exterior walls are insulated for thermal protection.

Floors

The ground floor of the process portion of WMF-676 is composed of an approximately 36-in. thick steel reinforced concrete mat, thickened at the edges to provide about 5 ft below grade for frost depth. Integral to the design of the floor slabs are spill containment systems, where required, composed of specially coated concrete slabs with perimeter walls coated to a height required by secondary containment system calculations. Elevated floors are cast-in-place reinforced concrete or concrete on steel decking/framing.

Interior Walls

Interior wall construction is primarily reinforced concrete block, cast-in-place concrete, or drywall. Primarily cast-in-place reinforced concrete walls are used around the waste management areas to isolate critical ventilation confinement areas. Concrete cast-in-place walls are designed with steel reinforcing to meet seismic design criteria. Concrete walls are finished to a smooth surface.

Reinforced concrete block walls are used elsewhere throughout the interior of the waste management areas where cast-in-place concrete is not required for structural support. Block walls are nominally 8-in. or 12-in. thick with vertical and horizontal steel reinforcing for structural integrity. Concrete block walls are primarily used to enclose the access corridors, various process areas, and AMWTP personnel corridors throughout WMF-676.

In areas requiring fire resistive construction, concrete block, drywall construction, and spray-on fire resistive material are utilized in accordance with approved UL listings, and UBC and NFPA requirements for fire-rated construction.

Ceilings

Typically, acoustic lay-in ceiling systems are used in the administrative office area, suspended gypsum board systems in change rooms/toilet areas, and cast-in-place reinforced concrete or concrete on steel decking in process areas. In non-critical process and utility areas of WMF-676, the ceiling may be left open to the exposed structure above.

In critical process areas, such as the CCS area, the conveyor/storage areas on the first floor, and the box line areas on the second floor, the ceilings are constructed of cast-in-place reinforced concrete or concrete on steel decking. These ceilings/floors are reinforced to meet equipment loading and seismic design requirements. Suspended gypsum board or similar ceiling systems may be utilized in the change rooms, subchange rooms, and toilet and shower areas.

Roof

The roof structure is framed with steel girders and beams, and supporting steel roof decking. An insulated membrane roof system is applied over the steel deck. The roof slopes to the east and west walls over the process portion of the building and to the south over the administrative portion of the building. An enclosure may be constructed over the waste drum import/export area, which is located on the north end of WMF-676.

Specialty Coatings

Protective coatings are applied to surfaces throughout WMF-676 at varying levels and qualities depending upon exposure conditions and types of surfaces. The technical specifications for WMF-676 HWMA/RCRA secondary containment coating systems, included as Appendix XIV, contain information identifying the coatings applied to the various process areas in WMF-676. These coating systems are specifically selected to maintain surfaces within WMF-676 at acceptable levels of serviceability and decontamination ease, and for floors, walls, and curbing in secondary containment areas are selected to provide chemical resistance, durability, and compatibility with substrate conditions.

For areas providing secondary containment of spills and leaks (except where steel is used), floors, walls, and curbing are sealed with a coating system that is applied in a seamless manner, or equivalent. See Appendix XIV for additional information on coating systems used throughout WMF-676.

In the box line sorting cells, uncontainerized waste is sorted using manipulators; consequently, areas of the wall and floor surfaces are exposed to abrasion and highly contaminated conditions. Typically, where floor-mounted manipulators are positioned, steel guards (fastened to embedded steel plate) are provided to protect the portion of the walls that are reachable by the manipulator arm mechanism. The concrete floors, ceilings, and walls around the steel platforms and embedded plate are coated.

Operating Record

Typically, the AMWTP computerized system is used for overall data management, recordkeeping, and waste tracking. See Attachment 1.A for further information on the Operating Record requirements.

Treatment

Treatment by sorting and segregating is performed in the box line and drum repack system, and described in Attachments 1.H.i and 1.H.iv. Treatment in the SCW glovebox system is described in Attachment 1.H.ii and treatment by supercompaction in the supercompactor is described in Attachment 1.H.iii.

Additional methods of treatment permitted in WMF-676 are: absorption, decanting, and neutralization of liquids. See Attachment 1.A for additional information. These methods are performed individually and in conjunction with each other to treat the waste in the most effective manner possible.

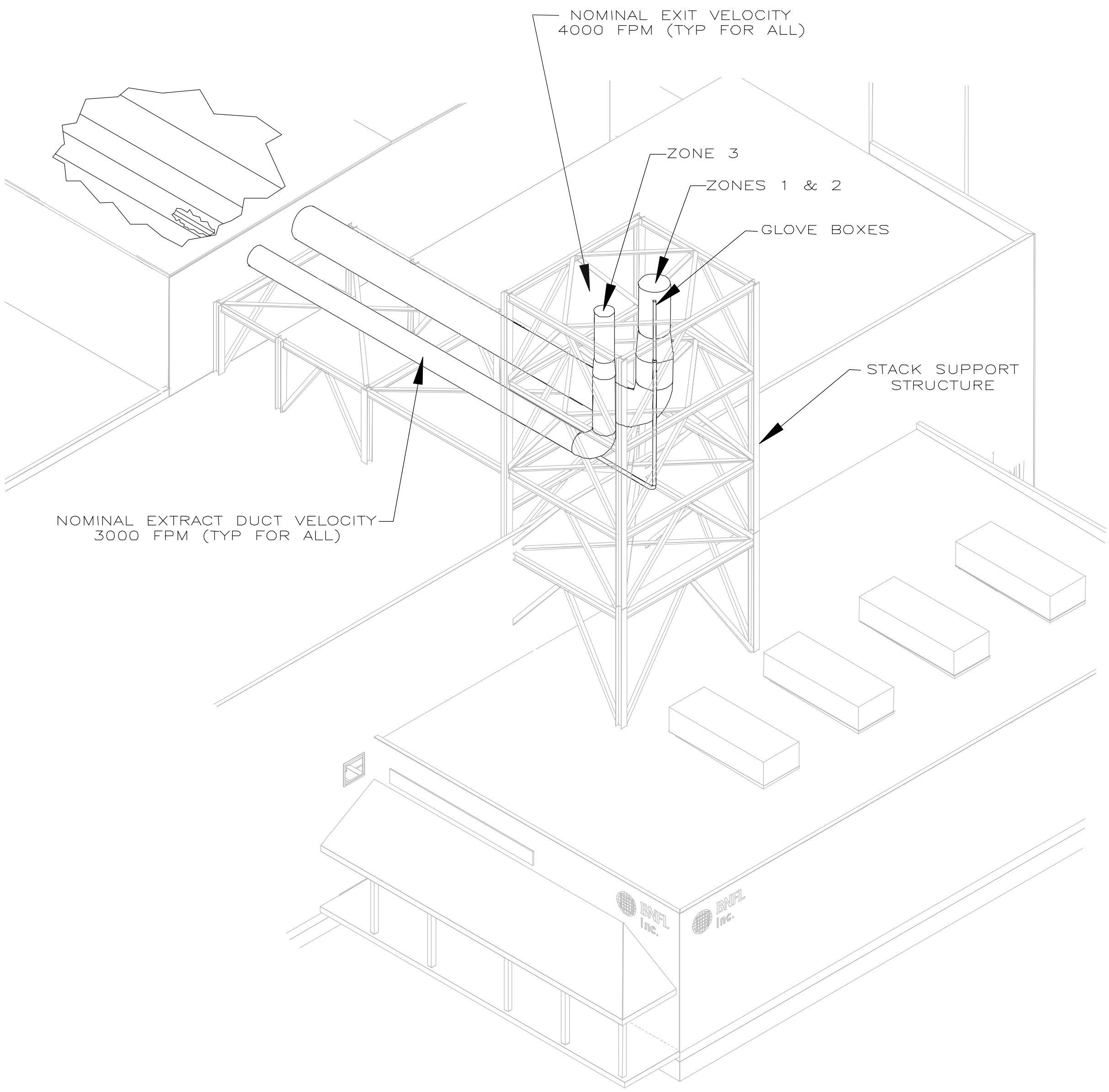

Exhibit D-1. Main Stack Exhaust Flue Arrangement

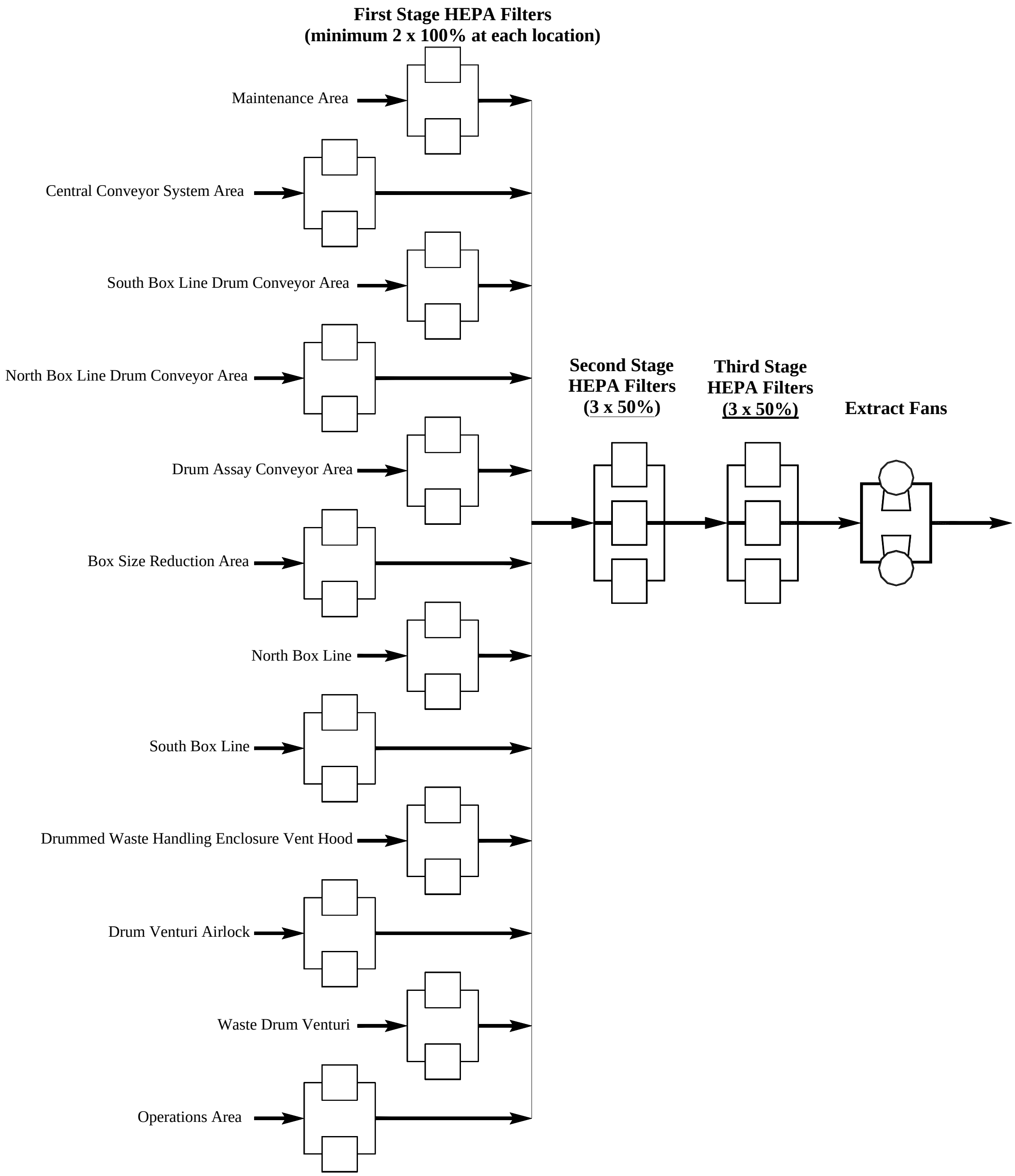

Exhibit D-2. Zone 3 Ventilation Extract System Simplified Schematic

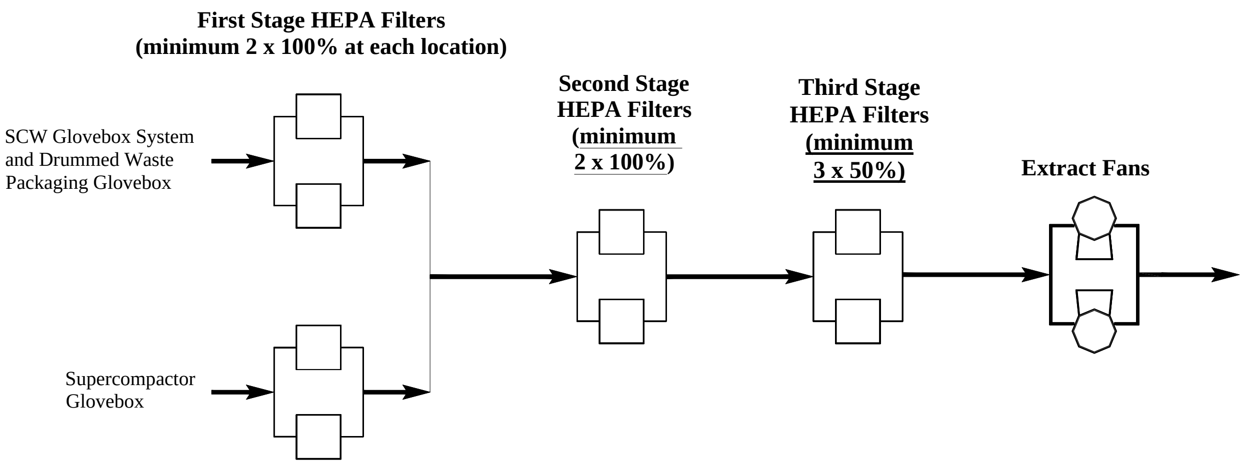

Exhibit D-3. Simplified Schematic of the Glovebox Ventilation Extract System

Table D-1. WMF-676 Exhaust Flues and Emission Areas Served

Exhaust Flue[a]	Areas and/or Systems Served
Process Area Zone 1/2 Extract	Areas designated Zone 1 or 2
Process Area Zone 3 Extract	Areas designated Zone 3 including emission sources: Box lines Room 147 DWHE ventilation hood Zone 3 drum storage areas
Process Area Glovebox Extract	Areas designated Zone 3 gloveboxes including emission sources: SCW glovebox system DWPG Supercompaction glovebox

a. The Zone designation may change (e.g., decontamination from a Zone 3 to Zone 2) to facilitate efficient operations.

D-1 Containers

Container Storage Areas

Portions of WMF-676 are permitted for HWMA/RCRA container treatment and storage. Table D-2 lists the treatment and storage areas, the number of containers stored, the maximum waste volume, the containment area net dimensions, the maximum secondary containment volume, and the minimum curb height for each area. The secondary containment information is described in Section D-1a(3).

D-1a Containers with Free Liquids

The containers stored at WMF-676 generally contain either (1) no free liquids or (2) free liquids at less than 1% of the total container volume. All containers are managed as if they contain free liquids, unless it can be documented, other than by historical record, that no free liquids are present. Containers with no free liquids are managed in accordance with Section D-1b. Typically, the determination of the presence of free liquids is performed at WMF-634, WMF-628, or WMF-610 through RTR and/or process knowledge, prior to receipt at WMF-676. Additionally, liquids may be identified through visual examination in the pretreatment areas of WMF-676, or through process knowledge for newly generated waste.

D-1a(1) Description of Containers [IDAPA 58.01.05.008; 40 CFR 264.171 and 264.172]

The containers used to store wastes in WMF-676 are the same as those described in Attachment 1.A, Section D-1a(1). Container labels and markings are also described in Attachment 1.A, Section D-1a(1). Labels may be placed on HWMA/RCRA empty containers in WMF-676 prior to waste being placed into the container.

D-1a(2) Container Management Practices [IDAPA 58.01.05.008; 40 CFR 264.173]

Details on container management practices are described in Section D-1a(2) of Attachment 1.A. The following addresses variations to those practices that are specific to WMF-676.

Typically, drums containing waste are received at the waste drum import and export area (located along the north wall of the first floor), while boxes containing waste and empty containers are received at the waste receiving and storage area (located along the east wall of the first floor). Non-debris waste containers may also exit through the empty container receipt area located on the east wall of the first floor. This area is also used to import containers for filling with waste from the box lines before supercompaction. Containers will be stored on devices which are used to raise the container off of the floor. Containers may be located on the floor while in transition (e.g., loading/unloading trailers or other equipment) for a period of time not to exceed the end of the work shift in which the container was placed onto the floor. The following storage configuration will be maintained for containers stored in WMF-676:

- Containers of MW shall not be stored in rows more than two containers wide by two containers high given that no container within the row resides against a wall of the building.
- Containers of MW shall not be stored in rows more than one container wide by two containers high given that one side of a container resides against a wall of the building.
- A minimum of two ft of aisle space (excluding support beams and portable equipment) shall be maintained between all rows of containers.

Incompatible wastes are managed in WMF-676 in accordance with Attachment 6.

D-1a(3) Secondary Containment System Design and Operation [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(a) and (d), and 270.15(a)(1)]

WMF-676 is an enclosed building. Secondary containment is provided by a curbed, sealed, concrete floor designed to resist frost heave and the types of wastes stored in WMF-676 or portable secondary containment devices that meet all HWMA/RCRA requirements. Container storage areas holding only wastes that do not contain free liquids do not require a containment system. See Section D-1b for additional information.

D-1a(3)(a) Requirement for the Base or Liner to Contain Liquids [IDAPA 58.01.05.008; 40 CFR 264.175(b)(1)]

Each of the treatment and storage areas listed in Table D-2 are provided with containment features or equipment (e.g., spill pans, pallets, etc.) to capture possible MW spills or leaks from containers, if secondary containment is required. Appendix XI contains a copy of the spill containment analysis developed to calculate minimum curb heights. A curb at WMF-676 is defined as the portion of a wall or barrier sealed with the appropriate coating from the floor up to the required containment height specified by the spill containment analysis (Appendix XI).

WMF-676 treatment and storage areas are constructed with sealed, reinforced concrete floors. The floor (base) of each storage area is free of significant cracks and gaps that may comprise the integrity of the containment, if secondary containment is required. A detailed description of the design and materials of construction of these areas is provided in Attachment 1.H.

The specialty coatings are applied per the manufacturer's recommendations to the area surface, curbs, ramps, floor and wall joints, and walls up to an elevation equal to or above the minimum calculated curb height, as required. The design of the floors, walls, and curbs and the application of the specialty coating, together, are such that the area is sufficiently impervious to contain leaks, spills, and accumulated precipitation until the leak, spill, or accumulated precipitation is detected and removed. In some areas, equipment (e.g., spill pans, pallets, etc.) may be used in lieu of specialty coatings or curbs.

D-1a(3)(b) Containment System Drainage [IDAPA 58.00.05.008 and 58.01.05.012; 40 CFR 264.175(b)(2) and 270.15(a)(2)]

The treatment and storage areas within WMF-676 are not equipped with drainage capabilities. If a leak or spill is detected in one of the areas, corrective actions are initiated in a timely manner. The response time to mitigate a spill is dependent upon the setup time for AMTWP spill response personnel. Response times vary depending on the ventilation confinement zone.

D-1a(3)(c) Containment System Capacity [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(b)(3) and 270.15(a)(3)]

All treatment and storage areas utilize equipment (e.g., spill pans, pallets, etc.) or are bound by a curb of sufficient height to contain at least 10% of the maximum volume of containers, or the volume of the largest container (whichever is greater) stored in the area at any given time, if secondary containment is required. Conservatively, the assumption has been made that each waste container is filled with liquid for those areas where secondary containment is required. Table D-2 presents the maximum secondary containment volume for each treatment and storage area for those areas where secondary containment is required, as well as the minimum curb height, considering the maximum number of containers that may be stored in each area at any given time.

D-1a(3)(d) Control of Run-On [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(b)(4) and 270.15(a)(4)]

The requirements for control of run-on are the same are those described in Section D-1a(3)(d) of Attachment 1.A.

D-1a(3)(e) Removal of Liquids from Containment System [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(b)(5) and 270.15(a)(5)]

WMF-676 is inspected for container condition, spills, leaks, and accumulated liquids as described in Attachment 4. Any spills, leaks, or accumulated liquids are cleaned up or otherwise mitigated in a timely manner upon discover within these areas. In the event of a leak/spill, AMWTP personnel may implement the Contingency Plan as described in Attachment 7. All equipment and any liquids generated during implementation of the Contingency Plan are placed in containers, labeled, and managed appropriately depending on the waste being cleaned up.

D-1b Containers Without Free Liquids [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.175(c) and 270.15(b)]

Containers without free liquids are managed as described in Section D-1b of Attachment 1.A.

Table D-2. WMF-676 Secondary Containment Summary[a]

Secondary Containment Area[b] (Room/Area No.)	Number of Containers of MW[c]	Maximum Waste Volume[d], gal	Containment Area Net Dimensions, ft^2	Secondary Containment Volume, gal	Maximum Waste Volume to Contain, gal	Min. Curb Height, in.
CCS Feed Area/Maintenance Area (147/147D)	150 drums (55-gal)	8,250	2,418	904	825	0.6
South Box Line/Drum Conveyor Area/North Box Line/Drum Conveyor Area/Drum Assay Conveyors (124B/125B/126C)	86 drums[e]	4,730	2,789	522	473	0.3
Waste Receiving and Storage (134)	4 boxes and 20 drums (55-gal)	6,616	1,023	1,403	1,379	2.2
Box Elevator (009)[f]	1 box	1,379	132	987	1,379	12
Supercompaction/Waste Drum Venturi/Filter/Drum Storage Area 'B'/Vestibule (141B/146A/146B/141)	71 drums[g]	5,795	2,510	626	580	0.4
Drum Storage Area ‘C’ (143)	35 drums[h]	3,200	1,301	324	320	0.4
Drum Storage Area 'A'/Corridor (146/145)	50 drums[i]	4,550	630	471	455	1.2
Drum Venturi Airlock (127A)	6 drums (55-gal)	330	313	59	55	0.3
Transfer Conveyor (131)	146 drums (55-gal)	8,030	962	840	803	1.4
Vestibule Airlock (127B)	4 drums (55-gal)	220	90.4	56	55	1
LLW Box Fill/Vestibule (128A/128)[j]	3 boxes and 8 drums (85-gal)	4,817	NA	NA	NA	NA
Secondary Waste Room (128B)[j]	3 boxes and 8 drums (85-gal)	4,817	NA	NA	NA	NA
Empty Container/LLW Export (128C)[j]	2 boxes and 8 drums (85-gal)	3,438	NA	NA	NA	NA
Drum Assay Area (126B)	3 drums (55-gal)	165	184.4	57	55	0.5
Vestibule (126)[j]	2 drums (55-gal)	110	NA	NA	NA	NA

Table D-2. WMF-676 Secondary Containment Summary (continued)[a]

Secondary Containment Area[b] (Room/Area No.)	Number of Containers of MW[c]	Maximum Waste Volume[d], gal	Containment Area Net Dimensions, ft^2	Secondary Containment Volume, gal	Maximum Waste Volume to Contain, gal	Min. Curb Height, in.
Terminal Filter Room (122A)[j]	60 drums (55-gal)	3,300	NA	NA	NA	NA
Terminal Filter Room (142B)[j]	20 drums (55-gal)	1,100	NA	NA	NA	NA
SCW Treatment (236)	24 drums (85-gal)	2,040	2,556	319	204	0.2
Variable Geometry (VG) Door Airlock/Suitchange (217C/217B)	1 boxes	1,379	295	1,379	1,379	7.5
Box Conveyor Area (226)	2 boxes	2,758	370	1,384	1,379	6.0
North Box Line/VG Door Airlock/Suitchange (229B/220C/220B)	6 boxes[k]	8,274	1,643	1,434	1,379	1.4
South Box Line (228B)	4 boxes	5,516	908	1,415	1,379	2.5
Operations Area/Access Corridor (232B/232H)	60 drums (55-gal)	3,300	1003	375	330	0.6
Hot Maintenance/Box Size Reduction Area (224B/225A)	1 box and 48 drums (55-gal)	4,019	1,803	1,461	1,379	1.3
Area 300 HEPA Filter Room (214A)[j]	20 drums (55-gal)	1,100	NA	NA	NA	NA
Filter Maintenance Area (212C)[j]	8 drums (55-gal)	440	NA	NA	NA	NA
Filter Maintenance Area (212F)[j]	16 drums (55-gal)	880	NA	NA	NA	NA
Filter Maintenance Area (212H)[j]	8 drums (55-gal)	440	NA	NA	NA	NA
Hydraulic Room (224C)[j]	10 drums (55-gal)	550	NA	NA	NA	NA

a. See Table D-3 for additional information on storage and treatment area locations in WMF-676.

b. Maximum waste volume and secondary containment capacity values for elevators are included in the calculations for those areas where elevators are located.

c. The types of containers indicated are for calculation purposes only. Any type and size of container may be managed with the specified areas as long as the maximum volume is not exceeded.

d. The maximum waste volume is based on the conservative assumption that the maximum number of containers with potential liquids are stored in the area and that each container is full of liquid. The volume for each drum is either 55-gal or 85-gal, as noted. A volume of 1,379-gal was used for each box. The containment system must contain 10% of the total volume of the containers or the volume of the largest container, whichever is greater [IDAPA 58.01.05.008 (40 CFR 264.175)].

e. The 86 drums in this area are made up of the following:

South Box Line/Drum Conveyor Area – 28 drums (55-gal)
North Box Line/Drum Conveyor Area – 28 drums (55-gal)
Drum Assay Conveyor – 30 drums (55-gal)

f. Boxes located in this area are considered to be "in-process." All in-process boxes will be removed from the elevator prior to the end of the shift in which the box was placed into the elevator. If a box is not removed from the elevator prior to the end of the work shift, then the box shall be considered to be in storage and must meet the secondary containment requirements (i.e., the largest box which may be stored in the elevator is 987 gals).

g. The 71 drums in this area are made up of the following:

   Supercompaction – 11 drums (55-gal) and 20 drums (100-gal)
   Waste Venturi/Filter – 6 drums (85-gal), 16 drums (55-gal), and 6 drums (100-gal)
   Drum Storage Area 'B' – 12 drums (100-gal)

h. The 35 drums in this area are made up of the following: 20 drums (85-gal) and 15 drums (100-gal).

i. The 50 drums in this area are made up of the following: 30 drums (85-gal) and 20 drums (100-gal).

j. Typically, no wastes containing free liquids are managed in this area per administrative controls; therefore, no secondary containment system is provided in this area. If liquids are managed in the area, then secondary containment will be provided by portable spill containment equipment (e.g., spill pans, pallets, etc.).

k. The 6 boxes in this area are made up of the following:

   North Box Line – 5 boxes
   VG Door Airlock – 1 box

Table D-3. Summary of WMF-676 Treatment/Storage Areas

Area (Room/Area No.)	Comments
Drum Storage Area 'A'/Corridor (146/145)	Storage
Drum Storage Area 'B'/Vestibule (146B/141)	Storage
Drum Storage Area 'C' (143)	Storage
Supercompaction (141B)	All containers located outside of the supercompactor glovebox system are considered to be in storage. Containers and uncontainerized waste are considered to be in treatment from the time a container is placed into the supercompactor glovebox system, until the waste is removed from the supercompactor glovebox system. Containers and sumps are considered to be in treatment during absorption, decanting, and neutralization.
Waste Drum Venturi/Filter (146A)	All containers outside of the venturi are considered to be in storage. Containers inside the venturi are considered to be in treatment.
Terminal Filter Room (142B)	Storage
Waste Receiving and Storage (134)	Storage
Box Elevator (009)	Storage
Transfer Conveyor (131)	Storage
Vestibule Airlock (127B)	Storage
Drum Venturi Airlock (127A)	Storage
CCS Feed Area/Maintenance Area (147/147D)	Storage. Six types of containers may be located in rooms 147 and 147D at any given time. These containers are: 1) containers with lids, 2) empty containers with or without lids, 3) unlidded SCW transfer containers containing containerized waste, 4) unlidded SCW transfer containers containing uncontainerized waste, 5) containers with poor integrity originating from the box lines, and 6) unlidded non-debris transfer containers. Unlidded SCW transfer containers and unlidded non-debris transfer containers, which contain uncontainerized waste, may be located in the CCS Feed Area/Maintenance Area for up to 72 hours. For example, the 72 hour time period would start from the time the unlidded container(s), with uncontainerized waste, is removed from room 125B or 124B of WMF-676 until the unlidded container is received at the SCW glovebox system, other treatment area within WMF-676, or the container is lidded with either a temporary or permanent lid. Containers with poor integrity originating from the box lines may be located in the CCS Feed Area/Maintenance Area for up to 7 calendar days.
LLW Box Fill Station/Vestibule (128A/128)	Storage
Secondary Waste Room (128B)	Storage

Table D-3. Summary of WMF-676 Treatment/Storage Areas (continued)

Area (Room/Area No.)	Comments
Empty Container/LLW Export (128C)	Storage
Terminal Filter Room (122A)	Storage
Vestibule (126)	Storage
Drum Assay Area (126B)	All containers located outside of the import/export glovebox are considered to be in storage. Containers and uncontainerized waste in non-debris transfer containers are considered to be in treatment at all times when attached to the import/export glovebox.
Drum Assay Conveyors (126C)	Storage. Six types of containers may be located in room 126C at any given time. These containers are: 1) containers with lids, 2) empty containers with or without lids, 3) unlidded SCW transfer containers containing containerized waste, 4) unlidded SCW transfer containers containing uncontainerized waste, 5) containers with poor integrity originating from the box lines, and 6) unlidded non-debris transfer containers. Unlidded SCW transfer containers and unlidded non-debris transfer containers, which contain uncontainerized waste, may be located in the Drum Assay Conveyor area for up to 72 hours. For example, the 72 hour time period would start from the time the unlidded container(s), with uncontainerized waste, is removed from room 125B or 124B of WMF-676 until the unlidded container is received at the SCW glovebox system, other treatment area within WMF-676, or the container is lidded with either a temporary or permanent lid. Containers with poor integrity originating from the box lines may be located in the Drum Assay Conveyor area for up to 7 calendar days.
North Box Line/Drum Conveyor Area (125B)	Treatment
South Box Line/Drum Conveyor Area (124B)	Treatment
Filter Maintenance Area (212C)	Storage
Filter Maintenance Area (212F)	Storage
Filter Maintenance Area (212H)	Storage
Hydraulic Room (224C)	Storage
SCW Treatment (236)	All containers located outside of the DWHE, DWPG, and the SCW glovebox system are considered to be in storage. Containers and uncontainerized waste are considered to be in treatment at all times in the DWHE, DWPG, or the SCW glovebox system. Containers and sumps, in all locations in this area, are considered to be in treatment during absorption, decanting, and neutralization.
Box Conveyor Area (226)	Storage
Variable Geometry Door Airlock (217C)	Treatment
Suitchange (217B)	Storage

Table D-3. Summary of WMF-676 Treatment/Storage Areas (continued)

Area (Room/Area No.)	Comments
Access Corridor (232H)	Storage
Operations Area (232B)	Storage
Variable Geometry Door Airlock (220C)	Treatment
Suitchange (220B)	Storage
North Box Line (229B)	Treatment and Storage. Uncontainerized waste is considered to be in treatment. All waste within a lidded container is considered to be in storage.
South Box Line (228B)	Treatment and Storage. Uncontainerized waste is considered to be in treatment. All waste within a lidded container is considered to be in storage.
Hot Maintenance (224B)	Treatment and Storage. Uncontainerized waste is considered to be in treatment. All waste within a lidded container is considered to be in storage.
Box Size Reduction Area (225A)	Storage
Area 300 HEPA Filter Room (214A)	Storage

TABLE OF CONTENTS

ATTACHMENT 1.H.I

WMF-676 BOX LINE PROCESS INFORMATION

LIST OF TABLES

LIST OF EXHIBITS

D. PROCESS INFORMATION

D-8 Miscellaneous Units [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.601 and 270.23]

The box lines do not meet the definition of container, tank, surface impoundment, waste pile, land treatment, incinerator, boiler, industrial furnace, or underground injection well. Therefore, the unit is categorized as a miscellaneous treatment unit under HWMA/RCRA. These box lines are used to open, sort, separate/segregate, size-reduce, sample, depressurize fire extinguishers, treat liquids, and repackage waste prior to downstream treatment, as required. Additionally, liquids may be treated via decanting, absorption, or neutralization in the box lines as described in Attachment 1.A, and further defined in section D-8a(1)(a) of this Attachment. Drawings 53-0208 and 53-0209 in Appendix XV are general arrangement drawings of the box lines. A brief discussion of the MTS, which is not a miscellaneous treatment unit, is provided below as further information, since the system is important to operations, as well as to the treatment processes at WMF-676. Drawings for the box lines are located in Appendix XV, and box line MDSs can be found in Appendix XVI.

MTS

The MTS, including the CCS (in Room 147), is used to convey containers around WMF-676 in a safe and efficient manner. This overall system consists of the following systems:

- Waste box receiving and processing system: Consists of waste box import conveyor (northeast first floor), the box elevator, and the box conveyor on the second floor.
- LLW box import/export: Consists of the LLW container import/export conveyor (southeast first floor), and the LLW elevator.
- Waste drum receiving and storage system: Consists of dual, waste drum entry conveyors on the northwest end of the building, airlocks, the waste drum entry venturi, and the drum elevator to the second floor DWHE.
- CCS: Consists of a drum-handling robot, drum conveyors, and drum storage areas on the west side of the building in Room 147 and, at the north end, a drum elevator to the second floor SCW glovebox system.

- Waste drum assay system: Consists of the drum assay conveyors and a drum-handling robot (on the west central first floor).
- Waste drum fill system: Consists of drum elevators, drum-handling robots, and conveyors on the first floor underneath the box lines (placing lids onto drums containing waste, and sealing lids on drums containing waste).
- Empty drum receiving and storage system: Consists of empty-drum import conveyors (on the northeast) that feed into Room 147 via airlocks and a venturi glovebox. Non-debris waste containers may also exit through the empty container receipt area.
- Puck drum import and export system: Consists of two sets of dual, puck drum import/export conveyors in the clean areas on the northwest end of the building (drum storage area C), a single set of dual conveyors in drum storage areas A and B, and lifts associated with the puck drum transfer ports in the post-compaction glovebox.

Generally, all container movements are controlled by software sequences initiated from the CCR. Container movements are tracked in the Operating Record through barcode readers strategically located throughout WMF-676. Software and mechanical interlocks ensure that containers are correctly routed throughout WMF-676. Container routing (waste drum receiving and storage, direct-feed drums for supercompaction, drums requiring treatment, empty containers for waste filling, and drum storage areas) prior to treatment is described below. Box routing is discussed in Section D-8a(1)(a).

Waste Drum Receiving and Storage. Drums containing waste are normally delivered through an isolation door to the parallel conveyors of the waste drum receiving and storage system at the north end of the building. At this position, a barcode reader is used to automatically record the drum identification, enabling the drum to be tracked in the Operating Record. Then, automatic control sequences initiated from the CCR begin to import the drums, which pass through another isolation door and then through an airlock. At this point, drums identified for the drum repack system and SCW, and drums for direct supercompaction are transported to their next destination via separate routes.

Direct-feed drums for supercompaction. Direct-feed drums are suitable for supercompaction without additional treatment. Direct-feed drums on the drum entry conveyor are transferred into a ventilation confinement area via the waste drum entry venturi glovebox (DZ310200 located in Appendix XVII). The outer vertical seal door of the venturi glovebox is opened, and a lidded drum is moved into the venturi airlock glovebox. The venturi airlock glovebox will hold a maximum of four drums. When the venturi airlock glovebox has four drums present, one is driven out by opening the inner seal door and conveying it into the north end of the supercompactor infeed glovebox. From the infeed glovebox, the drum is conveyed into the suite of supercompactor gloveboxes for treatment. After compaction, pucks are loaded into puck drums at the export end of the post compaction glovebox and exported via the puck drum export conveyor. See Attachment 1.H.iii for further information on the supercompactor process.

Waste drums requiring pretreatment. Drums requiring treatment in the drum repack system or visual examination are transferred to an elevator, which lifts the drum up through an airlock to the drum repack system for processing. See Attachment 1.H.iv for a discussion of drum repack system operations. Lidded containers containing waste are transported from the drum repack system back to the first floor via an elevator. These containers are then typically directed into Room 147 (via the venturi airlock glovebox and supercompactor infeed glovebox) for transfer to the drum assay system, and subsequent transfer to the supercompactor for treatment. Non-reusable waste drums and overpack drums may be crushed in the drum repack system and exported from WMF-676.

Empty containers for waste filling. Empty containers are typically delivered to the empty drum receiving and storage system through an isolation door on the east side of the building. The drums are placed onto the empty drum receiving and storage system parallel conveyors, where a barcode reader is used to automatically record the drum identification, enabling the drum to be tracked in the Operating Record. Then, automatic control sequences initiated from the CCR begin to import the drums through another isolation door. The parallel conveyor system merges into a single conveyor line. This single conveyor transports containers through a vestibule airlock and then through the empty drum venturi airlock glovebox to Room 147. When needed, the drum is conveyed to one of two lid pick-and-place stations beneath the box lines. Here, a lid pick-and-place actuator removes the lid and sets it down onto the lid placement station. The lids are interchangeable so there is no need to track the lids or reunite them with the originating drum. When the lid is removed, a waste handling robot transfers the drum to an elevator that raises the drum to one of the import/export ports where it can be filled (DZ340299 located in Appendix XVII and DZ340324).

Import/export glovebox. Drums requiring treatment, typically non-debris drums, due to the presence of liquids are transferred to the box lines for processing as described above. Once treated, the waste is placed into a non-debris transfer container that has a removable liner within the container. These containers are then directed into the import/export glovebox located in Room 126B. Within the glovebox, the liner has an upper ring that allows for the liner to be removed from the non-debris transfer container and placed into another container (typically a 55-gal drum) that is docked to the underside of the import/export glovebox (Z-390-200 located in Appendix XVII). Once the container has been filled and undocked from the import/export glovebox, the container is manually moved to the empty drum receiving and storage conveyor system. Once on the conveyor system, the containers are transported out of WMF-676. This glovebox may also be used to export prohibited items or other debris items from the box lines.

CCS. The CCS uses a drum handling robot (DW370006 located in Appendix XVII) to transfer containers, as follows:

- Empty containers from the empty container receiving and storage system to the waste container fill and transfer area,
- SCW transfer containers from the waste container fill area to an elevator for transfer to the second floor SCW glovebox system,
- Non-debris transfer containers from the waste container fill area to the import/export glovebox, and
- Assayed containers of waste to the supercompactor.

Six types of containers may be transported by the MTS. These containers are: 1) containers with lids, 2) empty containers with or without lids, 3) unlidded SCW transfer containers containing containerized waste, 4) unlidded SCW transfer containers containing uncontainerized waste, 5) containers with poor integrity originating from the box lines, and 6) unlidded non-debris transfer containers. As described in greater detail in Section D-1a(3) of Attachment 1.H, waste management areas are provided with specialty-coated curbs and floors, or equipment (e.g., spill pans, pallets, etc.) designed for secondary containment.

D-8a Description of Miscellaneous Units [IDAPA 58.01.05.012; 40 CFR 270.23(a)(1) and 270.23(a)(2)]

Two box lines are provided to meet the process limit of 10,475 gallons per day. Boxes are the primary container type processed in the box lines; however, drums may also be processed within the box lines. Drums processed through the box lines are configured such that the material handling equipment within the box lines can handle the drums. For example, drums may be loaded into a box or drums may be banded/strapped to a pallet for processing in the box lines. All containers entering WMF-676 have barcode labels to facilitate tracking in the Operating Record. Information (coded to the labels) required for identifying, tracking, and processing the waste is recorded in the Operating Record. The information typically recorded in the Operating Record includes: IDC/waste group (WG), EPA hazardous waste numbers (HWNs), characterization information, storage and retrieval records, targeted processes, and SCW items and prohibited items (as defined in this section), if present.

Waste containers enter the box lines via a variable geometry door and airlock system. Containers are opened in the box opening area; and the contents sorted, separated/segregated, and/or size-reduced in the north or south box line using manipulators with various tools. Treatment of liquids, depressurization of aerosol canisters, and depressurization of fire extinguishers is also performed within the box lines. The box lines are equipped with sampling capabilities for the rare occasions when sampling is required.

In the course of processing containers of waste, small quantities of SCW may be encountered. SCW items are placed into barcode labeled transfer containers and removed from the box lines, typically in baskets within the transfer containers. Small quantities of SCW can also exit the box line via the bagging transfer port for manual transfer to the SCW glovebox system. Only known compatible wastes (from existing characterization information) are placed together into a transfer container for delivery to the SCW glovebox system or to the DWPG. Whatever information is recorded in the Operating Record for the waste container(s) from which the SCW is extracted is applied to the SCW (i.e., the SCW is always linked to the original waste container, including its associated HWNs). Once the SCW information is entered into the Operating Record, the SCW is transferred to the appropriate SCW glovebox or to the DWPG. Liquids (containerized and free) may be absorbed within the box lines.

After waste management in the box lines, the waste is placed into containers and transferred to the lidding process area, and eventually to the assay cell prior to transfer to the supercompactor or for exporting via the import/export glovebox. Containers may be managed at any of the drum storage areas before or after assay to optimize process flow. Containers are tracked to the original containers using barcode labels and the information in the Operating Record. The required information recorded in the Operating Record for containers includes, but is not limited to: the identification of the original container(s) and related characterization information, quantity of waste removed from each waste container, applicable HWNs, analytical results and any additional waste characterization information obtained prior to treatment, and targeted treatment processes. Generally, containers are compacted along with the waste they contain and are not reused. The following section presents typical WMF-676 operations, including box line pretreatment operations, in greater detail.

D-8a(1) WMF-676 Treatment Operations [IDAPA 58.01.05.012; 40 CFR 270.23(a)(1)]

Waste in WMF-676 is typically managed remotely within cells or gloveboxes to minimize exposure of AMWTP personnel to waste constituents. Containers within WMF-676 are managed in a manner to prevent container rupture or leakage (except during the supercompaction process, see Attachment 1.H.iii) and to minimize exposure of AMWTP personnel. The following provides a summary of the operating standards used in conducting waste activities in WMF-676:

- Wastes are identified by IDCs/WG, generator-supplied information, and RTR examination. Wastes are reviewed for IDCs/WG and hazardous constituents prior to processing at WMF-676 and at individual units within WMF-676 to ensure incompatible wastes are not co-mingled.
- All waste processing activities are performed by AMWTP personnel trained to safely conduct these activities and to respond to emergency situations.
- All waste processing activities are conducted under supervisory control and according to specific procedures.
- The containers enter WMF-676 units through a combination of elevators, conveyors, and airlocks. Containers typically remain closed until they enter the process areas. Containers for supercompaction and filled puck drums are lidded before further processing.

- No reactive (HWN D003) wastes are received at WMF-676. Waste streams potentially containing ignitable (HWN D001) wastes are processed in a manner to minimize the potential of ignition.
- The ventilation air is ultimately fed to banks of HEPA filters prior to exhausting through the main stack.
- Typically, secondary waste streams generated in WMF-676 process areas are treated within WMF-676.

These operating standards are used to prevent releases of waste constituents, which may have adverse effects on human health or the environment. An overview of typical box line operations is provided below.

D-8a(1)(a) Box Lines

Waste containers are delivered to the box lines on the second floor via the box elevator. The design of the box lines, including the box entry airlocks and the empty box size-reduction area, is provided in Drawings 53-0208 and 53-0209. Containers located within the elevator are considered to be in-process. All in-process containers will be removed from the elevator prior to the end of the shift in which the containers were placed into the elevator. If a container is not removed from the elevator prior to the end of the work shift, then the container shall be considered to be in storage. On the second floor, containers are transferred directly from the box elevator onto the box transfer conveyor where a barcode reader verifies the identity of the container(s). The box transfer conveyor then transfers the containers up to the first box entry airlock.

Automatic control sequences from the CCR initiate the movement of containers into the box line cells using barcode confirmation that the containers are the ones expected. To import a waste container, the first set of variable geometry doors (DZ320227) at the entry of the first airlock is opened to a size just greater than the waste container, which is transferred via the box entry conveyor into the first box entry airlock. The first set of doors is closed and the second set of variable geometry doors is opened, allowing transfer of the box into the second box entry airlock via the box entry conveyor. Within the first airlock room (Room 217C), bolts, rings, or clips are removed from certain container types, as required.

Within the second box entry airlock, the lids of boxes are cut open, as required, using cutting tools deployed from an overhead gantry system (DM-320-200). The cutting tool deployment system provides the versatility to make different cutting patterns (depending on the needs for a particular box) that result in the formation of a removable lid, which is retained in position on the box. Alternatively, the lid of a box may be cut with the overhead power manipulator (DQ340201), which is located in the box lines, using various tools. The tools utilized for cutting the lid of a box are chosen depending upon the particular needs of a given box. Tools utilized with the overhead power manipulator (DQ340201) may be equipped with a fire detection/suppression system as required by NFPA standards.

With the second set of doors closed and the third set of variable geometry doors opened, the container (with retained lid) is conveyed from the second box entry airlock to the lid removal area, and then to either the south or the north box line. A sufficient air velocity is maintained between the variable geometry doors and the waste container to control back diffusion. The three sets of doors are interlocked to maintain ventilation containment. Depending on characterization data (e.g., RTR), the container is transferred to either the north box line (typically, for routine management) or the south box line (for routine or specialized management).

The lid is removed at the lid removal station located within the north box line area. Alternatively, the lid can be removed within the north or south box line using a manipulator. The lid is lowered onto the conveyor for transfer to the box size-reduction area, or it is temporarily placed within the north or south box lines (e.g., park position, trough, etc.) for later transfer to the box size-reduction area. Any box lid that is placed within the north or south box lines must undergo a hazardous waste determination before being sent to the box shredder. A conveyor transfer device conveys the de-lidded container off the box transfer conveyor onto a tipping carriage, parked in a box clamping frame (DQ340240). With the de-lidded container in position within the tipping carriage, actuators power the clamping frame mechanism, securing the container within the carriage. The waste handling crane (DQ340206), complete with a modified ramshorn hook and carriage lifting fixture, lifts the tipping carriage/de-lidded container, and transfers it to the designated tipping station. Two tipping stations are located in each box line. Trunnions, cylindrical projections for pivot points, located on each side of the tipping frame, engage the rotation drive shafts that are located on hydraulically powered tipping yokes (stands). Powered actuators tip the container toward the waste sort trough, allowing the contents to fall into the waste sort trough. The clamping frame/tipping carriage is remotely operated from control stations outside the box lines by AMWTP personnel viewing directly through windows or via the closed circuit television (CCTV) system.

AMWTP personnel can observe the inside of the container(s) from an elevated local control station above the manipulator tool change station or by the CCTV system. When empty, the container(s) in the carriage is raised clear of the tipping yokes and returned to the clamping station. The two actuators then reverse the clamp beam, freeing the "HWMA/RCRA-empty container(s)" [per IDAPA 58.01.05.005 (40 CFR 261.7)] for return to the box entry conveyor via the box conveyor transfer device. Here, a container may be reunited with its lid and then transferred via the entry conveyor to the box size-reduction area for breakdown and export as LLW (Drawing 53-0209). The box shredder may also have a fire detection/suppression system and/or a dust control system.

In the box lines, waste sorting, separating/segregating, depressurization of aerosol canisters, depressurization of fire extinguishers, treatment of liquids, and size-reduction activities are achieved remotely using various manipulators [i.e., overhead power manipulator (DQ340201), master slave manipulator (DQ340202), floor mounted hydraulic manipulator (DQ340225)] and various tools. Typically, the floor mounted manipulator is used to sort and size waste and to load waste into containers docked at the waste export port doors that are set into the floor of the trough (i.e., waste export stations). The edges of the port doors are beveled, allowing waste to be loaded into docked drums while serving to contain at least 55 gal of liquid in the trough. The south box line is equipped with a guillotine (DQ340220) for special size-reduction tasks. A filter crushing machine (DQ330221) and drum shredder located within the box lines are optional tools that may be installed for size-reduction.

During the processing of waste within the box line troughs, there is a potential for a flame or thermal event to occur. If a fire occurs while processing waste in the box line troughs, the box line Operator will attempt to extinguish the fire using a CO2 Fire Suppression System, located on the arm of the floor mounted manipulator (see Exhibit D-1 and Appendix XV), or any other fire suppression mechanism authorized by procedure or take other action in accordance with the provisions of the Contingency Plan.

The waste export stations are used for filling containers. Empty containers are routed to drum elevators on the first floor directly below the waste export stations. Elevators lift the containers to the underside of the waste export stations. At the sort tables and off-line waste processing station, size-reduced/sorted waste items are transferred from the waste container/tables into the containers using manipulators. Filled drums cannot be removed unless the port door is closed. The port door control system prevents the transfer of an overfilled container; thus, preventing uncontainerized items from entering the drum transfer areas below the box lines. See the MDSs for an enlarged view of transfer drum location. When filled, the containers are lowered and routed by the MTS to downstream treatment processes, including a lidding station.

Free liquids or containerized liquids may be treated and/or managed within the box line troughs or the off-line box processing station. In the case where free liquid is present in a sort trough, it is collected using a portable sump pump (DP340201) or cleaned up using other means, such as the addition of an absorbent. Liquid collected by the sump pump is transferred into an appropriately labeled container and deposited into a SCW transfer container at an export station or is bagged-out at the bag-out port. Containers of liquid may be treated via absorption, decanting (pouring of liquid into the trough or another container), and/or neutralization. See Attachment 1.A for additional information on the types of absorbents and neutralizing agents that may be used. Containerized liquid may also be transferred to the SCW glovebox system or to the DWPG for further treatment, as required.

AMWTP personnel control the primary size-reduction tool, the floor mounted hydraulic manipulator, from an elevated local control station above the manipulator tool change station. From this location the manipulator operator has maximum visibility of the process areas through observation windows and the CCTV system.

Direct visual observation and/or a CCTV camera positioned above the waste sort trough are used to view the contents of the trough and to identify items with special removal and/or management requirements (sheet materials, heavy items, glass bottles with liquids, etc.).

Depending on the type and size of waste in the trough, the following operations are performed in the box lines. See Drawings 53-0208 and 53-0209 for additional views of the box lines.

Suitable size/weight items. Waste items with a suitable size and weight to fit into containers are transferred by manipulators directly into a container via a waste export station port [DZ340299 (located in Appendix XVII) and DZ340322]. A waste precompaction mechanism (DZ340335), in addition to manipulators with various tools, may be one of the items used to increase the waste packing efficiency of sorted waste inside containers destined for supercompaction. Baskets of SCW are either placed directly into a docked transfer container, or are located in the sort trough and later placed into a transfer container at an available export station port. The baskets can also be left in the transfer container, and the SCW placed into the basket while it is in the transfer container.

Waste drums. Drums in a box, undergoing processing in a box line, may be tipped out into the sort trough and opened using manipulators and tools, and the waste sorted and separated as described above. Drums may also be clamped/strapped in an appropriate transfer device (e.g., pallet, box) such that the waste is transferred to the waste sort troughs and the drum remains attached to the transfer device. The “HWMA/RCRA-empty drums” can then be transferred to the box-size reduction area for breakdown and export as LLW. If a drum enters a waste sort trough, then the drum shall be processed as MW. Drums can also be transferred via the south box line through the drum import/export port door (DZ340299 located in Appendix XVII) to be assayed or processed in the drum repack system, followed by either supercompaction or export from WMF-676.

Drums with liquids. Drums with liquids (free or containerized) may be processed within the box lines in order to access the liquid such that the liquid can be adequately treated. Typically, these drums are non-debris (e.g.. solidified sludge waste) in nature. The liquid may not be accessible due to the nature of the waste stream (e.g., liquid within a solidified waste matrix, liquid at bottom of waste container, etc.). These drums are processed within the box lines using various tools (e.g., manipulators, shears, etc.) in order to break apart the waste matrix to access the liquid. Typically, a single box line trough is dedicated to the processing of drums with liquids. Absorbent is then added in order to treat the liquid. Once the liquids have been absorbed, the waste is placed into a non-debris transfer container that has a liner located within the container. The non-debris transfer container is then lowered from the box line export port and transferred via the MTS to the import/export glovebox. Once inside the import/export glovebox, the liner is removed from the non-debris transfer container and placed into a drum that is docked to the import/export glovebox.

During the transfer period between the box line export port and the import/export glovebox, the non-debris transfer container is unlidded. Under normal operations, the non-debris transfer container will not be unlidded for a period of more than 72 hrs. If the non-debris transfer container cannot be transferred to the import/export glovebox within 72 hrs, then a lid shall be placed onto the non-debris transfer container and stored appropriately. Once a lid is placed onto a non-debris transfer container, the lid shall not be removed until the non-debris transfer container is received at the import/export glovebox. If a spill occurs, then documentation of the spill and any cleanup measures taken are placed into the Operating Record.

Bulky waste items. Bulky items, such as sheet materials, piping, or filters are size-reduced. Depending on their size and shape, waste items are either size-reduced, using a manipulator and tools, a filter crushing machine (DQ330221), which may be located in the north box line, or other appropriate size reducing equipment. Heavy-gauge, long, items may be size-reduced using a guillotine (DQ340220) located in the south box line. The guillotine is located next to the south box line waste sort trough, which receives the size-reduced items and is within reach of various manipulators. Size-reduced waste is then transferred into an appropriate waste export port/container using a manipulator.

Heavy waste items. Heavy items too large to fit into a container are size-reduced and placed into containers docked at one of the waste export station ports. The exceptionally heavy items may be size reduced remotely using various types of equipment or manually, as determined on a case-by-case basis.

Sorted waste in containers. Sorted waste within containers is visually checked to monitor the container fill level. When a container is determined to be adequately filled, the cover is put in place. If the drum is overfilled, excess waste may be removed by a manipulator, or the precompaction mechanism (DZ340335) or a manipulator with various tools may be used to reduce the waste volume enough to allow the cover to be put in place. When filled with the desired amount of waste, the container is lowered to the first floor to receive a lid. The drum/lid is then conveyed to the drum lidding station where the lid is sealed onto the drum (W-345-011). From there, the drum is routed by the MTS to the drum assay cell or to a storage area.

Specialty items. If RTR or other information indicates a container contains waste requiring special handling, the container is typically processed at the off-line box processing station in the west part of the south box line. Examples of waste requiring special handling include some SCW, prohibited waste, waste deemed unsuitable for tipping into the sort troughs, or waste deemed unsuitable for handling by the floor mounted hydraulic manipulator (e.g., fragile items which may be damaged by tipping, etc.). At the off-line station, the box tipping carriage is positioned in yokes and inclined towards the operating window, in view of AMWTP personnel. With the assistance of manipulators and appropriate tools, AMWTP personnel process the waste as needed and transfer it to a drum docked at one of the two export ports at the waste export table. After removal of the specialty waste, the container and carriage can be repositioned at the waste sort trough and tipped for normal processing.

Depressurization of fire extinguishers. Pressurized fire extinguishers recovered from the drum repack system and the box line may be depressurized within the box line areas. A pressurized fire extinguisher is visually inspected for identification of the type of fire extinguisher, the type of extinguishing media contained within the extinguisher, and to assess the physical integrity of the fire extinguisher. Hazardous fire extinguishers, such as ones with carbon tetrachloride are not treated within the box lines. Using this information, a determination is made as to whether or not the fire extinguisher may be safely depressurized. A pressurized fire extinguisher identified as treatable is depressurized using standard industry practices for a controlled release (e.g., releasing pressure by slowly opening the valve, depressing the manual release valve, etc.). Non-standard industry practices (e.g., drilling, crushing, cutting, etc) shall not be performed on a fire extinguisher. Any liquids generated during the venting of a pressurized fire extinguisher are collected and treated appropriately.

The contents of a particular fire extinguisher may not be known based upon visual examination of the fire extinguisher. However, the contents of all types of fire extinguishers that may be in existing AMWTP waste are known. Based upon this, the venting of fire extinguishers will not cause any limits specified in the "AMWTF Permit to Construct an Air Pollution Emitting Source at the Idaho National Engineering and Environmental Laboratory," Permit Number 023-000001, current version, to be exceeded. If a fire extinguisher is unable to be depressurized using standard industry practices (e.g., lack of valve), then the fire extinguisher is identified as "prohibited" and returned to DOE-ID or transferred to an appropriate MWMU. If a "prohibited" pressurized container is to be stored in a MWMU, then the "prohibited" pressurized container shall be placed into a container listed in Section D-1a(1) of Attachment 1.A.

Depressurization of aerosol canisters. Pressurized aerosol canisters recovered from the drum repack system and the box line may be depressurized within the box line areas. Equipment (e.g., floor mounted hydraulic manipulator) within the box lines may be used to process the pressurized aerosol canister in order vent the pressure. Any liquids generated during the venting of pressurized aerosol canisters are collected and treated appropriately. Waste streams potentially containing ignitable (HWN D001) wastes are processed in a manner to minimize the potential of ignition. See Attachment 6 for additional information.

The contents of a particular aerosol canister may not be known based upon visual examination of the aerosol canister. However, the contents of all types of aerosol canisters that may be in existing AMWTP waste are known based upon characterization information. Based upon this, the venting of aerosol canisters will not cause any limits specified in the "AMWTF Permit to Construct an Air Pollution Emitting Source at the Idaho National Engineering and Environmental Laboratory," Permit Number 023-000001, current version, to be exceeded.

Dissimilar Items. In the course of processing containers of waste, waste items may be encountered that are operationally desirable to separate from the waste being placed into the drums located under the box lines. These dissimilar items may be set aside in the troughs or in un-lidded containers until AMWTP personnel determine that the item(s) may re-enter processing. These items will be removed from the box line, at a minimum of every 30 calendar days, typically when a criticality clean out occurs. If the dissimilar item can not be processed within the 30 calendar days or containerized, then continued management is handled on a case-by-case basis in consultation with the DEQ. If processing of the dissimilar items is not going to occur within the 30 calendar day limit, then the dissimilar items may be placed into a lidded container and stored within the box lines and removed for treatment at a later date. Once a dissimilar item is placed into a lidded container for storage after being staged within the box lines, then the item shall only be removed from the storage container when the dissimilar item can be processed within the box lines or sent to another AMTWP waste management unit for treatment/storage.

In general, dissimilar items would be from a WG other than the primary WG being retrieved from a container. For example, if a piece of metal is found while processing PPE, the metal may be set aside until additional waste is found which can be processed along with the metal. Waste items are not mixed unless compatibility determinations or process knowledge indicate that the items are compatible.

Oversized Items. In the course of processing containers of waste, waste items may be encountered that can not be easily treated with the existing box line equipment without undue potential of damage to the equipment. Oversized items may either be items that are physically too large to be treated with the existing equipment located in the box lines, or have physical characteristics (e.g., density, hardness, etc.) that are outside of the design specifications for the existing equipment located within the box lines. Examples of oversized items include hardened metals, milling tables, large diameter solid bars, etc. In order to efficiently manage these types of waste, the waste may either be transferred to the Hot Maintenance area for physical sizing, as discussed later, or the waste may be exported out of WMF-676. One way that oversized items may be exported from WMF-676 is through the box shredder export port.

Once an oversized item is designated for export through the box shredder export port, a visual examination is performed to ensure that no free liquids are present on or within the oversized item. Previous RTR data may be reviewed to verify that free liquids are not contained within an oversized item. AMWTP personnel then place the oversized item into a transfer bag (e.g., polyethylene bag, tightly woven bag, etc.) or container in preparation for exporting. The oversized item may be placed into the transfer bag/container either within the box lines, the box size reduction area, or the Hot Maintenance area. The transfer bag/container is secured such that any loose contamination is contained within the transfer bag/container during the exporting process. Prior to placing the oversized item into a transfer bag/container, the oversized item may be staged in the box lines for a maximum of 30 calendar days. If the oversized item can not be processed within the 30 calendar days or containerized, then continued management is handled on a case-by-case basis in consultation with the DEQ. If processing of the oversized item is not going to occur within the 30 calendar day limit, then the oversized item may be placed into a lidded container and stored within the box lines and removed for treatment at a later date. Once an oversized item is placed into a lidded container for storage after being staged within the box lines, then the item shall only be removed from the storage container when the oversized item can be processed within the box lines or sent to another AMWTP waste management unit for treatment/storage.

Once the oversized item has been secured within a transfer bag/container, the oversized item is moved to the box shredder export port, where slings/rigging materials are attached to the oversized item. AMWTP personnel perform a visual examination to ensure that there are no breaches/tears in the transfer bag/container, and that there is no visual evidence (e.g., staining) of MW contamination on the outside of the transfer bag/container. The box shredder export port cover is then removed, and the oversized item is lowered through the export port via a crane into a LLW export box located in the LLW container import/export area below the box size reduction area. The box shredder export port cover is then replaced onto the export port.

Prior to loading the oversized item into a LLW export box, an empty container is typically shredded and placed into the LLW export box. Prior to disengaging a LLW export box with an oversized item from the box shredder export port, additional empty containers may be shredded and added to the LLW export box to fill the void space of the LLW export box. Once a LLW export box with an oversized item is adequately filled with shredded material, the LLW export box is disengaged from the box shredder export box and a lid is secured to the LLW export box. All LLW export boxes with oversized items are managed as MW, and are labeled with a hazardous waste label.

Box Line Operational Generated Waste. Box line waste generated during operations (e.g., PPE, waste tools, failed equipment, etc.) may be exported from WMF-676 through the box shredder export port, as described above. The box line operational generated waste will be exported through the use of a transfer bag (e.g., polyethylene bag, tightly woven bag, etc.). Visual examination or RTR information is used to ensure that no free liquids are present on or within the box line operational generated waste.

Prohibited Waste. Prohibited waste (e.g., DOT Class 1 Explosives, see WMF-676 and Box Line WAC in Attachment 2) is identified either in the waste characterization records or through prior RTR analysis and is not knowingly accepted into WMF-676. Any prohibited items that are unknowingly received in WMF-676 are segregated, packaged for removal, and returned to the generator, DOE, or other MWMU as appropriate.

Items Requiring Attention. Waste containers containing unknown waste items (compressed gas cylinders, small inner containers, etc.) that can potentially be treated within WMF-676 are handled on a case-by-case basis. Waste items that cannot be treated in WMF-676, but are acceptable for receipt and sorting are retrieved from waste containers and transferred to containers/baskets pre-labeled with barcodes. Further information regarding the disposition of the prohibited waste is provided in Attachment 1.H.ii.

Empty Containers. Visual observation via windows and/or a CCTV system is used to determine if a container meets the requirements of a “HWMA/RCRA empty container” as stipulated in IDAPA 58.01.05.005 (40 CFR 261.7). Containers which have been determined to be “HWMA/RCRA empty” are transferred to the box size reduction area for export from

WMF-676. Containers which do not meet the HWMA/RCRA-empty container requirements will be managed as MW.

If a container contains an acute HWN, then the container will be processed as MW, unless the container has a liner which can be removed. If a container does contain a liner, then the liner may be removed and processed as MW such that the container meets the definition of a "HWMA/RCRA empty" container as defined by IDAPA 58.01.05.005 (40 CFR 261.7).

When visual observation through windows and/or the CCTV system shows that all wastes that can be reasonably removed have been removed, the container is classified as an "empty container" in accordance with HWMA/RCRA (IDAPA 58.01.05.005, 40 CFR 261.7) and is transferred to the box size-reduction area for export from WMF-676.

Waste Sort Trough Decontamination. Between waste campaigns, it may be desirable to decontaminate a waste sort trough and its associated equipment, such that EPA HWNs are not carried over from one waste stream to the next. In order to achieve decontamination of a waste sort trough and any associated equipment, AMWTP personnel shall clean the waste sort trough and the appropriate equipment to meet the clean debris surface standard specified at IDAPA 58.01.05.011 (40 CFR 268.45). A clean debris surface means that the surface, when viewed without magnification, shall be free of all visible contaminated soil and hazardous waste except that residual staining from soil and waste consisting of light shadows, slight streaks, or minor discolorations, and soil and waste in cracks, crevices, and pits may be present provided that such staining and waste and soil in cracks, crevices, and pits shall be limited to no more than 5% of each square inch of surface area. Typical methods used to clean a waste sort trough and its associated equipment includes washing, rinsing, and spraying technologies. Inspections to determine if the surfaces of the waste sort trough and the associated equipment meet the clean debris surface standard will not be performed remotely or by video camera. Liners (e.g., polyethylene liners) may be installed within a trough that is being used for processing containers with liquids (typically non-debris waste streams) in order to assist in decontamination of the trough. Prior to cleaning of the trough, the liner is removed and processed as MW. The trough is then cleaned as described above. If decontamination of PCB waste streams is to be performed, then 40 CFR 761 or the AMWTP "PCB Spill Decontamination" procedure (current revision) shall be followed.

Physical Sizing in Hot Maintenance. In the course of processing various waste streams in the box lines, various waste items may be encountered that are operationally undesirable to process with the box line equipment. Examples of such waste items include hardened metals, waste items that are physically too large for the box line equipment, and waste items that cause excessive wear and tear on the box line equipment during treatment. In order to treat these waste items, the waste may be transferred to Hot Maintenance (room 224B) for physical sizing. The

Hot Maintenance area contains portable equipment (e.g., plasma torch, nibblers, saws, etc.) to physically size waste items such that the waste may be processed in the supercompactor or exported from WMF-676. Waste items may be uncontainerized in the Hot Maintenance area for a total of 45 calendar days. If physical sizing of waste within the Hot Maintenance area can not be accomplished within the 45 calendar days of entrance into the Hot Maintenance area, then continued treatment is handled on a case-by-case basis in consultation with the DEQ or the item may be containerized. If physical sizing of an item is not going to occur within the 45 calendar day limit, then the item scheduled to be sized may be placed into a lidded container and stored within the Hot Maintenance area, and removed for treatment at a later date. Once an item requiring physical sizing in the Hot Maintenance area is placed into a lidded container for storage after being staged within the Hot Maintenance area for treatment, then the item shall only be removed from the storage container when the item can be physically sized within the Hot Maintenance area or sent to another AMTWP waste management unit for treatment/storage.

D-8a(2) Physical Characteristics [IDAPA 58.01.05.012; 40 CFR 270.23(a)(1)]

Location of Box Lines

Handling of boxed waste within WMF-676 occurs in the box lines. The box line areas are located centrally on the second floor of the building; above the drum transfer areas on the first floor (Appendix IX, Drawing 53-0201). Each box line occupies an area of about 70-ft by 20-ft.

Description of Construction Materials

In areas such as the material transfer areas on the first floor and the box line areas on the second floor, the floors, ceilings, and walls are typically constructed of cast-in-place steel-reinforced concrete to meet equipment loading and seismic design requirements. The walls and floors are typically finished to a smooth surface with specialty coatings applied to prevent the migration of contaminants and facilitate decontamination.

D-8a(2)(a) Box Lines

The box opening area has specialty-coated curbs and floors to provide secondary containment. The concrete floors, ceilings, and walls are coated with the specialty coatings described in Appendix XIV. On the first floor, the box line areas include the import conveyor, the import/export glovebox, and box elevator. On the second floor, box line areas include the box entry airlock, the box opening area airlock, box line cells, manipulator operations corridors, and the empty box size-reduction area. Drawing 53-0209 provides a detailed view of the second floor areas of both box lines. Major items are described below, with the dimensions and materials of construction provided for primary components.

Box tipping carriage with integral clamping frame (DQ340240). The box tipping carriage with integral frame supports and transfers waste boxes during box emptying activities. The tipping carriage and clamping frame units are constructed of primarily stainless steel with some painted carbon steel and neoprene rubber. Its overall dimensions are approximately 12-ft long by 6-ft wide.

Waste size-reduction area (DZ340322). In the waste sort troughs, waste items are size-reduced and transferred into containers docked at one of the waste export station ports. The area is capable of withstanding impact loading, and the export ports in the waste troughs are beveled, allowing waste to be loaded into docked drums while serving to contain at least 55 gal of liquid in the trough. The waste sort troughs are constructed of heavy gauge stainless steel plate. Roughly L-shaped (from the top), the largest horizontal and vertical dimensions of the sort troughs are approximately 17-ft 10-in. long by 17-ft 5-in. wide. The troughs are about 2-ft 6 -in. deep to limit migration of debris into the rest of the cell. Each trough contains two export ports.

Waste export stations (DZ340203, DZ340324). There are five waste export stations, with a total of 12 waste export ports. Three of the stations are associated with the waste sort troughs (six ports); two stations in the south box line are associated with waste export tables (four ports); a single-port station is located in the north box line west, and another single port is sited at the drum import/export station in the south box line. These two single port stations are generally used to export SCW.

The other waste export stations can accept either SCW (typically in baskets) or waste destined for supercompaction. The stations are fabricated from stainless steel and painted carbon steel. The approximate dimensions for the waste export tables, including the waste export stations, are approximately 11-ft long by 4-ft wide (east waste export table) and approximately 12-ft long by 4-ft wide (west waste export table). In addition, the drum import/export port door (DZ340299 located in Appendix XVII) in the south box line allows 55-gal drums to be lowered through the port for delivery by the MTS below.

Import/export glovebox (Z-390-200). This glovebox is a high integrity glovebox designed to import/export drums. The glovebox is manufactured primarily from stainless steel and is approximately 16-ft long by 3-ft wide by 13-ft high. It consists of receipt, ports, and exporting areas. Additionally, barcode readers, scissor lift, and equipment for the removal of liners from non-debris transfer containers are available for use.

Tool Change Stations. Tool change stations are provided to allow cutting tools to be changed and maintained via gloveports. Each station also includes a bagging port, which allows new tools to be imported into each box line cell and various tools to be exported for maintenance in the hot maintenance area (Appendix IX, Drawing 53-0207). Waste tools and bagging material are fed into the appropriate waste stream.

D-8a(3) Maintenance

Standardized maintenance procedures are utilized for WMF-676 equipment, cells, and gloveboxes. Modular units (such as manipulators) are typically maintained/repaired in designated areas near where they are used, or they can be removed from the area on failure and taken to the contaminated maintenance cell for repair. Any failed or uneconomical-to-repair components originating from within the higher contamination areas (e.g., waste tools used in box lines or gloveboxes) are exported from WMF-676 by addition to the appropriate waste stream. Replacement tools are imported through bagging ports or directly in a container. Maintenance and testing is performed on all equipment in accordance with Attachment 4. All WMF-676 process areas are maintained in a manner to minimize the accumulation of waste. For example, process areas are visually inspected and routinely cleaned using the manipulators and cleaning tools/wipes, at a minimum, between incompatible waste treatment sequences. If compatibility assessments show incompatibilities exist between IDCs from consecutive waste sequences, the process areas are visually inspected and cleaned before introducing the incompatible waste stream. All cleaning activities, including any clean up/removal of liquid spills, are recorded in the operating log. Routine decontamination requiring AMWTP personnel to enter cells is kept to a minimum (for example, most areas within cells are accessible by the manipulators).

D-8a(4) Monitoring

Radiological monitoring is conducted at WMF-676 using both radiological monitoring equipment with alarms and routine radiological surveys.

AMWTP personnel visually monitor waste management operations continually through observation windows or the CCTV system. In addition, AMWTP personnel are required to record, in logbooks, unusual events that occur during their shift in accordance with operational procedures.

The differential pressure across the HEPA filters is monitored as an indication of HEPA filter integrity and particulate loading. See Section D of Attachment 1.H for a discussion of the WMF-676 ventilation system.

D-8a(5) Inspection

Attachment 4 contains the inspection requirements and schedules for the box lines.

D-8a(6) Closure

Closure of the pretreatment lines is addressed in Attachment 8.G.

D-8a(7) Mitigative Design and Operating Standards

The waste management areas and associated equipment are designed and operated in a manner to reduce the risk of releasing waste to the environment. Penetrations to cells and gloveboxes are maintained by engineered controls, such as airlocks, bagless transfer mechanisms, and bag ports. Specific design features that reduce the risk of exposure to AMWTP personnel and the environment are explained below.

Containers provide primary containment until opened in WMF-676. Within WMF-676, the cell structures (including the waste sort troughs, opened box/box transfer carriage, and secondary containment system) provide various levels of containment for uncontainerized waste. Typically, these items are fabricated from stainless steel and/or painted carbon steel and also include liquid containment considerations (e.g., beveled edges on export ports), as discussed previously.

The cells surrounding WMF-676 equipment provide additional containment for waste handling activities. See Section D-8b(2) for details on containment systems. As discussed in Attachment 1.H, various process areas are operated at lower pressures than surrounding areas to prevent the spread of airborne contamination between zones.

Venturi Airlock Glovebox

A venturi airlock system is used for drum feed into the supercompaction process area and Room 147 on the first floor. A second venturi system, provided mainly for empty drum entry, feeds drums to Room 147. Air velocities and extract air volumes are maintained to minimize air movement (contamination) across the venturi airlock/drum transfer cell boundary.

MTS

The MTS is used to deliver containers to various locations within WMF-676. Typically, containers containing waste are unlidded only while en route to the lidding area. Liquids collected in various areas of WMF-676 are placed into containers or treated in the box lines. The containers are then lidded and placed into transfer containers before they are delivered to the SCW glovebox system or DWPG by the MTS. These transfer containers are typically not lidded, as they function as secondary containment, during transport, while the lidded waste container, within the transfer container, is the primary containment (see Table D-3 Room 126C in Attachment 1.H for additional information). The MTS cells provide spill containment via specialty-coated walls and flooring. See Section D-8b(2) for details on containment systems.

Box Line Specific Mitigative Design and Operating Standards

The box line airlock system consists of two sections (Drawing 53-0208). This system controls air movement between the ventilation confinement areas. Variable geometry doors (DZ320227) minimize air movements during box entry by opening just enough to allow a waste container to pass through into a box pretreatment cell. Sufficient air velocity is maintained between the variable geometry doors and the waste container to control back diffusion.

The waste filling ports at the waste export stations in the box lines provide ventilation restrictions between the box line cells above and the drum transfer cells below. Open containers are lifted by elevators in the drum transfer cell on the first floor and dock against the underside of the waste export stations of the box lines on the second floor. [MDS DQ340202 shows the Master Slave Manipulator. MDSs DZ340203 and DZ340324 show the waste export tables. MDS DZ340299 (located in Appendix XVII) shows the drum import/export port door.] Since both areas are “in-process” areas, the drums are left open until appropriately filled and lidded. Although sorted waste without liquids is the only waste (except for small quantities of SCW) typically transferred via this route, the specialty-coated walls and floors of the drum transfer cells below (on the first floor) provide spill containment.

The bag transfer port at the tool change station is used for transferring tools into, and may be used for exporting small prohibited waste items out of the box line, via a sealed container (bag), while maintaining contamination control.

D-8b Environmental Performance Standards for Miscellaneous Units [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.601 and 270.23(c)]

The WMF-676 miscellaneous units are located, designed, and operated in a manner to preclude the release of waste constituents that may have adverse effects on human health or the environment. The following sections describe the potential pathways for release of waste; the potential impact of such releases; the design features that minimize potential risks; and the design and operating procedures at the miscellaneous units that minimize the potential for a release of wastes during pretreatment.

D-8b(1) Miscellaneous Unit Wastes [IDAPA 58.01.05.008; 40 CFR 264.601(a)(1), (b)(1), (c)(1), and 264 Subpart I through O and AA]

The wastes that are handled inside the miscellaneous units of WMF-676 are addressed in Attachment 2.

This section identifies the secondary MWs that are generated during WMF-676 operations and outlines the strategy for managing liquid and solid MW generated at WMF-676.

Waste Minimization

The design and operational intent of WMF-676 is to minimize waste generation, consistent with safe and effective operations. This operation is achieved primarily by maximizing the modular design of equipment to aid the reuse of items, as appropriate, and minimizing the use of swabs and rags for clean up operations to avoid generating wastes.

Secondary Waste Categories from Pretreatment and Treatment Areas

Secondary MWs are generated during the normal operation of the pretreatment and treatment areas, and include:

- Contaminated sampling equipment,
- HEPA filters and local (box opening area) air extraction system filter bags/dust,
- Rags and swabs used to clean and decontaminate equipment that directly contact waste,
- Contaminated PPE, and
- Waste tools and failed equipment that directly contact waste.

A description of the secondary MW generated from waste management activities has been developed, and is provided in Table D-1.

D-8b(2) Containment System [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.601(b)(2) and 270.23(a)(2)]

WMF-676 is a completely enclosed waste treatment and storage plant designed for radiological and hazardous constituent containment. Only containment systems for hazardous constituents are addressed in this section. WMF-676 waste management areas are located inside designated ventilation confinement areas, which preclude the introduction of precipitation and any resultant run-on or run-off. See Section D of Attachment 1.H and Appendices XI and XIV for a description of building structures, including walls, floors, specialty coatings, and secondary containment analysis and drawings. See Section D-1a(3) of Attachment 1.H for further information on the secondary containment system.

Box Line Specific Containment System

The box lines contain special features to provide MW containment. The waste sort troughs, constructed of heavy gauge stainless steel plate, are about 2.5-ft deep to limit migration of debris into the rest of the cell. Liquid collection devices [such as sloped curbed areas, portable sump pumps (DP340201), and beveled port openings] are provided at the waste sort troughs and the waste export tables (DZ340203, DZ340322, and DZ340324).

Filter Systems. A local dust extraction unit is provided in the box opening area. The unit is designed to extract material (e.g., sawdust) from the box lid cutting tool(s) and discharge it into a container. The extract unit is fitted with a fire detection/suppression system for the collection container.

D-8b(3) Site Air Conditions [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.601(c)(4) and (5) and 270.23(a)(2)]

Topographic, meteorological, and atmospheric conditions around WMF-676 and the impact of WMF-676 emissions on the environment are addressed in the “AMWTF Permit to Construct an Air Pollution Emitting Source at the Idaho National Engineering and Environmental Laboratory,” Permit Number 023-000001, current version.

D-8b(4) Prevention of Air Emissions [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.601(c)(2) and 270.23(a)(2)]

When waste containers are pretreated (opened, sorted, separated/segregated, and size-reduced), stored, transported, and treated in the WMF-676 miscellaneous units, there is a potential for the release of particulate matter and organic chemical or mercury vapors into the cell. Particulate, gaseous, or aerosol emissions to the atmosphere are mitigated by the ventilation control system. Emissions from the waste management areas flow through HEPA filtration prior to being released to the atmosphere via the main stack, as discussed in Attachment 1.H.

D-8b(5) Operating Standards [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.601(c)(3) and 270.23(a)(2)]

Air emissions from the WMF-676 waste management units occur as part of normal operations. These emissions are controlled by the ventilation control system described in Section D of Attachment 1.H. Section D-8a(4) discusses the monitoring that is performed. Section D-8a(7) describes the procedures and design features that are used to reduce the potential of a spill or other problems.

D-8b(11) Migration of Waste Constituents [IDAPA 58.01.05.008; 40 CFR 264.601(a)(7)]

The release of MW from the WMF-676 waste management units into subsurface physical structures, the environment, or the root zone of food chain crops is not expected to occur. Should a leak or spill occur, the released waste would be contained inside the containment cells and WMF-676. The released waste would be prevented from coming in contact with soil, thus precluding migration of wastes into the subsurface or groundwater.

D-8b(12) Evaluation of Risk to Human Health and the Environment [IDAPA 58.01.05.008; 40 CFR 264.601(a)(8) and (9), 264.601(b)(10) and (11), and 264.601(c)(6) and (7)]

The waste management units are located within WMF-676, a fully enclosed building. There are no discharges or releases of MW to the soil, surface water, or groundwater. The building is constructed to ensure containment of any solid or liquid waste spills. Any leaks that might occur are contained within the containment cells and WMF-676. Furthermore, MW in the pretreatment lines is transferred to other areas for treatment, and the resultant final waste forms are ultimately transported out of WMF-676.

In summary, the WMF-676 waste management processes have been designed to ensure compliance with the requirements of HWMA/RCRA regulations. No adverse impacts to human health or the environment are projected to be associated with the release of waste to the atmosphere from WMF-676. Additional evaluations of risk to humans and the environment are provided in the “AMWTF Permit to Construct an Air Pollution Emitting Source at the Idaho

National Engineering and Environmental Laboratory," Permit Number 023-000001, current version.

Table D-1. Secondary MW Generation

Waste Description	Source
Rags and swabs	Used to decontaminate the equipment that contacts waste
Waste tools, failed items, used gloves, sampling equipment, PPE	Failed cutting tools, failed equipment, glovebox gloves, and sampling equipment that contacts waste
HEPA filters	Zone 3 air extraction system
Liquids	From supercompaction
Local extraction unit dust	Local dust extraction unit in the box opening area

DRS = drum repack system

SC = supercompaction

SCW = Special Case Waste

Exhibit D-1. Brokk CO2 Fire Suppression System

TABLE OF CONTENTS

ATTACHMENT 1.H.ii

WMF-676 SPECIAL CASE WASTE PROCESS INFORMATION

D. PROCESS INFORMATION

D-8 Miscellaneous Units [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.601 and 270.23]

The SCW glovebox system (i.e., transfer glovebox, treatment glovebox, sampling glovebox, and container-in-container glovebox) does not meet the definition of container, tank, surface impoundment, waste pile, land treatment, incinerator, boiler, industrial furnace, or underground injection well. Therefore, this unit is categorized as a miscellaneous treatment unit under HWMA/RCRA. See Appendix IX, Drawings 53-0201 and 53-0207 for the general arrangements of the first and second floors of WMF-676. Drawings/Exhibits for the SCW glovebox system are located in Appendix XVIII and SCW glovebox system MDSs can be found in Appendix XIX.

D-8a Description of Miscellaneous Units [IDAPA 58.01.05.012; 40 CFR 270.23(a)(1) and 270.23(a)(2)]

This section describes the SCW glovebox system located at WMF-676.

SCW Glovebox System

The SCW glovebox system provides the capabilities to treat SCW items, on a case-by-case basis.

D-8a(1) Treatment Operations [IDAPA 58.01.05.012; 40 CFR 270.23(a)(1)]

See Section D-8a(1) of Attachment 1.H.i for a discussion of operating standards used in conducting treatment activities at WMF-676.

D-8a(1)(a) SCW Glovebox System Process Description

The SCW glovebox system is located in Room 236 of WMF-676 (Drawing 53-9744) in close proximity to the drum repack system. See Attachment 1.H.iv for further information on the drum repack system. The SCW glovebox system is composed of four gloveboxes: the transfer glovebox, treatment glovebox, sampling glovebox, and the container-in-container glovebox. See

Appendix XVIII drawings/exhibits for more information on the location and design of the SCW glovebox system. See Drawing 53-0207 in Appendix IX for a general arrangement of the SCW/drum repack system area.

SCW. The SCW glovebox system is designed for the sampling and treating of SCW from waste containers and residual liquids recovered from the box lines, drum repack system, and the supercompactor. Liquids may also be treated within the box lines. The gloveboxes are also designed for sampling container-in-container (i.e., small container originating from a larger container) waste. Waste streams that may require processing in the SCW gloveboxes on an irregular basis may include pressurized containers requiring venting, elemental mercury, and miscellaneous items (e.g., wet cell batteries, valves, pumps, and similar fluid-containing devices). Additionally, some waste may be delivered to the SCW glovebox system that does not meet the WAC for the SCW glovebox system. These prohibited items are identified as such and returned to the appropriate authority, typically DOE-ID, and are documented in the Operating Record. Unknown waste may also be received at the SCW glovebox system. Unknown waste will be managed as described in Attachment 6.

SCW Receipt/Transfer. Waste enters the SCW glovebox system from three primary locations: the box line area, the supercompactor (recovered liquids), and the drum repack system. SCW items removed from waste containers in the box lines are either labeled with barcodes or placed into barcode-labeled containers. Whatever information is recorded in the Operating Record for the waste container(s) present during the extraction of SCW items is applied to the SCW items. The type of information entered into the Operating Record includes: the identification of the original waste container(s) and waste characterization information, IDCs/WGs, approximate quantity of SCW removed from each waste container, applicable HWNs, additional characterization or process knowledge obtained prior to treatment, and targeted treatment processes. SCW items are typically transferred into the SCW glovebox system in transfer baskets (placed inside transfer containers) via the MTS/Room 147 and elevator, which interfaces with the SCW transfer glovebox. From the elevator enclosure, containers are moved into the transfer glovebox through an airlock. At this point, a hoist is used to retrieve the transfer basket from the transfer container and move it to a set down area, where individual SCW items can be removed and identified.

Liquid from the supercompactor, box lines, and drum repack system may be absorbed in the process areas or may be transferred to the SCW glovebox system by first placing the liquid into a labeled container and then manually transferring the container to the appropriate glovebox (e.g., treatment glovebox, sampling glovebox) and importing it via a bag port. SCW items from the box lines may be manually transferred to the SCW glovebox system via bag ports (depending on size and quantities); however, the typical route is via transfer containers and the MTS/CCS. SCW items removed from the drum repack system are manually transferred to the SCW glovebox system and imported via a bag port. During the transfer, a barcode label is attached to the item, if required.

Once inside the glovebox, SCW items are first identified using the barcode label. Barcode identities are assigned to SCW items not previously labeled in the box lines, if necessary. For example, barcode-labeled transfer containers from the box lines may contain unlabeled SCW items from a single IDC/WG or container. The barcoded transfer container is used for tracking the SCW items only until received at the SCW glovebox system. At the SCW glovebox system, the individual items are unloaded from the transfer container and placed (as is) into individual, barcoded trays. These trays are used for tracking within the SCW glovebox system. After all containers/items have been identified and assigned a barcode (if required), the exterior of the items are visually examined for clues verifying or identifying their contents. This is especially critical for containers containing unknown wastes. SCW items (in their trays) are then transferred to the various gloveboxes that constitute the SCW glovebox system where further characterization, sampling, and treatment activities may be performed. A description of each type of waste, its sampling/treatment schedule, and the general waste flow is described below.

Liquids. Typically, containerized liquids are sampled and treated within the SCW glovebox system. However, containerized liquid may also be treated within the box lines. See Attachment 1.H.i for additional information. These liquids normally come from other WMF-676 processing areas (e.g., supercompactor), but may also be WMF-676 generated secondary waste (e.g., cleaning liquids, supercompactor hydraulic fluids, etc.). Wastes with liquids are initially moved to the sampling glovebox for appropriate sampling and determination of appropriate treatment techniques. The treatment available for liquids includes decanting, neutralization, or absorption as described in Section D of Attachment 1.A. In addition to the decanting process described in Section D of Attachment 1.A, treatment of liquids in the SCW gloveboxes or the box lines may occur. Pouring of liquids may occur to separate multiple-phase waste, transfer waste into a different container, or absorb the liquid prior to downstream treatment.

Additionally, treatment of SCW containers of elemental mercury or sludges [i.e., SI/SO/salt waste (SW)] is available. In these cases, the liquids are separated from the mercury or sludge by decanting. The separated components are then treated according to the waste type. See Appendix XVIII for process flow diagrams for liquids.

Liquids are tested or sampled in the sampling glovebox, using simple sampling tools. The sample is placed into a barcoded sample container, and the waste container is stored within the SCW glovebox system while awaiting sample analysis results. The sample containers are removed from the sampling glovebox via the bag port.

Once removed from the sampling glovebox, sample containers are sent to an on- or off-Site laboratory for analysis. Samples may be analyzed for corrosivity, VOCs, semi-volatile organic compounds (SVOCs), metals, PCBs, waste characterization for IDC/WG verification, and treatment method, as required. Based upon process knowledge and/or the sampling results, an appropriate treatment plan is selected. The following presents specific information on the treatment processes for liquids conducted in the SCW treatment glovebox.

Mercury. Containers of mercury that show evidence of a second phase are first decanted in order to separate the liquid from the mercury. The mercury portion is then treated by absorption, and the non-mercury phase liquid is sampled, if necessary, and treated as described previously. Containers of mercury that show no evidence of a second phase, either initially or after decanting, are mixed with the appropriate absorbent in accordance with approved procedures. Examples of absorbent include zinc or sulfur with a small amount of surfactant. The general steps that are used in the mercury absorption/treatment process are:

- The volume of waste to be treated is measured.
- The amount of appropriate absorbent is measured.
- The absorbent is added to the elemental mercury.

- The absorbent and elemental mercury are mixed.
- Treated elemental mercury is visually inspected for signs of free liquid. If no free liquid is present, the treatment is considered successful.
- If the absorption is not effective, an evaluation is conducted. If insufficient absorbent was used, the process may be repeated with additional absorbent.

The steps outlined in the treatment procedures listed above are repeated no more than three consecutive times for any given batch of elemental mercury. If a treatment is unsuccessful after three attempts, the adequacy of the procedure is analyzed and continued treatment is handled on a case-by-case basis in consultation with the State of Idaho DEQ.

Once treated, containers of mercury are transferred through the glovebox bag port to the SCW collection area. The SCW collection area is located at the end of the SCW glovebox system and used for the collection of SCW items. See Drawing 53-9744 for the location of the SCW collection area.

Pressurized Containers. Pressurized containers recovered from the drum repack system and the box line may be transferred to the SCW glovebox system for venting. As described in Attachment 1.H.i, pressurized containers (fire extinguishers only) may also be depressurized in the box lines. Pressurized containers that enter the SCW glovebox system are typically aerosol canisters, gas cylinders, or fire extinguishers; which may have an attached valve to facilitate venting. After receipt, a pressurized container is visually inspected for identification of container contents and to assess the physical integrity of the container, and a determination is made as to whether or not the container may be vented. Aerosol canisters are depressurized in an aerosol can puncturing device (M-440-803) or by depressing the manual release. Only pressurized containers with known constituents that upon venting will not cause the limits specified in the "AMWTF Permit to Construct an Air Pollution Emitting Source at the Idaho National Engineering and Environmental Laboratory," Permit Number 023-000001, current version, to be exceeded may be vented in the SCW glovebox system. If the contents are unidentifiable or do not meet the WMF-676 WAC, the pressurized container is identified as "prohibited" and returned to DOE-ID or transferred to an appropriate MWMU. If a "prohibited" pressurized container is to be stored in a MWMU, then the "prohibited" pressurized container shall be placed into a container listed in Section D-1a(1) of Attachment 1.A.

Examples of prohibited pressurized containers include those with unidentifiable contents, WMF-676 untreatable contents, or unsafe containers; for example, high pressure containers >2,500 psi. The treatment/venting procedures for the two types of pressurized containers are described below. See Appendix XVIII for the process flow diagrams.

Small pressurized containers identified as treatable are evacuated by an engineered venting device (M-440-803) or using standard industry practices (e.g., releasing pressure by slowly opening the valve, depressing the manual release valve, etc.). Any liquids generated during the venting of a pressurized container are collected and treated as appropriate. Small pressurized containers identified as treatable may also be evacuated by depressing the manual relief, if present.

If a pressurized container is too large to be vented via the engineered venting device located in the SCW glovebox system or if it cannot be vented manually, then it may be vented in the box lines (fire extinguishers only) or it is removed from WMF-676 and placed into storage in another waste management unit, typically the WSF.

Container-in-Containers. A portion of the waste received in the SCW glovebox system consists of small containers retrieved from a larger container. It is expected that the small containers are typically sludges or containers with excess liquid from debris drums. Typically, these smaller containers range in size from 1 liter (L) to 5 gal and are expected to be metal canisters, cardboard cartons, or polyethylene jars. Container-in-container waste is received in the sampling glovebox from the box lines and the drum repack system through the MTS/CCS and/or bag ports. Once in the sampling glovebox, samples are taken using various tools and methods in accordance with the methods specified in the EPA manual for “Test Methods for Evaluating Solid Waste: Physical/Chemical Methods,” current edition (SW-846), as appropriate for the physical nature of the waste.

A limited number of the containers may have contents that are monolithic. In order to obtain a representative sample of such waste, containers with monolithic waste are typically transferred to the container-in-container glovebox, where the sample is obtained using appropriate hand tools and SW-846 methods, as appropriate for the physical nature of the waste.

Miscellaneous Items. On occasion, there may be a small number of items (e.g., wet cell batteries, valves, pumps, and similar fluid-containing items) that require inspection to determine the presence of liquid. To accomplish this task, miscellaneous waste items are moved into the treatment glovebox and examined for liquid content. If no liquid is found, then the items are transferred to the SCW collection area. If liquid is found, it is drained for sampling and treatment, as required. The amount of liquid present varies on a case-by-case basis. Additionally, the item may require disassembly for removal of the liquid. Hand tools and a vise to secure the item are provided in the treatment glovebox to facilitate liquid removal. After miscellaneous items have been drained, the item is removed to the SCW collection area.

Unit Specific WAC Prohibited Waste. Waste that does not meet a WMF-676 MWMU WAC may be transferred to the SCW glovebox system. These items are treated and/or stored in the SCW area until transferred to downstream treatment or to another waste management unit.

WMF-676 WAC Prohibited Waste. Waste that does not meet the WMF-676 WAC may be inadvertently received in WMF-676. This waste may then be transferred to the SCW glovebox system. Storage of prohibited waste may occur in the SCW glovebox system, drum repack system, or Room 236 (SCW collection area) until transferred out of WMF-676. Storage of the prohibited items occurs until prohibited items are accumulated (in the event that additional containers may contain similar prohibited items) and arrangements are made to transfer the waste out of WMF-676. In the event that prohibited items present a significant safety hazard, the items are removed from WMF-676 as soon as possible after AMWTP safety personnel identify the appropriate safety precautions. Additionally, the State of Idaho DEQ will be informed within 24 hrs upon the discovery of such items presenting significant safety hazards. Some examples of prohibited wastes are:

- Reactive metals,
- Wastes exhibiting the characteristics of HWN D003,
- Explosives, and/or
- Pressurized containers with unknown contents that cannot be vented safely.

Waste Collection and Disposal. All processed SCW and secondary wastes are bagged out of the SCW glovebox system and collected in containers located in the SCW collection area.

These wastes are tracked by barcode as they are collected. When a drum contains the appropriate amount of waste, based on volume or radiological criteria, or between incompatible waste types, the lidded waste containers are typically removed from WMF-676 or transferred to downstream treatment processes.

D-8a(2) Physical Characteristics [IDAPA 58.01.05.012; 40 CFR 270.23(a)(1)]

Location of SCW Unit

The SCW glovebox system is located at the north end of the second floor of WMF-676, next to the drum repack system. See Appendix IX, Drawings 53-0201 and 53-0207 for general arrangement drawings of WMF-676. Collectively, the SCW glovebox system and the drum repack system make up Room 236 of WMF-676. The SCW glovebox system is approximately 40-ft long by 4-ft wide. The SCW transfer glovebox interfaces with Room 147 on the first floor of WMF-676 via an elevator.

Description of Construction Materials

Details of the construction materials for Room 236, which contains the SCW glovebox system and drum repack system, are provided in Attachment 1.H.

SCW treatment is performed within the gloveboxes. The SCW gloveboxes are manufactured primarily from stainless steel to resist corrosion and facilitate routine decontamination. Glovebox components have surface finishes that can be readily decontaminated. Internal corners are rounded and welds are smoothed and polished, as required, to achieve the desired surface finish. Gloveboxes include appropriately designed and conveniently located gloveports and observation windows, and strategically located CCTV system components. Glovebox floors are designed to provide containment and collection of liquids, should liquids be released in the glovebox interior. See Section D-1a(3) of Attachment 1.H for a more detailed discussion of WMF-676 containment systems.

D-8a(2)(a) SCW Glovebox System Physical Characteristics

The SCW glovebox system consists of four separate gloveboxes: the transfer glovebox, treatment glovebox, sampling glovebox, and container-in-container glovebox. See

Drawing 53-9744 for the general arrangement of the SCW glovebox system. A brief description of each separate SCW glovebox is provided below, including glovebox dimensions and materials of construction.

SCW Transfer Glovebox (Z-440-800). This glovebox is a high integrity glovebox designed to import/export SCW items into the SCW glovebox system. The glovebox is manufactured primarily from stainless steel and is approximately 11-ft long by 4-ft wide by 10-ft 10-in. high. It consists of receipt, sorting, and exporting areas. Additionally, the transfer glovebox contains conveyor, airlock doors, a bag port, a barcode reader, and a hoist that is used for transferring SCW transfer baskets.

SCW Treatment Glovebox (Z-440-803). The treatment glovebox is similar in design and construction to the transfer glovebox. The treatment glovebox is approximately 8-ft long by 3-ft 7-in. wide by 6-ft 9-in. high. The glovebox is used for venting gases and draining/collecting liquids from pressurized containers and miscellaneous items, treating and absorbing liquids, and absorbing mercury. The glovebox equipment consists of a jar mill, scale, vise, pressurized container gas venting/liquid collecting devices, various hand tools, stir plate, barcode reader, pH meter, and a bag port.

SCW Sampling Glovebox (Z-440-806). The sampling glovebox portion of the SCW glovebox system is constructed primarily of stainless steel and is approximately 8-ft long by 3-ft 7-in. wide by 6-ft 9-in. high. This glovebox is used for sampling liquids and solids. Equipment located in the sampling glovebox typically consists of a barcode reader, tray, pipette, scale, hand press, hand tools, and a bag port.

SCW Container-in-Container Glovebox (Z-440-848). The container-in-container glovebox is similar in construction to the other portions of the SCW glovebox system and is approximately 8-ft long by 3-ft 7-in. wide by 6-ft 9-in. high. The glovebox is used for sampling monolithic wastes. Equipment consists of various hand tools (such as, sampling scoops or augers) and a bag port.

D-8a(3) Maintenance

For the information pertaining to maintenance, see Section D-8a(3) of Attachment 1.H.i.

D-8a(4) Monitoring

For the information pertaining to monitoring, see Section D-8a(4) of Attachment 1.H.i.

D-8a(5) Inspection

Attachment 4 contains the inspection requirements and schedules for the SCW glovebox system.

D-8a(6) Closure

Closure of the SCW glovebox system and all associated equipment is addressed in Attachment 8.G.

D-8a(7) Mitigative Design and Operating Standards

For the information pertaining to mitigative design and operating standards, see Section D-8a(7) of Attachment 1.H.i.

D-8b Environmental Performance Standards for Miscellaneous Units [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.601 and 270.23(c)]

For the information pertaining to environmental performance standards, see Section D-8b of Attachment 1.H.i.

D-8b(1) Miscellaneous Unit Wastes [IDAPA 58.01.05.008; 40 CFR 264.601(a)(1), 264.601(b)(1), and 264.601(c)(1)]

The wastes that are treated inside the SCW unit are addressed in Attachment 2. For the information pertaining to miscellaneous unit wastes, see Section D-8b(1) of Attachment 1.H.i.

D-8b(2) Containment System [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.601(b)(2) and 270.23(a)(2)]

For the information pertaining to containment systems, see Section D-1a(3) of Attachment 1.H.

D-8b(3) Site Air Conditions [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.601(c)(4) and (5), and 270.23(a)(2)]

For the information pertaining to site air conditions, see Section D-8b(3) of Attachment 1.H.i.

D-8b(4) Prevention of Air Emissions [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.601(c)(2) and 270.23(a)(2)]

For the information pertaining to the prevention of air emissions, see Section D-8b(4) of Attachment 1.H.i.

D-8b(5) Operating Standards [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.601(c)(3) and 270.23(a)(2)]

Air emissions from the WMF-676 SCW glovebox system occur as part of normal operations. These emissions are controlled by the WMF-676 ventilation control system described in Attachment 1.H.

D-8b(11) Migration of Waste Constituents [IDAPA 58.01.05.008; 40 CFR 264.601(a)(7)]

For the information pertaining to the migration of waste constituents, see Section D-8b(11) of Attachment 1.H.i.

D-8b(12) Evaluation of Risk to Human Health and the Environment [IDAPA 58.01.05.008; 40 CFR 264.601(a)(8) and (9), 264.601(b)(10) and (11), and 264.601(c)(6) and (7)]

For the information pertaining to the evaluation of risk to human health and the environment, see Section D-8b(12) of Attachment 1.H.i.

TABLE OF CONTENTS

ATTACHMENT 1.H.iii

WMF-676 SUPERCOMPACTOR PROCESS INFORMATION

D. PROCESS INFORMATION

D-8 Miscellaneous Units [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.601 and 270.23]

The supercompactor does not meet the definition of container, tank, surface impoundment, waste pile, land treatment, incinerator, boiler, industrial furnace, or underground injection well. Therefore, this unit is categorized as a miscellaneous treatment unit under HWMA/RCRA. See Appendix IX, Drawings 53-0201 and 53-0207 for the general arrangements of the first and second floors of WMF-676. Drawings/Exhibits for the supercompaction system are located in Appendix XX, and supercompaction system MDSs can be found in Appendix XXI.

D-8a Description of Miscellaneous Units [IDAPA 58.01.05.012; 40 CFR 270.23(a)(1) and 270.23(a)(2)]

This section describes the supercompactor unit located at WMF-676.

Supercompactor

The supercompactor is used to efficiently size-reduce nominal 55-gal drums or drums approximately the same dimensions as a 55-gal drum (e.g., “slim” 55-gal drum overpack) containing debris MW. It is sufficiently sized to process a throughput of 10,312 gals per day. Drums are delivered to the supercompactor from three primary sources: the direct-feed line, the box lines, or the drum repack system. Direct-feed drums (assessed through characterization and RTR examination as not requiring pretreatment, as described in Attachments 1 and 2) are transferred directly to the supercompaction area via the MTS. Containerized waste requiring pretreatment is processed through the box lines or the drum repack system prior to supercompaction. When appropriately repackaged into containers, these wastes are transferred via the MTS to the supercompaction area. During the supercompaction process, drums are managed and compacted within gloveboxes. Pucks resulting from the supercompaction of waste drums are loaded directly into a puck drum or are held in the puck storage area, commonly known as the puck staging area, of the postcompaction glovebox awaiting loading into puck drums. See Drawing 53-0201 in Appendix IX for an overhead view and general arrangement of the supercompaction area. A more detailed description of the supercompactor follows in Sections D-8a(1) and D-8a(2).

D-8a(1) Treatment Operations [IDAPA 58.01.05.012; 40 CFR 270.23(a)(1)]

See Section D-8a(1) of Attachment 1.H.i for a discussion of operating standards used in conducting treatment activities at WMF-676.

D-8a(1)(a) Supercompactor

The direct-feed waste drums or containers from the box line and drum repack system areas are routed to the supercompactor via the MTS. Only drums containing compatible wastes are compacted in series without an intervening clean-out of the supercompactor gloveboxes. Barcode readers and the Operating Record are used to identify and control drums of incompatible waste from entering the compaction gloveboxes until the gloveboxes have been emptied, visually inspected, and cleaned (if required). To maximize the size-reduction process, the DMS incorporates an optimization algorithm that automates the waste drum selection for puck drum filling to achieve maximum packing densities. The DMS is used to optimize puck drum filling based on fissile content, weight, and/or puck height. Automatic control sequences to retrieve, deliver, compact, and deposit the waste drum/puck into the puck drum are initiated from the CCR.

Just prior to the piercing station, a barcode reader identifies the waste drums before they are transferred, via conveyor, through an airlock and into the supercompactor infeed glovebox (DZ410211).

There are four stations within the infeed glovebox: a turntable station that can receive drums from the north end of the infeed glovebox via the venturi glovebox and direct them to either the supercompactor or to Room 147; a drum piercing station; a drum handling station; and a supercompaction trolley load station. Drums for compaction are conveyed from the turntable station to the drum piercing station (DZ410213), where the drum is pierced. When pierced, the drum is conveyed onto the drum handling station. The drum handler (DQ410201) lifts the drum, transports it to the supercompactor trolley loading station, and lowers the drum onto the compaction trolley. The trolley moves the drum into the supercompactor glovebox (DZ410283) to a position beneath the supercompactor (DZ410200).

With the drum and trolley in position, the mold is lowered around the drum and engaged onto the trolley. The lower press plate of the supercompactor is mounted on the top of the trolley and acts as a guide for the mold, which controls the puck diameter during the compaction cycle. The compaction process proceeds in two phases. First, the main ram is lowered, initially powered by a low-force ram, which forces the air out of the top section of the drum. After the first compaction phase, high-pressure fluid is supplied to the main high-force compaction ram and is maintained at a higher pressure until the final pressure or maximum travel distance is attained. Both rams are fed from a hydraulic power pack situated outside the glovebox. The resultant force reduces the puck height (on average) to one-fifth of the original drum height. On completion of the compaction cycle the mold and ram are raised and the compaction trolley transfers the puck to the puck recovery glovebox (DZ410284).

Prior to supercompaction, those drums requiring pre-treatment will receive pre-treatment in accordance with this Permit (e.g., drum repack system, box lines, containment enclosure, etc.). When liquids are released during compaction, they are handled on a case-by-case basis. Sloped glovebox floors and a sump are provided to collect any liquids produced during the compaction process. The leak-tight base of the glovebox containment has sufficient capacity to hold a worst-case leak of 55-gal. The sump has a capacity of approximately 2.5-gal and is equipped with a sensor to detect liquid level. The sensor alarms when the sump is 90% full.

Liquids in the supercompactor may be treated via absorption, decanting, or neutralization, as described in Section D of Attachment 1.A. Liquid in the sump is removed in a timely manner using a pump, or other decanting means, located in the puck recovery glovebox (DZ410284) or absorbent may be added. The liquid is pumped into a container located inside the puck recovery glovebox, or the liquid may be pumped into a collection container located outside of the supercompactor gloveboxes. Liquids are visually inspected, and a sample may be collected in a barcode-labeled container and transferred to the SCW glovebox system, DWPG, or to an analytical laboratory for characterization, as required. Containerized liquid may be stored in the puck recovery glovebox (DZ410284) until transferred to another MWMU. Small containers with absorbed liquid may be stored in larger containers until transfer out of WMF-676. Only known compatible wastes are placed together into a container. The characterization information for wastes placed in the collection containers is, in part, derived from the characterization information assigned to the original waste containers prior to supercompaction.

In the event large amounts of liquid are released during the compaction cycle and the sump capacity (2.5 gal) is filled, the compaction cycle is completed per normal procedures. After the ram is disengaged, the liquid in the sump is managed as described above. If the next drum contains incompatible waste, the glovebox surfaces are visually inspected and any liquids remaining are removed and the area cleaned, as required.

If after compaction the puck is unsuitable for direct deposit into a puck drum, it is diverted to the puck storage area and a more suitable puck is retrieved. The puck storage area, which stores up to six (6) pucks, allows for the pucks to be temporarily stored in the post compaction glovebox, if required. Only pucks from a compatible waste treatment sequence are stored in this area at any one time. All surfaces of the puck storage area are visually inspected and cleaned, if required, between incompatible waste sequences. If residual liquids leak from the pucks, the sloped floor of the puck storage area directs the liquid into the puck recovery glovebox sump where the liquids are removed and containerized as previously discussed. The puck handler transfers the pucks from the puck recovery glovebox into the postcompaction glovebox where the pucks are subsequently transferred into puck drums.

From the CCR, AMWTP personnel continue to feed waste drums to the supercompactor until the puck drum is full. CCR-initiated control sequences also allow the importing of empty puck drums into the area as required. Barcode readers are employed at appropriate locations in the supercompaction area for waste tracking purposes. Software based interlocks stop the process if an out-of-sequence drum is detected. Extensive use of a CCTV system is employed to allow the CCR-based AMWTP personnel to complete their tasks.

Prior to compaction of a drum containing waste incompatible with previous drums (when changing incompatible waste treatment sequences), all drums in the compaction gloveboxes are compacted, and all pucks are loaded into puck drums. When the compaction gloveboxes are empty, all potentially-contaminated surfaces are visually inspected through observation windows and CCTV system, the sump is emptied (if needed), and surfaces are cleaned (as needed) before accepting drums containing waste incompatible with the previous sequence.

D-8a(1)(b) Puck Drum Loading

Prior to puck drum loading, empty puck drums with the outer lid and bolt ring removed are fed into the supercompaction cell from the empty drum feed route by a conveyor. The drum is identified by a barcode reader and conveyed under the post compaction glovebox. A bagless transfer system (DM420207) is used to allow drum inner lid removal while maintaining glovebox containment. The puck drum is then positioned centrally onto a drum positioning machine and raised into position at one of the two bagless transfer mechanisms. The bagless transfer port is opened with the inner drum lid attached (held in position by a vacuum pump).

Information contained in the Operating Record is used to decide if a puck can be loaded directly into the puck drum or if it requires storage in one of the six positions at the puck storage area. Pucks are loaded automatically into the puck drum using the puck handler. Recovery equipment is available within the puck recovery glovebox (DZ410284), along with various tools, to deal with abnormal pucks that do not fit into the puck drum. Waste that escapes from pucks is manually collected through gloveports and placed into a suitable container.

When puck loading is complete, the bagless transfer port is closed, refitting the puck drum inner lid and hydraulically swaging it in place. The filled puck drum is then lowered from the postcompaction glovebox. The puck drum is transferred from the bagless transfer area to the swabbing area by a conveyor. The puck drum is monitored to check that the exterior of the drum is free from radiological contamination and suitable for export. Puck drums are then identified by a barcode and conveyed to the puck drum lidding area, where the outer lid and bolt ring are manually fitted onto the puck drum. The puck drum is then transferred by conveyor through an airlock into the puck drum export area.

D-8a(2) Physical Characteristics [IDAPA 58.01.05.012; 40 CFR 270.23(a)(1)]

Location of Supercompaction Unit

The supercompaction treatment area is located at the north end of the first floor of WMF-676 and occupies an area of approximately 30 ft by 65 ft. See Appendix IX, Drawings 53-0201 and 53-0207 for additional information. The supercompaction process equipment is mostly contained in three connected gloveboxes within the supercompaction cell: the infeed glovebox (DZ410211), the supercompactor glovebox (DZ410283), and the postcompaction glovebox (DZ420215). Puck drums containing waste are transferred from the puck drum filling station in the postcompaction glovebox to the adjacent drum export area, which occupies approximately 55 ft by 25 ft on the first floor directly beneath the SCW treatment area.

Description of Construction Materials

Details of the construction materials for the supercompactor cell are provided in Section D of Attachment 1.H.

The supercompactor gloveboxes are manufactured primarily from stainless steel to eliminate corrosion and facilitate routine decontamination. Glovebox components typically have surface finishes that can be readily decontaminated. Internal corners are rounded and all welds are smoothed and polished, as required, to achieve the desired surface finish. Gloveboxes include appropriately designed and conveniently located gloveports and observation windows, and strategically located CCTV cameras. Glovebox floors are inclined to allow liquid to flow to a sump. The sump is sufficiently sized and has appropriate provisions for allowing liquid removal.

D-8a(2)(a) Supercompactor

Major components of the supercompactor system are described below, with the dimensions and materials of construction provided for critical components. All drum handling equipment bearing the full weight of the waste containers have a load bearing capacity of approximately 1,000 lb.

Supercompactor Infeed Glovebox (DZ410211). The infeed glovebox is a high-integrity sealed glovebox (as described above) that contains outer and inner airlock doors, the infeed conveyor, drum turntable, drum handling station (DQ410201), drum piercing machine (DZ410213), and supercompaction trolley (DW410204). It is constructed primarily of stainless steel and has approximate dimensions of 18-ft long by 4-ft wide by 13-ft high. The glovebox interfaces with the MTS and the supercompactor glovebox. For more details, including locations of gloveports and observation windows, see Exhibit XX-1A, –1B, and –1C.

Supercompactor (DZ410200). The supercompactor is a four-column press with a base connected to an upper frame by the four columns. The main high-force compaction ram and cylinder are contained within the upper frame. In addition, a low-force cylinder is mounted on top of the press connected to the main ram. A mold slides up and down the four columns to surround drums during compaction. The supercompactor is constructed primarily of carbon steel. The rams, mold, and columns are located within the supercompactor glovebox (DZ410283), which has dimensions of approximately 10-ft long by 8-ft wide by 23-ft high. The cylinder bodies and the hydraulic power pack pump are located outside the supercompactor glovebox, but within the supercompaction area. The floor of the supercompactor glovebox is sloped and allows liquid waste, generated during compaction, to flow to the sump located in the puck recovery glovebox, which is described below. The supercompactor interfaces with the supercompaction trolley (DW410204), infeed glovebox (DZ410211), puck recovery glovebox (DZ410284), and the hydraulic power pack pump.

Puck recovery glovebox (DZ410284). The puck recovery glovebox is a high-integrity sealed glovebox that contains a puck transfer plate, a safety screen, a recovery/maintenance hoist, a liquid collection sump, equipment used for containerizing liquids, and various tools to aid reworking of pucks, if required. The glovebox is constructed primarily of stainless steel and has approximate dimensions of 4-ft 6-in. long by 3-ft 4-in. wide by 7-ft high. The glovebox interfaces with the supercompactor glovebox (DZ410283) and the postcompaction glovebox (DZ420215).

Postcompaction glovebox (DZ420215). The postcompaction glovebox includes a maintenance access port, puck handler and gripper (DQ420200), puck staging area (DZ420200), puck drum bagless transfer mechanism (DM420207), and a recovery/maintenance hoist and block. It is made primarily from stainless steel and has approximate dimensions of 28-ft long by 5-ft wide by 29-ft high. The glovebox interfaces with the supercompactor glovebox and the puck recovery glovebox.

Puck drum filling station. The puck drum filling station is located within the postcompaction glovebox and consists of two puck drum bagless transfer systems (DM420207) (i.e., two drum-filling ports) that interface with two drum positioning machines located outside of the glovebox. The materials of construction and dimensions of the postcompaction glovebox were described previously. The drum positioning machines each have a table with roller conveyor, elevator, rotational frame, and centering arms. A positioning machine/elevator is used to lower and raise puck drums to the bagless transfer systems/postcompaction glovebox (DZ420215).

Drum export area. The drum export area is where puck drums loaded with pucks are placed on conveyors for export. Before puck drums enter the drum export area, they are transferred to the swab and monitor station. The materials of construction for the area are described in Attachment 1.H. The conveying equipment is constructed primarily of carbon steel with stainless steel rollers.

D-8a(3) Maintenance

For the information pertaining to maintenance, see Section D-8a(3) of Attachment 1.H.i.

D-8a(4) Monitoring

For the information pertaining to monitoring, see Section D-8a(4) of Attachment 1.H.i.

D-8a(5) Inspection

Attachment 4 contains the inspection requirements and schedules for the supercompactor unit.

D-8a(6) Closure

Closure of the supercompactor and associated equipment is addressed in Attachment 8.G.

D-8a(7) Mitigative Design and Operating Standards

For the information pertaining to mitigative design and operating standards, see Section D-8a(7) of Attachment 1.H.i.

Supercompactor-Specific Mitigative Design and Operating Standards

In the postcompaction glovebox (DZ420215), a bagless transfer system (DM420207) is used as the system interface for puck drum access. An empty puck drum is placed onto the drum positioning machine/elevator. The drum is raised using the elevator and a seal is provided between the top of the drum and the bagless transfer system. The inner lid is sealed to the bottom of the transfer system door and is removed simultaneously with the opening of the port. Once open, the inside of the drum becomes part of the postcompaction glovebox. When the puck drum is full the inner lid is hydraulically swaged onto the drum, the door is closed, and the seal between the bagless transfer door and the puck drum is released. The drum is lowered, and AMWTP personnel check the outside of the container for contamination (and provide decontamination if needed) prior to fitting the outer drum lid and bolt ring onto the drum.

D-8b Environmental Performance Standards for Miscellaneous Units [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.601 and 270.23(c)]

For the information pertaining to environmental performance standards, see Section D-8b of Attachment 1.H.i.

D-8b(1) Miscellaneous Unit Wastes [IDAPA 58.01.05.008; 40 CFR 264.601(a)(1), 264.601(b)(1), and 264.601(c)(1)]

The wastes that are treated by the supercompactor are addressed in Attachment 2. For the secondary waste information pertaining to miscellaneous unit waste, see Section D-8b(1) of Attachment 1.H.i.

D-8b(2) Containment System [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.601(b)(2) and 270.23(a)(2)]

For the information pertaining to containment system, see Section D-1a(3) of Attachment 1.H.

D-8b(3) Site Air Conditions [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.601(c)(4) and (5), and 270.23(a)(2)]

For the information pertaining to site air conditions, see Section D-8b(3) of Attachment 1.H.i.

D-8b(4) Prevention of Air Emissions [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.601(c)(2) and 270.23(a)(2)]

For the information pertaining to the prevention of air emissions, see Section D-8b(4) of Attachment 1.H.i.

D-8b(5) Operating Standards [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.601(c)(3) and 270.23(a)(2)]

Air emissions from the supercompactor unit occur as part of normal operations. These emissions are controlled by the ventilation control system as described in Attachment 1.H.

D-8b(11) Migration of Waste Constituents [IDAPA 58.01.05.008; 40 CFR 264.601(a)(7)]

For the information pertaining to the migration of waste constituents, see Section D-8b(11) of Attachment 1.H.i.

D-8b(12) Evaluation of Risk to Human Health and the Environment [IDAPA 58.01.05.008; 40 CFR 264.601(a)(8) and (9), 264.601(b)(10) and (11), and 264.601(c)(6) and (7)]

For the information pertaining to the evaluation of risk to human health and the environment, see Section D-8b(12) of Attachment 1.H.i.

TABLE OF CONTENTS

ATTACHMENT 1.H.iv

WMF-676 DRUM REPACK SYSTEM PROCESS INFORMATION

D. PROCESS INFORMATION

D-8 Miscellaneous Units [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.601 and 270.23]

The drum repack system (i.e., DWHE/DWPG) does not meet the definition of a container, tank, surface impoundment, waste pile, land treatment, incinerator, boiler, industrial furnace, or underground injection well. Therefore, this unit is categorized as a miscellaneous treatment unit under HWMA/RCRA. The drum repack system is used to open, visually inspect, sort, segregate or separate, repackage waste, decant liquids, absorb liquids, and neutralize liquids prior to transfer to downstream treatment processes. Drawings and exhibits for the drum repack system are located in Appendix XVII, and drum repack system MDSs can be found in Appendix XXII.

D-8a Description of Miscellaneous Units [IDAPA 58.01.05.012; 40 CFR 270.23(a)(1) and 270.23(a)(2)]

This section describes the DWHE and DWPG units. The DWHE and DWPG are designed to process up to 2,956 gals per day.

DWHE

The DWHE is used for drum operations including: drum opening, waste sorting, visual examination, retrieval of waste packages, repackaging of waste into containers etc., and provides a containment area for repackaging of waste containers with minimal radiological contamination. The DOHE is within the DWHE, and provides additional contamination control. The enclosure is equipped for the receiving, storing, movement, and processing of drums. Processing can include drum opening, waste sorting, and visual examination. Equipment located within the DWHE is listed in Section D-8a(2)(a). Drawing 53-9744 shows the general arrangement of the drum repack system and SCW glovebox system.

DWPG

The DWPG is designed to provide containment for repackaging operations for drums/waste that are not acceptable for processing in the DWHE/DOHE. The DWPG is also used for absorbing, decanting, and neutralizing liquid. The glovebox incorporates a receipt, sorting, preparation and exporting area within the glovebox, and has a platform around the perimeter of the glovebox for AMWTP personnel access. Equipment associated with the DWPG is listed in Section D-8a(2)(a). See Drawing 53-9744 for further information.

D-8a(1) Waste Management Operations

See Section D-8a(1) of Attachment 1.H.i for a discussion of operating standards used in conducting waste management activities at WMF-676, including activities in the drum repack system.

Treatment via decanting, neutralization, and absorption is performed, as described in Section D of Attachment 1.A.

D-8a(1)(a) DWHE

Containers enter the DWHE via an elevator, which receives containers via the MTS. Once on the elevator, drums are raised and transferred through an airlock (via a conveyor) into the storage area. See SCW and drum repack system general arrangement Drawing 53-9744 for drum storage area locations. The drum storage area is enclosed on all sides by walls and doors. From the storage area, drums are manually transferred to the drum opening hood located within the handling enclosure. The drum opening hood is designed to provide air flow conditions away from AMWTP personnel and over/around the containers during opening and repackaging operations. This ventilation is accomplished by a dedicated exhaust provided by the drum opening hood. The DWHE and fume hood are routed to dedicated filter banks. Containers within the drum opening hood are opened and repacked as discussed below. See Exhibit XVIII-10 for a block flow diagram of the drum repack system.

Debris Drum Containers. Debris drum containers are received at the drum opening station for opening, visual examination, and removal of SCW items. After the drum is opened, the inner waste packages/items are removed from the drum and visually examined, as required.

SCW and prohibited items are transferred out of the DWHE/DOHE for further management. After the contents of the drum have been removed, visually examined, sorted, and the relevant information has been entered into the Operating Record, the drum is repacked with the appropriate waste (i.e., not SCW and prohibited waste). Once repackaged, the drum lid, clamp band, and bolt/nut are replaced onto the drum. The drum is then removed from the drum opening hood and placed into a storage area for transfer to downstream processes.

All drum and waste components are checked for radiological contamination at each step in the operation. If unacceptable levels of loose radiological contamination are found at any point, then the drum and the drum contents are bagged and transferred to the DWPG.

Debris Drum Containers In Overpacks. Drum containers in overpacks are delivered to the DWHE and handled within the enclosure in the same manner as drums without overpacks (see description above), except that after the overpacked drum is placed at the drum opening station, a drum lifting hoist is attached to the drum, and the drum is lifted from the overpack. The empty overpack may be moved to the drum crusher, where it is crushed, bagged, and loaded onto a pallet for transfer to the LLW export station. Similar to the process for non-overpacked debris drums, all container (overpack, drum, liner, lid, and lid fastening hardware) and waste components are checked for radiological contamination at each step in the operation. If high levels of radiological contamination are found at any point, the container and waste items are bagged and transferred to the DWPG.

Container-In-Container Drums. A portion of the drums received in the DWHE contain smaller waste containers. It is expected that these smaller containers are packaged in soft metal cans or polyethylene jars, ranging in size from 1 L to 5 gal. The opening and unloading of container-in-container drums is handled in the same manner as debris drums, as described earlier. Overpacked container-in-containers are also expected, and are handled in the same manner as described for overpacked debris containers. After the small, inner containers are removed from the container, they are transferred to the SCW glovebox system for visual examination, inspection, and/or sampling, as required. Alternatively, inner containers identified only for inspection may be transferred to the DWPG, where the container is opened and examined to verify that the contents match the container IDC/WG.

Prohibited Waste. Any prohibited wastes (e.g., aerosol canisters, lab gas cylinders, fire extinguishers) retrieved in the DWHE/DOHE are transferred to the SCW glovebox system, the box lines, or are exported out of WMF-676. See Attachments 1.H.i and 1.H.ii for additional information. See Attachment 2 for further information on prohibited waste.

D-8a(1)(b) DWPG

Drums that are found to be significantly contaminated during processing at the DWHE are transferred to the DWPG using the drum lifting/tipping equipment. The drum lifting/tipping device is used to present the drum in a horizontal position to the glovebox drum port, where the bag is mated to the glovebox, providing containment during import of the drum contents into the glovebox. At this point, the drum lift/tipper is secured to prevent movement of the drum.

Once the contents of the drum are exposed to the inside of the glovebox, items can be removed using a variety of tools, or with a chain hoist provided in the glovebox for moving heavy items. Each item is placed onto a transport tray, located on the floor of the glovebox, as it is removed from the drum. The transport tray is used for moving items to different work stations in the DWPG. Spills occurring during unloading of the drum are absorbed using various materials. After the contents of a drum have been removed and it is deemed HWMA/RCRA empty, the drum is removed from the DWPG and reused, if appropriate. If a container contains an acute HWN, then the container will be processed as MW, unless the container has a liner which can be removed. If a container does contain a liner, then the liner may be removed and processed as MW such that the container meets the definition of "HWMA/RCRA empty" as defined by IDAPA 58.01.05.005 (40 CFR 261.7). If the drum is not reusable, it may be transferred to the drum crusher in the DWHE, where it is crushed, bagged, and placed on a pallet.

Packages of waste unloaded onto the transport tray are subject to viewing by the CCTV system and visual examination by AMWTP personnel. After examination, debris waste is loaded into drum containers using two load-out ports on the floor of the glovebox (Z-440-871). Repackaged drums are bagged and lowered from the DWPG, moved to the material transfer airlock (i.e., door to DWHE), and stored prior to transfer to downstream processes. SCW items are bagged out, transferred to local assay, and relocated to the SCW glovebox system. See Drawing 53-9744 for further information. Container-in-container items removed from drums are opened and examined to verify that the waste inside the container matches the IDC/WG on the drum. The containers are either transferred to a repackaging drum or to the SCW glovebox system.

D-8a(2) Physical Characteristics [IDAPA 58.01.05.012; 40 CFR 270.23(a)(1)]

Location of Drum Repack System

Pretreatment and visual examination of drums within WMF-676 occur in the drum repack system. The drum repack system is located in the north central area of the second floor of WMF-676. It is located above an elevator, which connects to the first floor MTS. See Appendix IX, Drawings 53-0201 and 53-0207 for further information on the general arrangement of equipment in WMF-676. The DWHE occupies an area in the north end of Room 236, while the DWPG is directly east of the DWHE.

Description of Construction Materials

Details of the construction materials for the drum repack system containment area (Room 236) are provided in Section D of Attachment 1.H. The curbs and floor of Room 236 (i.e., SCW/drum repack system area) are typically finished to a smooth surface with specialty coatings to prevent the migration of contaminants and to facilitate decontamination. The containment area is constructed to minimize air in-leakage and ensure adequate ventilation cascade flow rates through engineered inlets and openings.

D-8a(2)(a) Drum Repack System

Spill containment for the drum repack system, along with the SCW glovebox system, is provided by Room 236. Drawing 53-9744 illustrates the general arrangement of the drum repack system. A brief description of the materials of construction for the DWHE and DWPG is presented below.

DWHE (Z-440-868). The enclosure is primarily constructed of steel clad walls and is approximately 45-ft long by 22-ft wide. Equipment within the DWHE includes a drum opening exhaust hood (Z-440-870), hoists, barcode readers, DMS workstations, CCTV system, various tools, drum storage area, glovebox loading/bagging platform, drum conveyor, elevator enclosure, drum crusher, drum lift/tipper (Q-440-805), and breathing air supplies. The DOHE is constructed of prefabricated stainless steel with carbon steel support steelwork. The DOHE is located against the North and East walls of the DWHE area as shown on Drawing 53-9744.

DWPG (Z-440-871). The DWPG is a high-integrity glovebox designed to receive, process, and export waste that cannot be processed in the DWHE. The DWPG is also used for treating and absorbing liquids. The glovebox is primarily manufactured from stainless steel to minimize corrosion and facilitate routine decontamination and is approximately 15-ft long by 3-ft 6-in. wide by 11-ft 6-in. high. It consists of a receipt/sort and preparation/export area and incorporates a platform around the perimeter for AMWTP personnel access. Equipment associated with the DWPG includes a chain hoist for handling heavy items, barcode readers, mobile drum lifts and turntables, CCTV system, scale, various hand tools, pH meter, and a fire suppression system.

Glovebox components typically have surface finishes that are readily decontaminated. Internal corners are rounded and welds are smoothed and polished, as required, to achieve the desired surface finish. The DWPG includes appropriately designed and conveniently located gloveports, observation windows, and CCTV system.

D-8a(3) Maintenance

For the information pertaining to maintenance, see Section D-8a(3) of Attachment 1.H.i.

D-8a(4) Monitoring

For the information pertaining to monitoring, see Section D-8a(4) of Attachment 1.H.i.

D-8a(5) Inspection

Attachment 4 contains the inspection requirements and schedules for the drum repack system units.

D-8a(6) Closure

Closure of the drum repack system and all associated equipment is addressed in Attachment 8.G.

D-8a(7) Mitigative Design and Operating Standards

For the information pertaining to mitigative design and operating standards, see Section D-8a(7) of Attachment 1.H.i.

D-8b Environmental Performance Standards for Miscellaneous Units [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.601 and 270.23(c)]

For the information pertaining to environmental performance standards, see Section D-8b of Attachment 1.H.i.

D-8b(1) Miscellaneous Unit Wastes [IDAPA 58.01.05.008; 40 CFR 264.601(a)(1), 264.601(b)(1), and 264.601(c)(1)]

The wastes that are treated inside the drum repack system are identified in Attachment 2. For the secondary waste information pertaining to miscellaneous unit waste see Section D-8b(1) of Attachment 1.H.i.

D-8b(2) Containment System [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.601(b)(2) and 270.23(a)(2)]

For the information pertaining to drum repack system containment system, see Section D-1a(3) of Attachment 1.H.

D-8b(3) Site Air Conditions [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.601(c)(4) and (5), 270.23(a)(2)]

For the information pertaining to site air conditions, see Section D-8b(3) of Attachment 1.H.i.

D-8b(4) Prevention of Air Emissions [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.601(c)(2) and 270.23(a)(2)]

For the information pertaining to the prevention of air emissions, see Section D-8b(4) of Attachment 1.H.i.

D-8b(5) Operating Standards [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.601(c)(3) and 270.23(a)(2)]

Air emissions from the drum repack system occur as part of normal operations. These emissions are controlled by the ventilation control system described in Attachment 1.H.

D-8b(11) Migration of Waste Constituents [IDAPA 58.01.05.008; 40 CFR 264.601(a)(7)]

For the information pertaining to the migration of waste constituents, see Section D-8b(11) of Attachment 1.H.i.

D-8b(12) Evaluation of Risk to Human Health and the Environment [IDAPA 58.01.05.008; 40 CFR 264.601(a)(8) and (9), 264.601(b)(10) and (11), and 264.601(c)(6) and (7)]

For the information pertaining to the evaluation of risk to human health and the environment, see Section D-8b(12) of Attachment 1.H.i.

TABLE OF CONTENTS

ATTACHMENT 2

WASTE CHARACTERISTICS

LIST OF TABLES

LIST OF EXHIBITS

C. WASTE CHARACTERISTICS

This section describes the overall waste characteristics of the MW stored or treated at the MWMUs. The bulk of the waste that is stored at, and forms the feed to the MWMUs is MW. The MWMUs are located at the TSA, which was originally established at the RWMC to provide storage of TRU wastes. Most of the MW managed at the MWMUs is either TRU or αLLW MW. Table C-1 lists the waste streams and estimates of the volumes of waste that are stored within the TSA and their associated EPA HWNs, where known. HWNs have been based on "Advanced Mixed Waste Treatment Project Waste Stream Designations," AMWTP-5232-RPT-TRUW-12, (RPT-TRUW-12). The individual waste streams have been grouped into seven debris WGs and four non-debris WGs. The debris WGs are lead/cadmium metal (LCM), uncategorized metal (UM), inorganic nonmetal (INM), graphite (G), filters (F), combustible waste (CW), and heterogeneous debris (HD). The non-debris WGs are SI, SO, SW, and soils.

Waste Acceptance Criteria for Existing and Newly-generated Wastes

Only MW with HWNs listed in the Part A Permit Application is accepted for storage or treatment at the MWMUs. Waste containers may be transferred to a WMF-610 and WMF-628 through WMF-635 even if all WAC for that MWMU are not met, upon concurrence of the Environmental Manager. If it is determined that a waste container will be returned to DOE, further characterization is not required.

Type II Modules, Type I Module, SWEPP, WMF-636 Pad 2, and AMWTP Outside Storage Area WAC for Existing and AMWTP Newly-Generated Waste

Requirements for the receipt of existing and AMWTP newly-generated waste at the Type II Modules, the Type I Module, SWEPP, WMF-636 Pad 2, and the AMWTP Outside Storage Area from the TSA include the following:

- Containers must be numbered or coded for tracking purposes with a unique barcode identifier linked to the appropriate waste stream information (e.g., IDC) and container-specific information maintained within the Operating Record. Containers that are retrieved unlabeled are accepted after a unique barcode has been applied.
- Waste must not contain known:

- Explosive or pyrophoric material, except for pyrophoric forms of radionuclides,
- DOT Class 1 explosives, or
- Reactive metals or forbidden materials per 49 CFR 173.21.

- Waste containers must have a hazardous waste label (if required), container number, and other appropriate markings and labels. Containers with known TSCA-regulated waste (regulated under 40 CFR 761) are identified and marked appropriately.
- The process knowledge, to the extent known, regarding the waste stream is documented in the Operating Record.

For each container received at the Type I Module, the Type II Modules, SWEPP, WMF-636 Pad 2, and the AMWTP Outside Storage Area, the following information is included in the Operating Record:

- Waste stream information (e.g., IDC),
- Known HWNs (may be designated as undetermined), and
- Known retrieval and storage history.

Type II Modules, Type I Module, SWEPP, WMF-636 Pad 2, and the AMWTP Outside Storage Area WAC for Non-AMWTP Newly-Generated Waste

The following WAC apply to non-AMWTP newly-generated waste received at the Type II Modules, the Type I Module, SWEPP, WMF-636 Pad 2, or the AMWTP Outside Storage Area:

- Waste meets the "Type II Modules, Type I Module, SWEPP, WMF-636 Pad 2, and AMWTP Outside Storage Area WAC for Existing and AMWTP Newly-Generated Waste" listed above.
- Off-Site waste shall not be received or stored at WMF-636 Pad 2, unless the waste has been supercompacted in WMF-676.
- The source of the waste is DOE.
- Waste has an identified disposal route. Waste may be accepted if treatment by the AMWTP makes the waste acceptable for disposal.
- Waste containers must have a hazardous waste label (if required), container number, and other appropriate markings and labels. The barcode label is used to access information in the Operating Record regarding the waste container.

WMF-676 WAC for Existing and AMWTP Newly-Generated Waste

The WMF-676 requirements for the receipt of waste include the following:

- Waste must be received from another AMWTP waste management unit.
- Waste must be characterized for identity and quantity of organic and inorganic constituents, and metals. Unknown waste (i.e., waste with unknown IDCs or WGs following RTR examination or waste with known IDCs but unknown HWNs) from the inventory of waste is accepted only if RTR and headspace gas analysis (for drummed waste) have been performed and the waste meets all other applicable WAC.
- Radioassay, weight, and RTR/visual examination results must be completed and entered into the Operating Record prior to receipt at WMF-676. RTR/visual examination results must provide a listing of items that require special handling/removal. These items may include non-vented gas cylinders, containerized free liquids, etc.
- The source of the waste must be DOE.
- Waste is typically packaged in a container no larger than 58.5-in. wide by 76.4-in. high by 96-in. long, with a tolerance of 2 in. in all dimensions to allow for protrusions. Smaller containers and other containers listed in Attachment 1.A may be accepted if all other general and unit-specific container criteria are satisfied, such as good condition, weight, labeling, clean exterior, etc.
- Containers must be numbered or coded for tracking purposes with a unique barcode identifier linked to the appropriate information (e.g., IDC, WG, HWNs) and container-specific information maintained within the Operating Record.
- Presence of free liquids must be identified in the characterization information.
- Waste must not contain known:
    - Explosive or pyrophoric material, except for pyrophoric forms of radionuclides,
    - DOT Class 1 explosives, or
    - Reactive metals or forbidden materials per 49 CFR 173.21.
- Shielded containers are typically not accepted since shielding inhibits RTR from being used for waste verification. Shielded containers may be accepted if visual examination has been performed on the container.
- Ignitability, reactivity, and compatibility evaluations based on existing information (including process knowledge, analytical results, or testing) must be completed prior to acceptance. If compatibility information is incomplete, additional compatibility evaluations may be performed, as necessary.

- Waste may be either debris or non-debris.
- Wastes shall not be readily capable of detonation or explosive decomposition or reaction at normal pressures and temperatures, or explosive reaction with water.
- Waste must be evaluated for the presence of oxidizers and pyrophoric radionuclides prior to any treatment. Evaluation results shall be documented as part of the Operating Record.
- Containers must have adequate integrity to be able to safely handle the container. Containers must be able to support the weight of the contents when lifted.

For each container received at WMF-676, the following information may be included in the Operating Record:

- An IDC (which may be 000 for unknown wastes) and WG, if known;
- Known HWNs (may be designated as undetermined);
- Characterization results (RTR, assay, weight, headspace gas analysis, if applicable);
- Known retrieval and storage history; and
- Targeted pretreatment/treatment process or processes.

WMF-676 Unit Specific WAC

The unit-specific WAC for WMF-676 pretreatment/treatment units are provided in the following sections. These unit-specific WAC are in addition to the general WMF-676 WAC listed above.

Box Line WAC

The WMF-676 box line WAC requirements for receiving waste include the following:

- All external features that protrude more than 2 in. from the sides/top of the box that could potentially affect the performance of the variable geometry doors must be removed or modified to allow minimal impact to variable door operations.
- All containers should be: (a) in good condition with no significant visible signs of corrosion or rotting of the metal, fiberglass-reinforced plastic, or wood, (b) intact with no holes or splits, (c) externally clean and free of significant loose dust and soil, (d) presented in the correct orientation with the lid on top, and (e) free from all sharp, significantly protruding objects, such as nails, screws, etc.

- If a container is not in good condition (e.g., severe rusting, apparent structural defects, etc.) that will impact the ability to safely handle and process the container, then the container must be repaired, repacked, or overpacked prior to acceptance at WMF-676.
- Containers may have bolts or clamps loosened or removed outside of WMF-676 to assist in opening the containers. The lids are not loosened to the extent that containment could be compromised.
- Pressurized fire extinguishers and aerosol canisters may be depressurized in the box lines. Other pressurized containers shall not be depressurized in the box lines.

Drum Repack System WAC

The WMF-676 drum repack system WAC requirements for receiving waste include the following:

- All waste drums must be lidded (lids may be filter vented).
- Prior to receipt at WMF-676, results of headspace gas sampling (if performed) must be recorded in the Operating Record for unknown drums that cannot be assigned IDCs/WGs based on RTR or have known IDCs but unknown HWNs.
- SCW items that are removed in the drum repack system must be entered into the Operating Record for the particular IDC so that future containers with the same IDC are screened for similar SCW items.
- Unknown wastes must be identified as such.
- All drums shall be free of loose significant amounts of soil.
- The base of the drum must not be distorted to such an extent that it rocks significantly when the drum is upright.

Supercompactor WAC

The WMF-676 supercompactor WAC requirements for receiving waste include the following:

- Drums must be 55 gal (or have equivalent dimensions to a 55-gal drum) with a maximum outer diameter of 24.5 $\pm$ 1 in. and a maximum height of 35 $\pm$ 1 in. All drums protrusions, clamp bands, clamping screws, rolling rings, and deformities must lie within the specified dimensions when the drum is in an upright position. Note: The physical size limitation of downstream process equipment (e.g., gloveboxes, waste handling equipment, etc.) prevents containers with sizes above the mentioned limits from entering the supercompactor.

- Waste must be characterized with respect to IDC/WG and/or HWNs. Drums of ROW are the only containers that do not require assigned HWNs prior to supercompaction.
- The base of a drum must not be distorted to such an extent that it significantly rocks when the drum is upright.
- Drums must not contain any of the following additional prohibited materials: free liquids, as determined by RTR to be in excess of 5% of the waste volume and non-vented gas cylinders or fire extinguishers. RTR results and/or visual examination results for drums must be recorded in the Operating Record.
- Pressurized aerosol canisters may be depressurized in the supercompactor.

SCW Glovebox System WAC

The WMF-676 SCW glovebox system WAC requirements for receiving waste include the following:

- Waste must be received in SCW transfer containers from the pretreatment areas, or be transferred into the glovebox through a bag transfer port.
- Smaller containers of waste within the transfer container must be labeled with unique barcode identifiers, unless the entire contents (multiple items and/or smaller containers) of the transfer container are from a single container.
- Individual items of SCW that are removed in the pretreatment areas must be traceable back to the original container so that the appropriate listed HWNs associated with the original waste can be assigned to the SCW items.
- Wastes that are not characterized with respect to HWNs must be managed as unknown wastes while stored inside the SCW glovebox system (i.e., separated from other wastes) until characterization information is obtained. Characterization information must be entered into the Operating Record and the assigned HWNs updated before wastes are transported to downstream treatment.
- Ignitability, reactivity, and compatibility evaluations based on data obtained from SCW glovebox system operations must be completed prior to downstream treatment, as required.
- Pressurized aerosol canisters may be depressurized in the SCW glovebox system. Other pressurized containers shall not be depressurized in the SCW glovebox system.

WAC for Off-Site Wastes

The following WAC apply to off-Site wastes received at the AMWTP:

- Waste meets the "Type II Module, Type I Module, SWEPP, WMF-636 Pad 2, and AMWTP Outside Storage Area WAC for Existing and AMWTP Newly-Generated Waste," listed above.
- Off-site wastes shall not be received or stored in WMF-636 Pad 2, unless the waste has been supercompacted in WMF-676.
- Generators submit a waste profile. An example waste profile form is included in Appendix XXIII.
- Generators receive approval from AMWTP personnel prior to shipping waste to the MWMU(s).
- Waste is defined by a data package. The following information is required in a data package:
    - Hazardous waste manifest;
    - Container identification number;
    - Container assembly identification number (if applicable);
    - Waste generation site, date of packaging (closure date), weight, container type, shipment number, date of shipment, and vehicle type;
    - Process knowledge; and
    - Name of the certifying official.

Table C-1. Waste Stored at the TSA[a, b, c, d, e, f, g, h, I, j]

Generator	IDC	Description	Hazardous Waste Numbers	55-WSF	55-IS	83-WSF	83-IS	Box-WSF	Box-IS	Bin-WSF	Bin-IS	Total Volume (m3)	WG[c,e]
ANL-E	*100*	*General Plant Waste*	*D001, F003*	*2*	*0*	*0*	*0*	*37*	*1*	*196*	*4*	*801*	*HD*
ANL-E	*101*	*Cut Up Gloveboxes*	*D008*	*0*	*0*	*0*	*0*	*4*	*0*	*38*	*4*	*155*	*HD*
ANL-E	*102*	*Absorbed Liquids*	*D001, F003*	*24*	*0*	*2*	*0*	*0*	*3*	*10*	*17*	*107*	*UNK*
ANL-E	*104*	*Alpha Hot Cell Waste*	*None Identified*	*3*	*0*	*0*	*0*	*0*	*0*	*2*	*0*	*7*	*HD*
ANL-E	*105*	*Empty Bottles and Absorbent*	*D001, F003*	*2*	*0*	*1*	*0*	*0*	*0*	*0*	*1*	*4*	*UNK*
ANL-E	*107*	*RH Waste*	*None Identified*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*HD*
ANL-E	*110*	*Research Generated Waste*	*D004, D006, D008, F003*	*0*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*3*	*HD*
ANL-E	*111*	*Solidified Wet Sludge*	*D004, D005, D006, D007, D008, D009*	*0*	*0*	*0*	*0*	*0*	*1*	*0*	*0*	*3*	*UNK*
ANL-E	*121*	*TRU Organic Solid Waste*	*D004, D005, D006, D007, D008, D009*	*0*	*0*	*0*	*0*	*0*	*8*	*0*	*0*	*25*	*UNK*
Babcock	*515*	*Plastics, Paper, Cloth, Etc.*	*None Identified*	*15*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*3*	*HD*
Babcock	*516*	*Steel, Al, Electrical Devices-Handheld*	*None Identified*	*2*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*HD*
Babcock	*517*	*Heavy Metals, Steel, Al, Brass*	*None Identified*	*2*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*HD*
Battelle	*201*	*Non-combustible Solids*	*D005, D006, D007, D008, D009, D011, F001, F002, F005*	*3*	*0*	*0*	*0*	*0*	*1*	*2*	*0*	*11*	*HD*
Battelle	*202*	*Combustible Solids-Paper/Cloth*	*D005, D006, D007, D008, D009, D011, F001, F002, F005*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*HD*
Battelle	*203*	*Paper, Cloth, Metals, Glass*	*D005, D006, D007, D008, D009, D011, F001, F002, F005*	*29*	*0*	*0*	*0*	*0*	*0*	*5*	*1*	*26*	*HD*
Battelle	*204*	*Solidified Solutions*	*D005, D006, D007, D008, D009, D011, F001, F002, F005*	*28*	*0*	*2*	*0*	*0*	*0*	*0*	*0*	*6*	*SI*
Bendix	*111*	*Miscellaneous Source Material*	*None Identified*	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*HD*
Bettis	*10*	*Rags, Gloves, Poly*	*F002*	*418*	*436*	*13*	*59*	*0*	*0*	*0*	*0*	*200*	*CW*
Bettis	*12*	*Miscellaneous Sources*	*None Identified*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*UNK*
Bettis	*15*	*Neutron Sources*	*None Identified*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*UNK*

Table C-1. Waste Stored at the TSA[a, b, c, d, e, f, g, h, I, j]

Generator	IDC	Description	Hazardous Waste Numbers	55-WSF	55-IS	83-WSF	83-IS	Box-WSF	Box-IS	Bin-WSF	Bin-IS	Total Volume (m3)	WG[c,e]
Bettis	*20*	*Non-compressible, Non-combustible*	*D002, F002*	*403*	*354*	*0*	*14*	*0*	*0*	*0*	*0*	*162*	*HD*
Bettis	*30*	*Solidified Grinding Sludge*	*F002*	*0*	*0*	*2*	*0*	*0*	*0*	*0*	*0*	*1*	*SI*
Bettis	*338*	*RWMC Lead Shielded Overpack Empty*	*None Identified*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*LCM*
Bettis	*40*	*Solidified Binary Scrap Powder*	*None Identified*	*6*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*UNK*
Bettis	*50*	*Solidified Solutions*	*None Identified*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*SI*
Bettis	*81*	*Metal Samples Fissile*	*TBD*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*UM*
ID	*0*	*Not Recorded-Retrieved RFP TRU UNK*	*None Identified*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*UNK*
ID	*150*	*Laboratory Waste*	*D002, D008*	*2*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*1*	*HD*
ID	*152*	*Pu Neutron Sources*	*None Identified*	*2*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*HD*
ID	*153*	*Combustible Lab Waste*	*None Identified*	*2*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*HD*
ID	*154*	*Sample Fuel*	*None Identified*	*3*	*0*	*4*	*0*	*0*	*0*	*0*	*0*	*2*	*INM*
ID	*155*	*TRU Scrap*	*None Identified*	*10*	*0*	*2*	*0*	*0*	*0*	*0*	*0*	*3*	*HD*
ID	*157*	*Miscellaneous Radionuclide Sources*	*D008*	*3*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*1*	*HD*
ID	*21*	*Radioactive Mixed Lead Waste*	*D008*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*HD*
ID, IC	*150*	*Laboratory Waste*	*D002, D008*	*15*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*6*	*HD*
ID, IC	*152*	*Pu Neutron Sources*	*None Identified*	*0*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*3*	*HD*
ID, IC	*156*	*Chem Cell Rip-out (UNK)*	*None Identified*	*0*	*0*	*0*	*0*	*5*	*0*	*0*	*0*	*16*	*HD*
ID, IC	*525*	*Laboratory Debris Waste (P/U-listed)*	*D004, D005, D006, D007, D008, D009, D010, D011, D022, D026, D027, D028, D029, D030, D032, D033, D034, D036, D037, D043, F001, F002, F005, F006, F007, F009, P030, P098, P099, P106, U003, U103, U108*	*3*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*HD*
ID, IC	*526*	*Laboratory PCB Debris Waste*	*TBD*	*13*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*3*	*HD*
ID, IC	*527*	*Laboratory non-PCB Debris Waste*	*TBD*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*HD*
ID, IC	*601*	*Alpha Low Level Lab. WIPP Analytical Waste*	*TBD*	*43*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*9*	*HD*

Table C-1. Waste Stored at the TSA[a, b, c, d, e, f, g, h, I, j]

Generator	IDC	Description	Hazardous Waste Numbers	55-WSF	55-IS	83-WSF	83-IS	Box-WSF	Box-IS	Bin-WSF	Bin-IS	Total Volume (m3)	WG[c,e]
ID, IC	*602*	*Laboratory Homogeneous Solids Waste (P/U-listed)*	*D004, D005, D006, D007, D008, D009, D010, D011, D022, D026, D027, D028, D029, D030, D032, D033, D034, D036, D037, D043, F001, F002, F005, F006, F007, F009, P030, P098, P099, P106, U003, U103, U108*	*4*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*UNK*
ID, IC	*603*	*Laboratory Homogeneous Solids Waste*	*TBD*	*28*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*6*	*UNK*
ID, IW	*157*	*Miscellaneous Radionuclide Sources*	*D008*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*HD*
ID, IW	*176*	*RWMC Homogeneous Solids*	*TBD*	*1*	*0*	*28*	*1*	*0*	*0*	*1*	*0*	*13*	*UNK*
ID, IW	*177*	*RWMC Homogeneous Debris*	*TBD*	*6*	*0*	*139*	*87*	*0*	*0*	*0*	*0*	*72*	*HD*
ID, IW	*178*	*RWMC Homogeneous Soil*	*TBD*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*0*	*3*	*S*
ID, IW	*179*	*Early Waste Retrieval Bins*	*TBD*	*0*	*0*	*0*	*0*	*1*	*1*	*41*	*18*	*207*	
ID, IW	*337*	*Plastic, Teflon, Wash, PVC, Ret. RF TR*	*TBD*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*0*	*3*	*CW*
ID, IW	*5*	*Evaporator Salts-Retrieved RF TRU*	*TBD*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*SW*
ID, IW	*527*	*Laboratory Non-PCB Debris Waste*	*D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D043, F001, F002, F004, F005, F006, F007, F009*	*4*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*HD*

Table C-1. Waste Stored at the TSA[a, b, c, d, e, f, g, h, I, j]

Generator	IDC	Description	Hazardous Waste Numbers	55-WSF	55-IS	83-WSF	83-IS	Box-WSF	Box-IS	Bin-WSF	Bin-IS	Total Volume (m3)	WG[c,e]
ID, IW	*603*	*Laboratory Homogeneous Solids Waste*	*D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D043, F001, F002, F004, F005, F006, F007, F009*	*5*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*UNK*
ID, IW	*704*	*SDA Homogeneous Solids*	*TBD*	*12*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*2*	*UNK*
IN-ANLW	*152*	*Pu Neutron Sources*	*None Identified*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*HD*
IN-ANLW	*153*	*Combustible Lab Waste*	*None Identified*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*HD*
IN-ANLW	*155*	*TRU Scrap*	*None Identified*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*HD*
IN-ANLW	*165*	*Ash Stabilization and GGE Debris*	*TBD*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*HD*
IN-ANLW	*150*	*Laboratory Waste*	*D002, D008*	*119*	*0*	*3*	*0*	*0*	*0*	*0*	*0*	*26*	*HD*
IN-ANLW	*154*	*Sample Fuel*	*None Identified*	*71*	*0*	*6*	*0*	*0*	*0*	*0*	*0*	*17*	*HD*
IN-ANLW	*160*	*AL/CL Debris Waste*	*None Identified*	*58*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*12*	*HD*
IN-ANLW	*161*	*ACL Glassware, Paper, Poly, and Misc.*	*None Identified*	*4*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*HD*
IN-ANLW	*162*	*ANL-W FMF EFL Zr-U-Pu Fuel Cast.*	*None Identified*	*48*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*10*	*HD*
IN-ANLW	*163*	*ANL-W ACL Cold-Line Ab. Liq. and Debris*	*None Identified*	*6*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*HD*
IN-ANLW	*164*	*ANL-W HRA/WCA Debris*	*D005, D006, D007, D008, D009, D011, D022, D028, D029, F001, F002, F003, F004, F005*	*164*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*34*	*HD*
IN-ANLW	*167*	*MFC CH-TRU Heterogeneous Debris*	*D006, D007, D008, D011*	*89*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*19*	*HD*
J. Haynes	*826*	*Combustible Equip Boxes and Floor Swp.*	*None Identified*	*0*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*3*	*HD*
J. Haynes	*827*	*Solid Trash and Dry Lab Material*	*None Identified*	*0*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*3*	*HD*
Mexico	*142*	*Scrap Processing Equipment*	*None Identified*	*0*	*0*	*4*	*0*	*4*	*0*	*0*	*0*	*14*	*HD*
Monsanto	*530*	*Compacted Waste*	*None Identified*	*5*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*HD*

Table C-1. Waste Stored at the TSA[a, b, c, d, e, f, g, h, I, j]

Generator	IDC	Description	Hazardous Waste Numbers	55-WSF	55-IS	83-WSF	83-IS	Box-WSF	Box-IS	Bin-WSF	Bin-IS	Total Volume (m3)	WG[c,e]
Monsanto	*535*	*Compacted Waste/Lead*	*None Identified*	*15*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*3*	*HD*
Monsanto	*540*	*Non-Compacted Waste*	*None Identified*	*0*	*0*	*0*	*0*	*4*	*0*	*0*	*0*	*13*	*HD*
Monsanto	*545*	*WEP Sheilded Waste*	*None Identified*	*5*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*HD*
Monsanto	*550*	*Solidified Oil*	*None Identified*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*SI*
Mound	*801*	*Rags, Paper, Wood, etc.*	*None Identified*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*HD*
Mound	*802*	*Dry Box Gloves and O-rings*	*D008*	*1*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*3*	*HD*
Mound	*803*	*Metal, Equipment, Pipe, Valves, etc*	*D009*	*9*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*2*	*HD*
Mound	*804*	*Plastic, Tygon, Mani-Boots, etc.*	*D009*	*0*	*0*	*0*	*0*	*3*	*0*	*0*	*0*	*10*	*HD*
Mound	*805*	*Asbestos Filters*	*D001, D002, D009*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*HD*
Mound	*810*	*Glass Flasks, Sample Vials, Etc.*	*D009*	*1*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*1*	*HD*
Mound	*811*	*Evaporator and Dissolver Sludge*	*D001, D009*	*4*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*SI*
Mound	*813*	*Glass Filters and Fiberglass*	*D001, D002, D009*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*HD*
Mound	*814*	*Graphite Waste*	*D009*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*HD*
Mound	*815*	*Classified Parts*	*D009*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*UNK*
Mound	*824*	*Equipment Boxes, Non-combustible*	*D005, D006, D007, D008, D009, D010, D011*	*0*	*0*	*0*	*0*	*30*	*74*	*0*	*0*	*330*	*HD*
Mound	*825*	*Equipment Drums, Non-combustible*	*D005, D006, D007, D008, D009, D010, D011*	*3*	*0*	*1*	*0*	*1*	*0*	*0*	*0*	*4*	*HD*
Mound	*826*	*Equipment Boxes, Combustible*	*D009*	*0*	*0*	*0*	*0*	*2*	*0*	*0*	*0*	*6*	*HD*
Mound	*827*	*Equipment Drums, Combustible*	*D008, D009*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*HD*
Mound	*834*	*High Level Acid*	*D001, D002*	*21*	*0*	*6*	*0*	*0*	*0*	*0*	*0*	*6*	*SI*
Mound	*835*	*High Level Caustic*	*D002*	*63*	*0*	*26*	*0*	*0*	*0*	*0*	*0*	*21*	*SI*
Mound	*836*	*High Level Sludge/Cement*	*D002, D006, D007, D008, D009, D010, D011, F001, F002, F003*	*134*	*0*	*107*	*3*	*0*	*0*	*0*	*0*	*62*	*SI*
Mound	*838*	*<10 nCi/g Non-combustible*	*None Identified*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*HD*
Mound	*842*	*Contaminated Soil*	*D006, D007, D008, D009, D010, D011*	*2*	*0*	*0*	*0*	*36*	*0*	*0*	*0*	*115*	*S*
Mound	*847*	*LSA<100 nCi/g Combustible*	*D008, D009*	*35*	*0*	*5*	*0*	*1*	*0*	*0*	*0*	*12*	*HD*

Table C-1. Waste Stored at the TSA[a, b, c, d, e, f, g, h, I, j]

Generator	IDC	Description	Hazardous Waste Numbers	55-WSF	55-IS	83-WSF	83-IS	Box-WSF	Box-IS	Bin-WSF	Bin-IS	Total Volume (m3)	WG[c,e]
Mound	*848*	*LSA<100 nCi/g Non-combustible*	*D001, D002, D005, D006, D007, D008, D009, D010, D011*	*10*	*0*	*2*	*0*	*1*	*0*	*0*	*0*	*6*	*HD*
RFETS	*1*	*First Stage Sludge*	*TBD*	*429*	*683*	*586*	*5*	*15*	*0*	*0*	*0*	*464*	*SI*
RFETS	*2*	*Second Stage Sludge*	*TBD*	*1356*	*1237*	*1773*	*34*	*33*	*0*	*0*	*0*	*1211*	*SI*
RFETS	*241*	*Americium Process Residue*	*D001, D002, D008, F002, F003*	*53*	*80*	*16*	*0*	*0*	*0*	*0*	*0*	*33*	*HD*
RFETS	*290*	*Filter Sludge*	*D002, D006, D008, F001, F002, F003*	*1*	*5*	*2*	*0*	*0*	*0*	*0*	*0*	*2*	*SI*
RFETS	*292*	*Cemented Sludge*	*D004, D005, D006, D007, D008, D009, D010, D011, D022, F001, F002, F003, F005, F006, F007, F009*	*294*	*0*	*18*	*0*	*1*	*0*	*0*	*0*	*70*	*SI*
RFETS	*3*	*Organic Setups, Oil Solids*	*D005, D008, D011, D022, D029, D036, F001, F002, F003, F005*	*3863*	*580*	*1178*	*29*	*77*	*0*	*0*	*0*	*1547*	*SO*
RFETS	*300*	*Graphite Molds*	*D008, D029, D040, F001, F002, F005*	*14*	*15*	*8*	*1*	*1*	*0*	*0*	*0*	*12*	*G*
RFETS	*301*	*Graphite Cores*	*D008, D029, D040, F001, F002, F005*	*2*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*G*
RFETS	*302*	*Benelex and Plexiglas*	*TBD*	*1*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*1*	*CW*
RFETS	*303*	*Scarfed Graphite Chunks*	*D008, D029, D040, F001, F002, F005*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*G*
RFETS	*310*	*Graphite Scarfings*	*None Identified*	*0*	*14*	*0*	*0*	*0*	*0*	*0*	*0*	*3*	*G*
RFETS	*311*	*Graphite Heels*	*None Identified*	*3*	*3*	*4*	*0*	*0*	*1*	*0*	*0*	*6*	*SI*
RFETS	*312*	*Coarse Graphite*	*D008, D029, D040, F001, F002, F005*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*G*
RFETS	*320*	*Heavy Non-special Source Metal*	*D008, D009, F001, F002, F005*	*23*	*157*	*6*	*2*	*3*	*0*	*0*	*0*	*49*	*LCM*
RFETS	*321*	*Lead*	*D002, D008*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*LCM*
RFETS	*328*	*Ful-Flo Incinerator Filters*	*D002, D005, D007, D008, D009, D011, F001, F002, F003, F005*	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*F*
RFETS	*330*	*Paper and Rags-Dry*	*TBD*	*172*	*4008*	*149*	*22*	*32*	*0*	*0*	*0*	*1025*	*CW*
RFETS	*335*	*Absolute 8 x 8 Filters*	*D005, D007, D008, D009, D011, D022, F001, F002, F005, F006, F007, F009*	*5*	*28*	*1*	*0*	*4*	*0*	*0*	*0*	*20*	*F*

Table C-1. Waste Stored at the TSA[a, b, c, d, e, f, g, h, I, j]

Generator	IDC	Description	Hazardous Waste Numbers	55-WSF	55-IS	83-WSF	83-IS	Box-WSF	Box-IS	Bin-WSF	Bin-IS	Total Volume (m3)	WG[c,e]
RFETS	336	Paper and Rags-Moist	TBD	262	894	161	45	4	0	0	0	318	CW
RFETS	337	Plastics, Teflon, Washables, PVC	TBD	67	243	69	9	0	0	0	0	89	CW
RFETS	338	Insulation and CWS Filter Media	D001, D005, D007, D008, D011, F001, F002	6	0	2	1	0	0	0	0	2	F
RFETS	339	Leaded Rubber Gloves and Aprons	D008, D022, F001, F002, F003, F005, F006, F007, F009	6	0	1	1	1	0	0	0	5	CW
RFETS	33A	WETP Bin Program - Combustibles A	TBD	0	0	0	0	1	0	0	0	3	CW
RFETS	33B	WETP Bin Program - Combustibles B	TBD	0	0	0	0	1	0	0	0	3	CW
RFETS	360	Insulation	D005, D007, D008, D009, D011, F001, F002	15	53	5	3	0	0	0	0	17	F
RFETS	361	Insulation Heel	None Identified	0	0	1	0	0	0	0	0	0	SI
RFETS	368	Magnesium Oxide Crucibles	None Identified	1	0	0	0	0	0	0	0	0	INM
RFETS	370	Leco Crucibles	None Identified	4	93	19	0	0	0	0	0	26	INM
RFETS	371	Fire Brick	D004, D005, D006, D007, D008, D009, D010, D011, F001, F002, F003, F005, F006, F007, F009	59	795	13	12	0	3	0	0	195	INM
RFETS	372	Grit	D007	4	0	0	0	0	0	0	0	1	HD
RFETS	374	Blacktop, Concrete and Construction Rubble	D004, D005, D006, D007, D008, D009, D010, D011, D018, F001, F002, F003, F005, F006, F007, F009	348	0	27	6	3	0	0	0	92	HD
RFETS	375	Oil-Dri	D004, D005, D006, D007, D008, D009, D010, D011, D022, F001, F002, F003, F005	28	0	12	0	0	0	0	0	10	SI
RFETS	376	Cemented Insulation and Filter Media	D005, D007, D008, D009, D011, D022, F001, F002, F005, F006, F007, F009	77	1	7	1	1	0	0	0	22	F

Table C-1. Waste Stored at the TSA[a, b, c, d, e, f, g, h, I, j]

Generator	IDC	Description	Hazardous Waste Numbers	55-WSF	55-IS	83-WSF	83-IS	Box-WSF	Box-IS	Bin-WSF	Bin-IS	Total Volume (m3)	WG[c,e]
RFETS	377	Coarse Fire Brick	D004, D005, D006, D007, D008, D009, D010, D011, F001, F002, F003, F005, F006, F007, F009	0	0	0	0	0	0	0	0	0	INM
RFETS	391	Crucibles and Sand	None Identified	3	1	0	0	0	0	0	0	1	INM
RFETS	392	Sand, Slag, and Crucible	None Identified	0	2	2	3	0	0	0	0	2	INM
RFETS	393	Sand, Slag, and Crucible Heels	D007	48	0	0	0	0	0	0	0	10	SI
RFETS	4	Special Setups	TBD	96	125	208	7	5	0	0	0	129	SI
RFETS	409	Molten Salt-30% Unpulverized	None Identified	27	0	3	0	0	0	0	0	7	SW
RFETS	410	Molten Salt-30% Pulverized	None Identified	21	0	1	0	0	0	0	0	5	SW
RFETS	411	Electrorefining Salt	None Identified	20	0	1	0	0	0	0	0	4	SW
RFETS	412	Gibson Salts	None Identified	1	0	0	0	0	0	0	0	0	SW
RFETS	414	Direct Oxide Reduction Salt	F001, F002	5	0	0	0	0	0	0	0	1	SW
RFETS	416	Zinc Magnesium Alloy Metals	None Identified	1	0	0	0	0	0	0	0	0	UM
RFETS	420	Ash, Incinerator (Virgin)	D004, D005, D006, D007, D008, D009, D010, D011, D029, F001, F002, F003, F005	11	6	1	0	0	0	0	0	4	SI
RFETS	421	Ash Heels	D004, D005, D006, D007, D008, D009, D010, D011, D029, F001, F002, F003, F005	94	0	6	0	0	0	0	0	21	SI
RFETS	422	Soot	D004, D005, D006, D007, D008, D009, D010, D011, D029, F001, F002, F003, F005	18	5	2	0	0	0	0	0	5	SI
RFETS	425	Fluid Bed Ash	D007, F003, F005	11	0	0	0	0	0	0	0	2	SI
RFETS	430	Unleached Ion Column Resin	D001	15	25	10	0	0	0	0	0	11	CW
RFETS	431	Leached Resin	None Identified	2	6	4	0	0	0	0	0	3	CW
RFETS	432	Resin, Leached and Cemented	D007, D008, D029, F001, F002, F005	301	0	34	1	0	0	0	0	74	SO
RFETS	440	Glass	D005, D008, D009, D022, F001, F002, F005	28	232	20	1	3	2	0	0	77	INM

Table C-1. Waste Stored at the TSA[a, b, c, d, e, f, g, h, I, j]

Generator	IDC	Description	Hazardous Waste Numbers	55-WSF	55-IS	83-WSF	83-IS	Box-WSF	Box-IS	Bin-WSF	Bin-IS	Total Volume (m3)	WG[c,e]
RFETS	441	Raschig Rings, Unleached	TBD	15	38	8	0	0	0	0	0	14	UM
RFETS	442	Raschig Rings, Leached	TBD	13	1	2	2	8	0	0	0	30	UM
RFETS	44A	WETP Bin Program - Glass	D005, D008, D009, F001, F002, F005	0	0	0	0	2	0	0	0	6	INM
RFETS	460	Washables, Rubber, Plastic	F001, F002	0	6	0	0	0	0	0	0	1	CW
RFETS	463	Leaded Rubber Gloves and Aprons	D008, F001, F002	3	9	5	0	0	0	0	0	4	CW
RFETS	464	Benelex and Plexiglass	TBD	3	5	1	0	0	0	0	0	2	CW
RFETS	480	Non-special Source Metal	D006, D007, D008, D009, D011, D028, F001, F002, F003, F005, F006, F007, F009	183	315	47	8	314	305	0	0	2084	LCM
RFETS	481	Leached Non-special Source Metal	D006, D007, D008, D009, D011, D028, F001, F002, F003, F005, F006, F007, F009	10	9	1	1	8	0	0	0	30	LCM
RFETS	488	Glovebox Parts w/Lead	TBD	0	0	0	0	0	0	0	0	0	LCM
RFETS	48A	WETP Bin Program - Metal	D004, D005, D006, D007, D008, D009, D010, D011, D028, F001, F002, F003, F005, F006, F007, F009	0	0	0	0	1	0	0	0	3	LCM
RFETS	490	HEPA Filters and CWS Filters	D001, D005, D007, D008, D009, D011, D022, F001, F002, F005, F006, F007, F009	0	18	2	0	11	28	0	0	128	F
RFETS	491	Plenum Prefilters	F001, F002	0	0	0	0	0	0	0	0	0	F
RFETS	5	Evaporator Salts	D001	618	4	286	7	0	0	0	0	221	SW
RFETS	696	Bldg 771 Cemented Incinerator Sludge	D004, D005, D006, D007, D008, D009, D010, D011, D022, F001, F002, F003, F005, F006, F007, F009	11	0	0	0	0	0	0	0	2	SI
RFETS	697	Dirt	D004, D005, D006, D007, D008, D009, D010, D011, D018, F001, F002, F003, F005, F006, F007, F009	63	0	4	1	2	0	0	0	21	S

Table C-1. Waste Stored at the TSA[a, b, c, d, e, f, g, h, I, j]

Generator	IDC	Description	Hazardous Waste Numbers	55-WSF	55-IS	83-WSF	83-IS	Box-WSF	Box-IS	Bin-WSF	Bin-IS	Total Volume (m3)	WG[c,e]
RFETS	7	Building 374 Dry Sludge	D006, D007, D008, D009, D010, D011, D032, F001, F002, F005, F006, F007, F009	566	0	43	2	4	0	0	0	145	SI
RFETS	700	OASIS Waste	D022, F001, F002	10	0	4	0	0	0	0	0	3	SI
RFETS	741	Pits 11 & 12 First Stage Sludge	TBD	1	55	79	2	0	0	0	0	37	SI
RFETS	742	Pits 11 & 12 Second Stage Sludge	TBD	1	172	142	3	0	0	0	0	82	SI
RFETS	743	Pits 11 & 12 Organic Setups	TBD	3	345	217	31	1	0	0	0	153	SO
RFETS	744	Pits 11 & 12 Special Setups	TBD	0	37	14	1	0	0	0	0	12	SI
RFETS	745	Pits 11 & 12 Evaporator Salts	TBD	1	5	14	3	0	0	0	0	7	SW
RFETS	746	Pits 11 / 903 Pad Oil Drums	TBD	0	0	1	0	0	0	0	0	0	SO
RFETS	747	Pits 11 and 12 Miscellaneous Sludge	TBD	2	0	22	0	0	0	0	0	7	UNK
RFETS	749	Pits 11 and 12 Sewer Sludge	TBD	2	11	10	7	0	0	0	0	8	SO
RFETS	750	Pits 11 & 12 Debris	TBD	112	6008	2669	667	0	0	0	0	2320	HD
RFETS	751	Pits 11 & 12 Roaster Oxide	TBD	0	268	40	631	0	0	0	0	266	UNK
RFETS	752	Pits 11 and 12 Debris Waste from Non-RF Facilities	TBD	0	1	6	5	0	0	0	0	4	HD
RFETS	753	Pits 11 and 12 Legacy Dirt	TBD	9	0	10	5	0	0	0	0	7	S
RFETS	754	Pits 11 and 12 Legacy Dirt from Non-RF Facilities	TBD	1	0	1	0	0	0	0	0	1	S
RFETS	760	Pad 1 Cells 1 and 2 RFP Debris	D004, D005, D006, D007, D008, D009, D010, D011, D022, D028, D029, F001, F002, F005, F006, F007, F009	22	0	279	96	9	0	0	0	151	HD
RFETS	800	First Stage Sludge - Cemented	TBD	2	0	4	0	0	0	0	0	2	SI
RFETS	801	Solidified Organics	D021, D022, F001, F002, F003	59	0	21	0	0	0	0	0	19	SI
RFETS	802	Solidified Laboratory Waste	TBD	1	0	1	0	0	0	0	0	1	SI

Table C-1. Waste Stored at the TSA[a, b, c, d, e, f, g, h, I, j]

Generator	IDC	Description	Hazardous Waste Numbers	55-WSF	55-IS	83-WSF	83-IS	Box-WSF	Box-IS	Bin-WSF	Bin-IS	Total Volume (m3)	WG[c,e]
RFETS	*803*	*Solidified DCP Sludge*	*D006, D007, D008, D009, D010, D011, D032, F001, F002, F005, F006, F007, F009*	*10*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*2*	*SI*
RFETS	*806*	*Solidified Process Solids*	*D004, D005, D006, D007, D008, D009, D010, D011, F001, F002, F003, F005*	*41*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*9*	*SI*
RFETS	*807a*	*Bldg 374 Bypass Sludge (After 3/21/87)*	*D006, D007, D008, D009, D010, D011, D032, F001, F002, F005, F006, F007, F009*	*151*	*0*	*6*	*0*	*1*	*0*	*0*	*0*	*36*	*SI*
RFETS	*807b*	*Bldg 771 Cemented Incinerator Sludge*	*D004, D005, D006, D007, D008, D009, D010, D011, D022, F001, F002, F003, F005, F006, F007, F009*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*SI*
RFETS	*817*	*Cemented SS and C Heels*	*D007, D008, F001, F002, F003*	*27*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*6*	*SI*
RFETS	*818*	*Cemented Incinerator Ash*	*D004, D005, D006, D007, D008, D009, D010, D011, F001, F002, F003, F005*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*SI*
RFETS	*820*	*Cemented Soot*	*D004, D005, D006, D007, D008, D009, D010, D011, F001, F002, F003, F005*	*14*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*3*	*SI*
RFETS	*822*	*Cemented Resins*	*None Identified*	*28*	*0*	*2*	*1*	*0*	*0*	*0*	*0*	*7*	*SO*
RFETS	*823*	*Cemented Miscellaneous Sludge*	*D004, D005, D006, D007, D008, D009, D010, D011, F001, F002, F003, F005*	*18*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*4*	*SI*
RFETS	*831*	*Dry Combustibles*	*TBD*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*CW*
RFETS	*832*	*Wet Combustibles*	*TBD*	*0*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*3*	*CW*
RFETS	*833*	*Plastics, TRU Mixed*	*TBD*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*CW*
RFETS	*90*	*Dirt*	*TBD*	*146*	*84*	*57*	*70*	*0*	*0*	*0*	*0*	*88*	*S*
RFETS	*900*	*LSA Paper, Plastic, etc.*	*D004, D005, D006, D007, D008, D009, D010, D011, F001, F002, F003, F005*	*45*	*306*	*150*	*3*	*0*	*0*	*0*	*0*	*121*	*CW*
RFETS	*95*	*Sewer Sludge*	*TBD*	*9*	*21*	*13*	*1*	*0*	*0*	*0*	*0*	*11*	*SO*

Table C-1. Waste Stored at the TSA[a, b, c, d, e, f, g, h, I, j]

Generator	IDC	Description	Hazardous Waste Numbers	55-WSF	55-IS	83-WSF	83-IS	Box-WSF	Box-IS	Bin-WSF	Bin-IS	Total Volume (m3)	WG[c,e]
RFETS	*950*	*LSA Metals, Glass, etc.*	*D004, D005, D006, D007, D008, D009, D010, D011, F001, F002, F005*	*22*	*284*	*25*	*2*	*17*	*128*	*0*	*0*	*532*	*HD*
RFETS	*960*	*Concrete, Asphalt, etc.*	*D004, D005, D006, D007, D008, D009, D010, D011, F001, F002, F005*	*125*	*149*	*39*	*33*	*7*	*0*	*0*	*0*	*102*	*HD*
RFETS	*970*	*Wood*	*D008, F001, F002, F003, F005*	*3*	*4*	*2*	*0*	*0*	*12*	*0*	*0*	*40*	*CW*
RFETS	*976*	*Building 776 Process Sludge*	*D006, D007, D008, D009, D022, F001, F002, F003*	*3*	*0*	*3*	*0*	*20*	*0*	*0*	*0*	*65*	*SI*
RFETS	*978*	*Laundry Sludge*	*D006, D007, D008, D009, D022, F001, F002, F003*	*0*	*0*	*0*	*0*	*11*	*0*	*0*	*0*	*35*	*SI*
RFETS	*980*	*Equipment*	*D008, F001, F002*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*UNK*
RFETS	*990*	*Dirt*	*TBD*	*290*	*165*	*73*	*16*	*1*	*0*	*0*	*0*	*126*	*S*
RFETS	*995*	*Sewer Sludge*	*TBD*	*152*	*11*	*17*	*2*	*0*	*0*	*0*	*0*	*40*	*SO*
RFETS	*998*	*Pits 11 and 12 Cargos and Bins*	*TBD*	*0*	*0*	*0*	*0*	*3*	*2*	*15*	*183*	*689*	*HD*
RFETS	*999*	*Pits 11 and 12 Cargos and Bins with Roaster Oxide*	*TBD*	*0*	*0*	*0*	*0*	*0*	*4*	*0*	*37*	*138*	*HD*
Various	*0*	*Undetermined Form*	*TBD*	*634*	*80*	*2946*	*2206*	*87*	*3*	*20*	*21*	*2191*	*UNK*
			TOTALS	***13193***	***18492***	***11978***	***4153***	***828***	***577***	***332***	***286***	***18212***	

Abbreviations:

ANL-E	*Argonne National Laboratory-East*
Babcock	*Babcock & Wilcox*
IN-ANLW	*INL – Argonne National Laboratory West*
ID	*INL, facilities unspecified*
ID, IC	*INL Idaho Nuclear Technology & Engineering Center (former the Chemical Processing Plant)*
ID, IW	*INL Radioactive Waste Management Complex*
J. Haynes	*J.C. Haynes, Ohio businessman who irradiated diamonds with Am-241*
Mexico	*AM-241 waste from a smoke detector manufacturing company in Mexico*
Monsanto	*Monsanto-Dayton Laboratory*
RFETS	*Rocky Flats Environmental Technology Site (formerly the Rocky Flats Plant)*

Notes:

a. *The numbers and types of containers listed in this table are based on data as of June 24, 2013. Volumes were calculated using the following conversion factors: (1) 0.208 m3/55-gal drum, (2) 0.314 m3/83-gal drum, (3) 3.172 m3/box, and (4) 3.398 m3/bin. These conversion factors were used because the volumes of the containers vary.*

b. *Eleven IDCs are currently identified as TSCA-regulated in RPT-TRUW-12: RFETS 003; RFETS 743; RFETS 746, RFETS 998; ID,IW 176; ID,IW 178; ID,IW 526; ID,IW 603; ID,IC 526; ID,IC 603; and Batelle 203.*

c. *The waste group (WG) may vary, based upon additional characterization obtained.*

d. *The number of container may change, based upon actual waste retrieved.*

e. *The WG may be determined from real-time radiography (RTR) results.*

f. *Potential corrosives if liquids exceed 1%.*

g. *Possible ignitable (either if deemed a Department of Transportation (DOT) oxidizer, or in some cases if liquid is present).*

h. *Blanks in the table indicate zero containers present in the inventory.*

i. *This table is included for information only. Changes required to the table are administrative in nature and are not subject to the requirements of IDAPA 58.01.05.0.12 (40 CFR 270.42). This table will be updated once each calendar year as an equivalent or superior substitution or as part of a Permit Modification Request.*

j. *One of two WGs may be assigned to RFETS 374, Blacktop, Concrete, Dirt, and Sand, based on the majority of waste in the container (i.e., >50% dirt or sand is soil; >50% concrete, blacktop, metal, combustibles, plastics, gloves, etc. is debris.*

C-1 Chemical and Physical Analyses [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.13(a) and 270.14(b)(2)]

This section provides data on chemical and physical characteristics of waste received for storage and/or treatment at the MWMUs and data on waste presently stored at the TSA. The AMWTP waste characterization program extensively uses generator-supplied process information. Verification of generator-supplied data for existing waste stored at the TSA has been an ongoing activity since 1980. Activities previously conducted for waste verification include:

1. Visits to generator sites, completion of questionnaires, review of generator records, and generator personnel interviews to confirm potential hazards associated with the wastes;

2. Waste sampling and gas generation studies of waste to verify compliance with the WIPP WAC;

3. Detailed characterization using information obtained from waste shipment records, and observing waste-generating processes to verify for each IDC the waste form, the generation source of the waste, waste packaging and handling practices, waste container preparation, assay methods, and waste constituents;

4. Examination of more than 17,000 containers via RTR; and

5. Return of more than 260 containers to the Rocky Flats Environmental Technology Site (RFETS), formerly the Rocky Flats Plant, to be reopened and visually examined for free liquids (presence and volume), sludges, particulate quantities, presence of pyrophoric, toxic, or corrosive materials, correspondence of contents with previous documentation, and physical description of the waste form.

The results from these studies are documented and serve as the basis for the HWNs assigned in RPT-TRUW-12 and in this document.

The majority of the waste presently stored at the TSA was generated off-Site at other DOE-operated facilities. Most of the waste has been received from the RFETS in Colorado.

Other sources of waste include the Mound Facility in Ohio, the Argonne National Laboratory-East (ANL-E) in Illinois, the Battelle Columbus Laboratory in Ohio, and the Bettis Atomic Power Laboratory in Pennsylvania, while a portion of the waste was generated at INL facilities.

Descriptions of containers used for storing waste at the TSA are provided in Section D-1a(1), Attachment 1.A. Except for some overpacking and repackaging of retrieved containers that are damaged and for containerizing contaminated soil/wood/plastic/tarps from retrieval operations, waste is primarily packaged by non-AMWTP generators. Characterization of the physical forms and chemical compositions of wastes received for treatment and storage at the MWMUs are further detailed in Sections C-2, C-3, and C-4.

The following sections summarize the characterization strategy for existing waste received at the MWMUs. Sections C-1a and C-1g focus on the characterization of the MW that enters each of the waste management areas. Section C-2 presents the specifics of the planned waste characterization activities. The chemical and physical analyses for newly-generated and off-Site waste are discussed in Section C-2e. Additional analyses pertaining to LDR for final waste forms are discussed in Section C-3, while additional requirements for waste shipped to the WIPP are discussed in Section C-4.

The sampling and analysis frequencies specified below and in Sections C-2, C-3, and C-4 are the frequencies that were implemented when operations of the MWMUs first began. These initial frequencies are statistically re-evaluated to determine whether the sampling frequencies need to be increased or decreased. The statistical method for determining the analytical frequency is included in the AMWTP Waste Characterization Quality Assurance Project Plan (QAPjP), as shown in Appendix XXIV.

C-1a Containerized Wastes [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR Part 264, Subpart I and 270.15(b)(1)]

The HWNs shown for each waste stream have been assigned based on a combination of process knowledge gathered from waste generators, waste-generator supplied data, and results of waste sampling and analysis. These data sources and the basis for assigning the HWNs are described in RPT-TRUW-12.

Containers are typically examined via RTR or by visual examination to verify contents and to identify SCW items, PCB-suspect electrical equipment, and other items that require separation prior to treatment. Items identified by examination as requiring removal from containers (e.g., non-vented gas cylinders, PCB-suspect electrical equipment, and liquids) are entered into the Operating Record. Characterization processes (e.g., RTR, assay, etc.) are briefly described in Section C-2b and in more detail in the AMWTP Waste Characterization QAPjP, as shown in Appendix XXIV. Containers identified as having free liquid may be treated in the MWMUs. The overall characterization strategies for waste are discussed below.

TSCA-regulated waste (regulated under 40 CFR 761) may be stored in the MWMUs. Seven of the IDCs listed in RPT-TRUW-12 are currently specified as possibly containing TSCA-regulated PCBs. They are Battelle 203 (paper, cloth, metals, and glass), RFETS 003 (organic setup), RFETS 302 (Benelex and Plexiglas), RFETS 480 (non-special source material), RFETS 743 (Pits 11 & 12 organic setups), RFETS 998 (Pits 11 &12 Cargos and Bins without Roaster Oxide), and RFETS 999 (Pits 11 & 12 Cargos and Bins with Roaster Oxide). Containers with PCB-suspect electrical items, such as fluorescent light ballasts and small capacitors, are expected to be present in certain waste streams. These containers may be sent to WMF-676 or another MWMU for sorting, treatment, and/or storage.

Characterization Strategy for Waste

The AMWTP waste characterization approach is summarized in Exhibits C-1 through C-3, using the following main principles:

- Prior to treating waste, RTR is used to examine 100% of the containers to identify the waste matrix and identify any liquids or other SCW items. If the specific IDC cannot be verified, the broader WG is verified and HWNs are assigned based on best technical judgment. No additional sampling and analysis is required to complete the characterization of these waste containers. See Exhibit C-1 for further information.

  Waste containers with known IDCs but unknown HWNs are subjected to sampling and analysis and to visual examination. HWNs may be assigned based on sampling and analysis (e.g., headspace gas) or a “representative” waste sample (when possible), or based on best technical judgment. See Exhibit C-2 for further information. This process is repeated until sufficient data are available to assign specific HWNs to this IDC.

- Containers for which IDCs or WGs cannot be assigned based on RTR are subjected to sampling and analysis and visual examination. For those rare instance where the correct IDC/WG cannot be determined following visual examination, HWNs are assigned based on a "representative" waste sample (when possible), or based on best technical judgment. See Exhibit C-3 for further information.
- AMWTP authorized RTR and/or visual examination personnel assign IDCs/WGs based on operational experience/expertise, characterization data and waste profile sheets for similar waste, generator waste-production history, sampling and analysis, etc. If an IDC cannot be assigned or if the IDC is listed with unknown HWNs, operators determine if a representative sample of the waste can be obtained. If so, analytical results are used to assign HWNs. Best technical judgment may be used to assign the broader WG to the waste and composited WG HWNs are assigned. These composited WG HWNs include all HWNs for the individual waste IDCs grouped within the WG, as applicable. A reduced, composited WG HWN list may be used when the process knowledge (e.g., physical matrix) supports the reduced list. All determinations involved in assigning IDCs, WGs, and/or HWNs are documented in the Operating Record. The information recorded in the Operating Record is updated within 72-hrs when new information is captured.
- When process knowledge is used for assigning HWNs and/or IDCs/WGs to an unknown container, it shall be used in conjunction with other characterization information (e.g., RTR, visual examination, assay, or sampling and analysis).

C-1g Wastes in Miscellaneous Units [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR Part 264.601 and 270.23(d)]

WMF-676 includes the following HWMA/RCRA-regulated miscellaneous treatment units:

- Box line and drum repack system areas that are used to sort, size reduce, repackage, sample, decant, neutralize, absorb, and visually inspect container contents;
- SCW glovebox system and DWPG which is used for decanting, neutralization, absorption, venting of gas containers, and opening/sampling smaller containers; and
- Supercompactor, used to compact waste drums into pucks and decant, neutralize, and absorb liquids.

The chemical and physical analyses associated with waste handled within WMF-676 are discussed in Section C-1a. Chemical and physical analyses specific to the miscellaneous units in WMF-676 are discussed below.

C-1g(1) Wastes in WMF-676 Pretreatment Areas

Containerized waste processed in the box lines and drum repack system pretreatment areas are typically not sampled and analyzed prior to receipt. This waste has been characterized, using process knowledge, visual examination, and/or RTR. For example, all containers of existing waste, and applicable containers of newly-generated waste, are examined via RTR to verify IDC, contents, and WG prior to receipt at WMF-676. In addition to preparing waste for downstream treatment, the pretreatment areas may be used to verify/obtain characterization data through visual examination. Verification of RTR characterization via visual examination is discussed further in the AMWTP Waste Characterization QAPjP, as shown in Appendix XXIV.

Both debris and non-debris waste may be processed through the WMF-676 pretreatment units, provided that the appropriate WAC are satisfied. Debris waste is intended for subsequent treatment via supercompaction, while the non-debris wastes are characterized, liquids treated, and transferred out of WMF-676.

WMF-676 Characterization Strategy for Debris Waste

RTR is the primary tool used for identifying SCW items and other items that do not meet the supercompactor WAC. Visual examination may also be performed on select debris drums to verify the accuracy of RTR results with respect to the identification of all prohibited/SCW items and debris WG. Since all boxes and bins require pretreatment/repackaging, it is not necessary to designate a percentage of these containers for additional visual examination.

Containers that require sorting and/or visual examination in the pretreatment areas are managed so that compatible waste is contained within any individual transfer container sent to downstream treatment. This strategy simplifies the tracking of HWNs associated with the feeds to downstream treatment processes. To maximize the overall operational efficiency of WMF-676, IDCs from the same WG are intended to be co-mingled in containers. Debris waste with different IDCs/WGs is mixed only if the characterization information confirms that the wastes are compatible. When wastes from the same WG are combined, the sorted waste is then assigned HWNs based on technical judgment based on the information related to the IDCs/WGs involved. Waste with unknown IDCs/WGs and waste with known IDCs but unknown HWNs that are assigned composited HWNs based on best technical judgment, are not co-mingled with other wastes (i.e., waste from other WGs) until characterization is complete.

WMF-676 Characterization Strategy for Non-Debris Waste

The non-debris waste that is expected to be characterized in WMF-676 is primarily non-debris waste in smaller containers (typically 1-L to 5-gal capacity) found within larger containers. Non-debris waste for characterization is processed through the pretreatment areas and the SCW glovebox system. The primary objective of pretreatment for non-debris waste is to collect samples for analysis and treatment, as required. Non-debris waste which does not require additional characterization may also be processed in WMF-676. This waste is processed primarily to treat already characterized non-debris waste in the box lines for free liquids. This section is applicable only to non-debris waste requiring characterization.

There are two scenarios involving container-in-container for non-debris waste, which may require sampling. The first scenario is a drum of containers, which contain waste from the same process. When a drum that has multiple containers of the same non-debris waste that requires sampling, one container of the waste is randomly selected for sampling. The sample is collected and analyzed for total metals, volatile organic compounds (VOCs), and semi-volatile organic compounds (SVOCs).

The second scenario is a container of non-debris waste that is not representative of waste that is contained in other containers that are retrieved from primary containers. Unknown containers of non-debris waste are sampled in the SCW glovebox system or in the DWPG. The samples are subjected to total metal and organic (VOC and SVOC) analyses, as applicable. The analytical results from unknown non-debris waste are used to determine a sampling frequency (see the AMWTP Waste Characterization QAPjP in Appendix XXIV). Unknown non-debris waste that is not sampled is assigned an SI, SO, SW, or soil WG based upon RTR, headspace gas analysis, and/or visual examination. This waste is then assigned the appropriate composited WG HWNs shown in Table C-1.

Liquids collected from containers with unknown HWNs or generated from AMTWP processes where the generated liquid is uncharacterized are tested for metals, organics, ignitability, and corrosivity prior to further management. Additional details on the sampling and characterization of the non-debris waste are presented in the AMWTP Waste Characterization QAPjP in Appendix XXIV and Section C-2.

C-1g(2) Wastes in the SCW Glovebox System and DWPG

SCW may be removed from containers in the pretreatment areas or the supercompactor, or may consist of entire IDCs that warrant unique handling in the SCW glovebox system and/or DWPG. Containerized liquids, elemental mercury, and items prohibited by the supercompactor WAC are expected to be the most common types of SCW removed from debris containers in the pretreatment areas. Liquids from the pretreatment areas and elemental mercury are generally collected in an appropriate container, as necessary, placed in a transfer container, and transferred either to the SCW glovebox system or the DWPG for treatment. Additionally, containers may be hand carried to the SCW glovebox system or the DWPG and enter via bagports. Sampling and analysis of SCW items is generally not conducted in the pretreatment areas, but is performed in the SCW glovebox system or DWPG. Therefore, until the chemical and physical analyses for these wastes are obtained, they are stored within the SCW glovebox system, DWPG, or the SCW collection area.

Liquids received at the SCW glovebox system and DWPG are examined for multiple phases, and separated, as required. Once separated, liquids are checked for pH using pH/litmus paper or a pH instrument and neutralized as required. After neutralization, liquids may be co-mingled based upon a positive compatibility test. Aqueous and organic liquids collected from waste containers with known HWNs are assigned the listed HWNs associated with the original waste.

Liquids collected from waste with unknown HWNs are subjected to pH/flashpoint measurement, total metals, and organic analysis. Following characterization of the liquid, it is neutralized (if found to be corrosive) and then absorbed on an appropriate material and transferred to downstream treatment or out of WMF-676.

Containerized elemental mercury from the pretreatment areas is not analyzed prior to absorption in the SCW glovebox system or the DWPG. However, if there is a second liquid phase with unknown HWNs, then the second liquid phase is decanted, analyzed, and treated as described above. See Attachment 1.H.ii for further information on the absorption of mercury in the SCW glovebox system or the DWPG. The smaller containers of SI/SO/SW SCW items that are opened are sampled (if necessary), repackaged, then transferred to a downstream treatment process or out of WMF-676. The SCW glovebox and the DWPG each have a maximum waste storage capacity of 200 gal. If additional storage capacity is required for SCW items pending analytical results, the sampled SCW items are removed from the SCW glovebox system or the DWPG and routed to the SCW collection area.

C-1g(3) Wastes in the Supercompactor Unit

The debris waste listed in Table C-1 are intended for treatment via supercompaction, although some debris waste may be direct shipped to the WIPP or to another waste management unit. As discussed in Section C-1g(1), any sampling required to fully characterize debris waste is typically performed in the pretreatment areas, provided representative samples can be collected. As a result, the debris waste that arrives at the supercompactor for treatment is fully characterized. No additional characterization is required for this waste provided that the supercompactor WAC is satisfied.

Liquids in the supercompactor gloveboxes are treated as described in Attachment 1.H.iii.

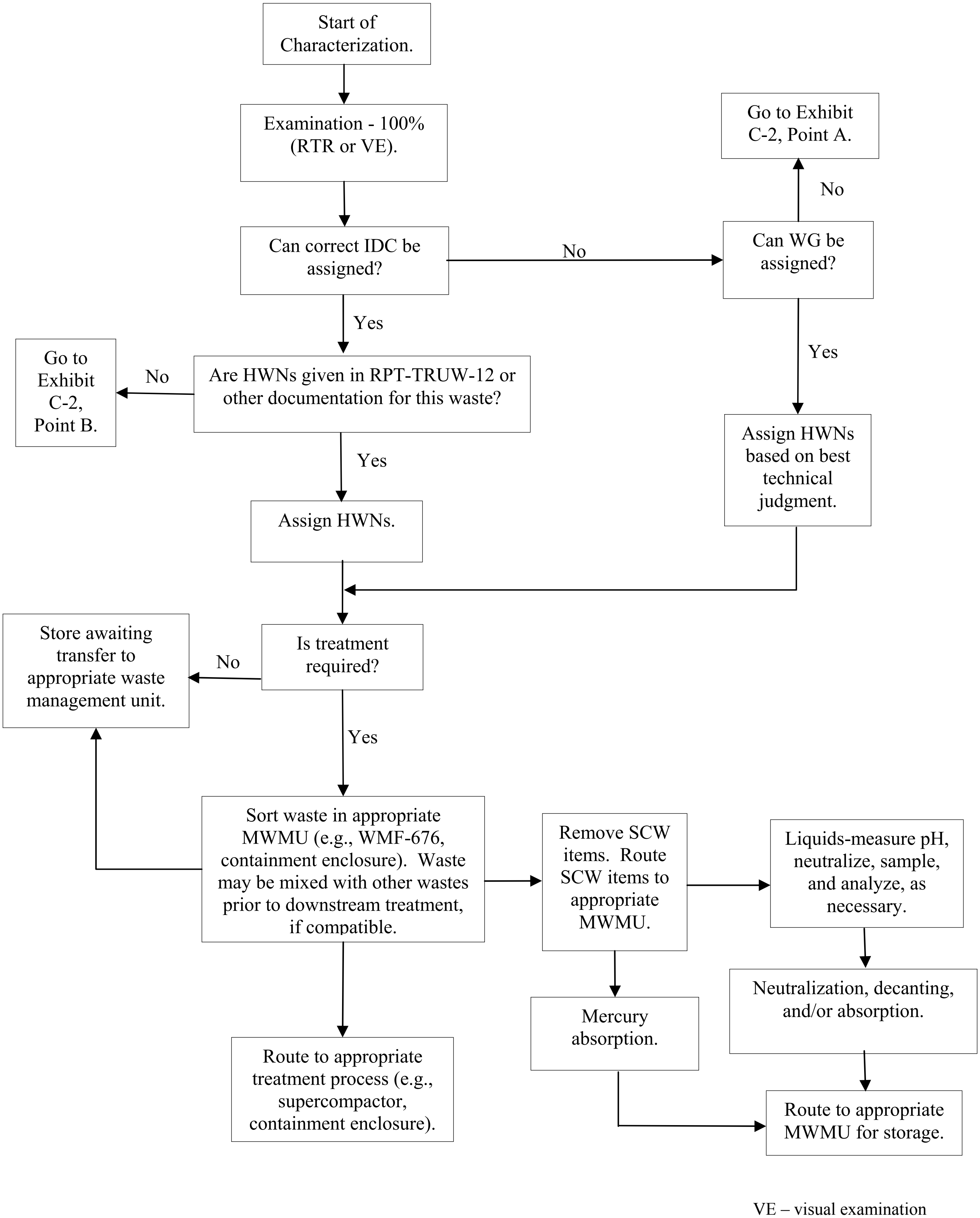

Exhibit C-1. Characterization of Waste with Known IDCs/HWNs

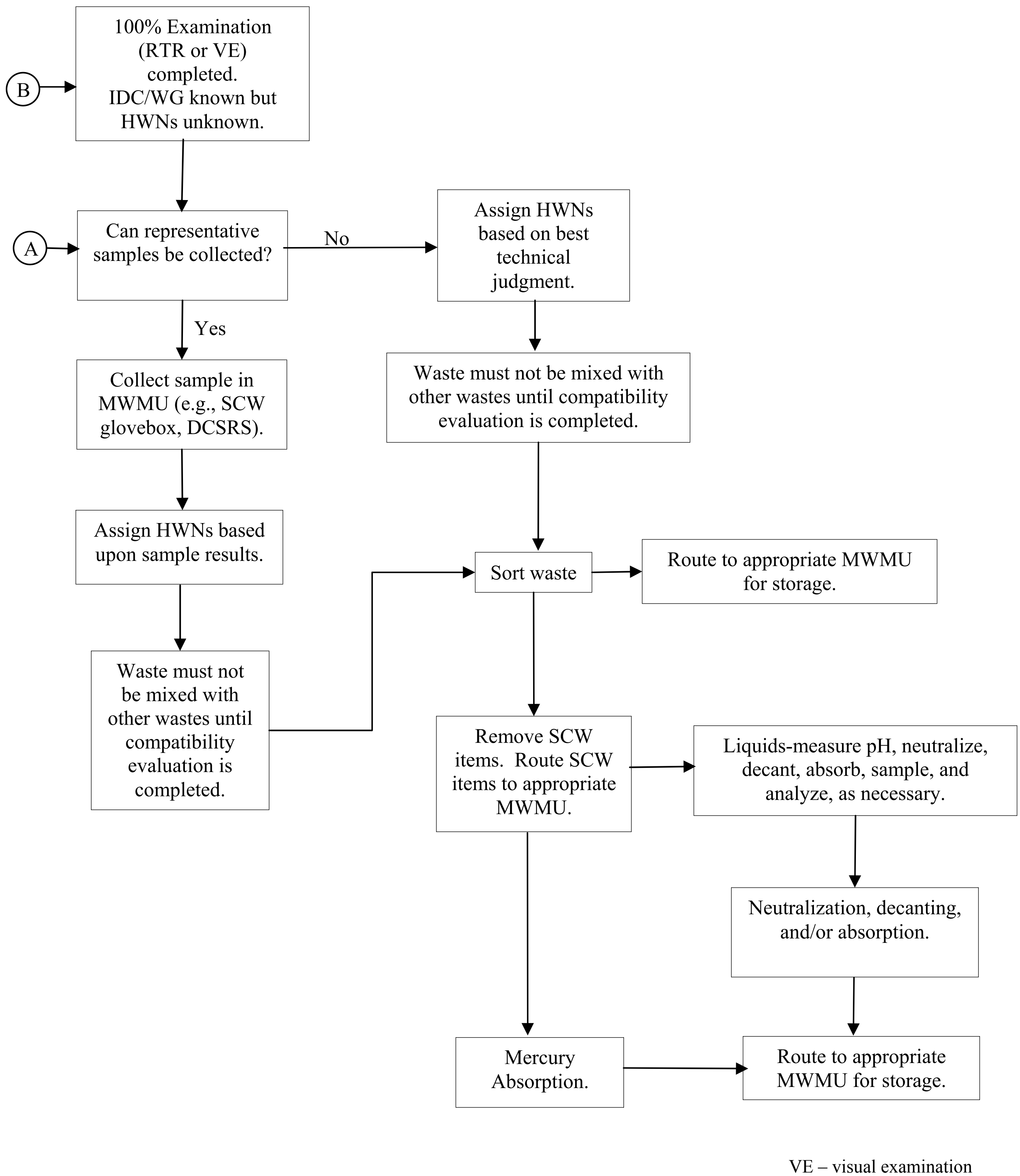

Exhibit C-2. Characterization of Waste with Known IDC/Unknown HWNs

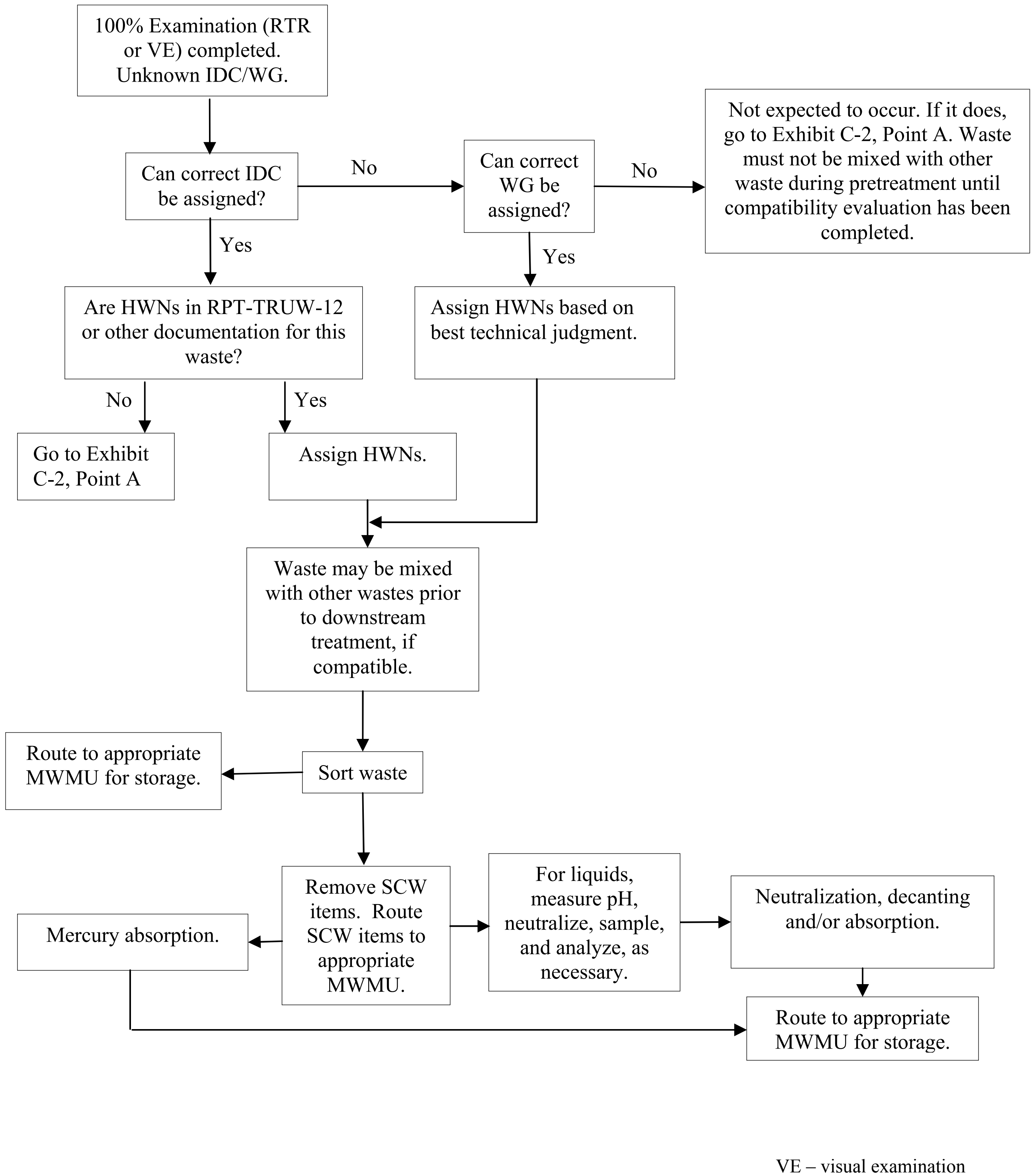

Exhibit C-3. Characterization of Waste with Unknown IDCs/HWNs

C-2 Waste Analysis Plan [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.13(b) and (c), and 270.14(b)(3)]

This WAP describes the methods for conducting characterization in the MWMUs. This WAP is designed to establish consistent characterization, sampling, sample management, analytical methods, parameter selection, and controls for waste at and generated by the AMWTP.

The objectives of this WAP are to:

- Ensure that sufficient information is available for safe and compliant handling, storage, treatment, and disposition of wastes and residues;
- Establish uniform and comparable waste characterization requirements;
- Verify that incoming wastes are properly characterized and described in required documentation;
- Generate information regarding the waste (from waste characterization, process knowledge, and waste profiles), in the Operating Record, for all wastes stored at the MWMUs;
- Ensure treatment residuals and AMWTP-generated wastes are characterized in accordance with regulatory requirements; and
- Ensure that waste is characterized to meet the disposal waste management unit's WAP.

C-2a Parameters and Rationale [IDAPA 58.01.05.008; 40 CFR 264.13(b)(1)]

Table C-2 summarizes the general parameters evaluated for waste, treatment residue, and secondary waste, and the rationale for their selection. The general parameters in Table C-2 are selected to ensure that adequate characterization is available to satisfy the requirements of HWMA/RCRA. Waste information is updated based upon waste characterization analysis performed as described in this section and in Section C-4.

The primary method used to characterize the waste accepted at the MWMUs is process knowledge, which serves as the basis for the HWNs assigned to existing IDCs. Additionally, waste is characterized by examination (RTR or visual examination) and/or sampling and analysis. See Exhibits C-1, C-2, and C-3 for a schematic presentation. All determinations involved in assigning IDCs, WGs, and/or HWNs are documented in the Operating Record, typically via the DMS. Analytical results obtained from the waste analysis are also entered into the Operating Record, typically via the DMS.

Prior to treatment, the waste containers are typically characterized using process knowledge. For liquid absorbent, the appropriate absorbent is selected based upon the process knowledge maintained within the waste profile and/or Operating Record.

In addition, any MW generated at the MWMUs from normal operations, leaks or spills, and/or closure processes are characterized by the methods described in this section. Leaks and spills are characterized utilizing process knowledge based upon the source of the leak or spill. The same HWNs that are assigned to the source of the leak or spill are assigned to the waste generated during the clean up activities, as applicable. In the event that the source is unknown or the HWNs are not known for the source, sampling and analysis may be used.

C-2b Test Methods [IDAPA 58.01.05.008; 40 CFR 264.13(b)(2)]

Table C-3 summarizes the minimum characterization parameters, sampling methods, and frequencies for stored waste and secondary waste. Table C-4 summarizes the potential characterization/analytical methods that may be used to analyze waste, treatment residuals, and secondary waste. These analyses are performed in accordance with the methods specified in SW-846, ASTM analytical methods, or other EPA-approved methods. Typically, the analyses are performed at a contracted analytical laboratory.

Waste Characterization Equipment

The waste characterization equipment located within the MWMUs is used to examine containerized waste prior to treatment and/or disposition. The characterization equipment is also used to verify the accuracy of generator-furnished data packages. Most of the waste characterization systems are linked to the DMS. Data from characterization systems that are not connected to the DMS are generally electronically transmitted to the DMS. The Operating Record is used to collect information relative to containers examined at the MWMUs and to build databases to support decisions regarding eventual shipment, treatment, or disposal at appropriate waste management units.

AMWTP personnel have barcode readers to track the receipt and storage of waste containers. The AMWTP contains the following equipment in support of characterization:

- RTR equipment,
- Areas for performing visual examination (e.g., containment enclosures, gloveboxes, etc.),
- Drum assay equipment,
- Box assay equipment,
- Drum venting, and
- Headspace gas sampling and analysis capabilities.

RTR Characterization

RTR equipment (located in WMF-610, WMF-628 and WMF-634) includes a radiography system that normally consists of an x-ray producing device, an imaging system, an enclosure for radiation protection, a container handling system, an audio/video recording system, and a personnel control and data acquisition station. The RTR equipment utilizes controls in order to optimize data quality. The system allows AMWTP personnel to vary the voltage to provide an optimum degree of penetration through the container. The container is scanned while AMWTP personnel view the image on a monitor. An audio/video recording or equivalent is made, on non-alterable media, of the waste container RTR images. Typically, the RTR equipment is used to identify or confirm the waste description and packaging configuration, and to identify items prohibited at WMF-676 or another MWMU.

As described previously, RTR is used to identify liquids (including mercury), physical form of the waste, and the presence of prohibited items that require separation in WMF-676. Details on how RTR is used to verify physical form, prohibited items, and related quality control (QC) requirements are in the AMWTP Waste Characterization QAPjP, provided in Appendix XXIV. In the case of unlabeled containers, RTR is used to correlate the contents of the container with known waste types and, if possible, assign an IDC or WG. The RTR results are recorded in the Operating Record, typically via the DMS.

Visual Examination

Areas for performing visual examination (e.g., containment enclosures, gloveboxes, etc.) are located throughout the MWMUs. Visual examination constitutes opening a container to identify and/or verify waste container contents. Equipment used for performing visual examination varies upon the area where the examination is performed, but it may include items such as ventilation hoods, inspection stations, measuring devices, etc. Visual examination is normally performed as quality control check on RTR, but visual examination may also be performed in lieu of RTR in order to identify liquids, physical form of the waste, and the presence of prohibited items. Visual examination results are recorded in the Operating Record, typically via the DMS.

Assay Equipment

The drum assay systems (located in WMF-610, WMF-628, WMF-634, and WMF-676) are a combination of high-efficiency passive neutron, quantitative neutron, quantitative gamma ray, and active neutron techniques, which are used to determine radionuclide isotopic composition, quantify the radionuclide masses, and compute the associated derived quantities, such as total and TRU activity for each container.

The box assay system is a combination of high-efficiency passive neutron, quantitative gamma ray, and active neutron techniques used to determine fissile mass of a given container. Containers may also be radioassayed with portable equipment within the Type I Module, Type II Modules, SWEPP, and WMF-636 Pad 2. See Attachment 1.A for additional information.

Drum Venting and Headspace Gas Sampling

The DVS, located in WMF-634, is an on-line sampling system that contains multiple gas chromatography/mass spectrometry (GC/MS) units. Gas samples may also be collected from the drums and transferred to the GC/MS using canisters. Additional GC/MS equipment may be located in WMF-628, WMF-634, and WMF-635 via portable headspace gas sampling equipment.

Drums containing waste with known IDCs/WGs but unknown HWNs) are vented as a precaution against over-pressurization. A sample of the headspace gas from below the inner liner of the drum is collected and generally injected into one of the GC/MS instruments, or other equivalent method. Headspace gas sample results on a container may be used to discriminate organic from inorganic waste or to provide additional characterization information. Additional information regarding the headspace gas sampling and analysis of unknown waste drums is provided in the AMWTP Waste Characterization QAPjP, presented in Appendix XXIV.

C-2c Sampling Methods [IDAPA 58.01.05.005 and 58.01.05.008; 40 CFR Part 261, Appendix I and 264.13(b)(3)]

As described earlier, waste generated from normal operations and/or closure processes (e.g., PPE, floor sweepings, rags/wipes from routine maintenance/decontamination activities, and equipment) is normally characterized based on the process knowledge of the original waste that comes into contact with the generated waste (see Table C-3). When this is not possible, the waste may be physically sampled (see Table C-5 for sampling equipment and strategies) and analyzed. Residuals, including debris from the routine decontamination/maintenance of treatment and/or storage areas, carry the HWNs assigned to the waste managed in the areas. Characteristic HWNs may be removed if it can be shown that the characteristic HWNs no longer apply.

The appropriate sampling technique for waste is based on knowledge of the waste matrix (e.g., solid, liquid, or sludge) and the specific analytes of interest. The sampling and analyses of liquids is conducted, as necessary, to address incompatibility concerns. Solid debris waste is generally contaminated with hazardous constituents at levels low enough that incompatibility concerns between solids (especially for solids within the same IDC or WG) are expected to be minimal. However, before mixing even solid materials from different containers, the IDC/WG characterization information is consulted to confirm that no incompatibilities exist.

Liquid waste, other than decontamination wastewater, is generated at the MWMUs primarily as SCW. Liquid waste may be retrieved as intact containers, free liquid removed from containers, or residual liquid removed from treatment areas. Liquid generated during treatment activities within the MWMUs retains the HWNs assigned to the original waste and is typically collected in an appropriate container for transfer to a MWMU where the liquid may be absorbed, or the liquid may be absorbed in place. Characteristic HWNs may be removed if it can be shown that the characteristic HWNs no longer apply.

Non-debris wastes that are homogeneous in nature may be sampled through drum coring. The sampling and analysis of waste through drum coring is conducted to determine or verify HWNs. See Table C-5 for sampling equipment and strategies of non-debris waste.

The methods used for sampling waste in the MWMUs that are described in the AMWTP Waste Characterization QAPjP are those specified in SW-846, ASTM methods, or other EPA-approved methods. SW-846 procedures are used for sampling activities; specifically, sample size, container type, holding times, preservatives, replicates, and chain-of-custody. Personnel collecting samples are required to maintain a permanent log of sampling activities. The log entries include: purpose of sampling; date and time of collection; sample number; sampling location; sampling methodology; container description; waste description (sludge, liquid, contaminated soil, etc.); description of generating process or originating waste (IDC and container barcode number); name and address of waste generator; name and address of field contact; number and volume of samples; list of suspected hazardous constituents; field observations; field measurements; destination; and signature of collector, as applicable.

A chain-of-custody record is assigned to each sample or group of samples. The record contains the sample number, date and time of collection, sample description, and signatures of a collector and subsequent custodians. Additional quality assurance (QA)/QC procedures are described in the AMWTP Waste Characterization QAPjP. See Appendix XXIV for further information.

Contaminated disposable sampling equipment is managed in the same manner as the waste sampled. Reusable equipment is thoroughly decontaminated prior to reuse. Waste generated from decontamination activities is managed appropriately depending on either process knowledge, characterization, or the contaminant levels identified through the sampling and analysis.

C-2d Frequency of Analysis [IDAPA 58.01.05.008; 40 CFR 264.13(b)(4)]

The expected frequency of analysis is included in Table C-3. The frequencies listed are those established when operations began. However, these frequencies may be adjusted up or down, based upon operational experience and the consistency of analytical results, as required to maintain operational efficiencies. A statistical evaluation is conducted to evaluate whether the current analytical frequencies warrant adjustment. All statistical methods used are done to ensure that the characterization method being utilized correctly identifies the waste stream to allow the assignment of either a true mean or worse case concentration of the chemical constituents potentially present in each waste stream. Statistical methods utilized for the various AMWTP characterization techniques are documented in the Operating Record. For drum core sampling, a minimum of five drums per waste stream are sampled. New waste characterization data or more frequent analyses are required when:

- A new waste stream is generated by AMWTP operations or received from off-Site;
- The process generating an established waste stream changes;
- Analytical data show that a waste stream that was expected to have a consistent composition is actually highly variable;
- The waste characteristics are highly variable from shipment to shipment for off-Site waste;
- Unexpected waste properties, items, or analytical results are encountered during pretreatment/treatment operations that are inconsistent with the current waste characterization information; or
- There is reason to suspect a change in off-Site waste based on inconsistencies in the manifest, packaging, appearance, or labeling of the waste; or there are inconsistencies between the waste verification results and the waste characterization data provided by the generator.

The statistical method for re-determining analytical frequencies for waste is based upon methods described in SW-846, Volume II, Chapter 9, and is presented in the AMWTP Waste Characterization QAPjP.

C-2e Additional Requirements for Waste Generated Off-Site [IDAPA 58.01.05.008; 40 CFR 264.12(b), and 264.13(c)]

Waste generated off-Site may be stored, treated, and/or characterized at the MWMUs. Off-Site waste must meet the requirements set forth in the WAC specified in this document to be accepted at the MWMUs.

The waste acceptance process at the MWMUs involves sequential execution of the following six steps:

1. Waste generators characterize their waste and transmit appropriate data to the AMWTP on a waste profile form. See Appendix XXIII for an example waste profile form.
2. The appropriate AMWTP personnel review the waste profile form and any other required/related documents and work with generators to resolve issues discovered during the review of the waste profile form.
3. AMWTP personnel conduct assessments of the generator facilities, as required.
4. When satisfied that the waste profile form is true, accurate, and complete, and that the waste meets the MWMU WAC, the appropriate AMWTP personnel authorize shipment of the waste.
5. The generator and AMWTP personnel finalize shipment logistics.
6. Waste movements are screened and inspected upon receipt before being accepted for management.

Off-Site generators are required to prepare and implement a Quality Assurance Program that has been assessed and approved by the appropriate AMWTP personnel. The Quality Assurance Program must describe the methods a waste generator uses to ensure waste is properly controlled and waste characterization, packaging, and documentation are accurate. The following basic elements must be addressed in the Quality Assurance Program, as a minimum, and the generator maintains the elements in an auditable form, unless explanations are provided detailing why a particular element is not relevant to the program:

- Contractor name and contacts;
- Descriptions of all processes generating wastes to be shipped to AMWTP;
- Facility waste management strategy;
- Organizational structure;
- Duties and responsibilities of key positions;
- Training and qualification of personnel, and qualification of procedures and equipment applicable to the waste being shipped;
- Waste separation/segregation and control;
- Waste characterization control, including process knowledge control of chemical constituent identification and quantification, and control of sampling and analysis in accordance with SW-846;
- Process knowledge information;
- Packaging, handling, and storage control; and
- Waste certification methodology.

Waste generators with an AMWTP approved Quality Assurance Program are required to submit a complete waste profile that must be approved by AMWTP personnel before shipment or acceptance of the waste. The waste characterization information provided in the waste profile form may be based on process knowledge, original material safety data sheets (MSDSs), and/or a detailed chemical and physical analysis of a representative sample. The basic minimum information required is outlined below:

- General Information: Information including the location generating the waste, technical contacts, rate of generation, name of waste, and a description of the process generating the waste. It includes a description of any documentation attached, including analytical data, process knowledge documentation, and MSDSs.
- Physical Characteristics of Waste: Information including waste types or description, physical state, solid or liquid, layers, pH, density, flash point, and chemical composition and constituents is listed, as applicable. This information can be based upon process knowledge.
- Chemical Characteristics of Waste: Information including process knowledge or analytical data for total metals, volatiles, semivolatiles, pesticides and herbicides, HWMA/RCRA listed wastes (F, K, U, or P), and whether the waste can be classified as a wastewater. This information can be based upon process knowledge.

- Radiological Characteristics of Waste: Requires the generator to determine the radioisotope composition of the waste. This information may be based upon process knowledge.
- Certification: The generator, or authorized designee, must sign a certification statement to certify that all information provided in the waste profile is true, accurate, and complete.

Process knowledge and/or analytical data must be provided to accurately identify all applicable HWNs and underlying hazardous constituents (UHCs), if applicable; TSCA-regulated wastes; DOT hazard classes; and the proper shipping names. If adequate process knowledge exists to ensure that a particular constituent is not present in the waste and this information is documented, then there is no requirement to analyze for that constituent. For example, if there is no reason to suspect pesticides and herbicides, analysis for those parameters is not required. However, the waste profile must establish that there is no reason to suspect the constituent is in the waste. This can be accomplished by including a detailed process description and/or published data of the process with the waste profile. Laboratory analysis, if required for waste profiling, is performed and documented by a laboratory with QA/QC procedures in compliance with SW-846.

The technical accuracy review includes evaluation of the waste profile for conformance to the MWMUs WAC. If the waste profile, waste packaging data, and supporting data are found to be in proper order; if the waste meets the WAC and WAP; and if the waste is within the Part A Permit Application limits, the waste is approved and the generator is notified. As part of this approval notification, the AMWTP notifies the off-Site generator in writing that the AMWTP has the appropriate permits for managing the generator's waste and accepts the waste the generator is shipping per IDAPA 58.01.05.008 (40 CFR 264.12) requirements. If information in the waste profile deviates from these conditions, the deviations are resolved before the shipment is authorized.

If verification is performed at the generator location, AMWTP personnel place tamper-indicating devices on the shipment containers to ensure that tampering of the container has not occurred after verification. Otherwise, waste from off-Site generators destined for storage at the MWMUs undergoes waste verification. Upon arrival, 10% of the containers in each shipment of waste from off-Site generators are randomly selected to undergo fingerprinting by one or more of the following:

- Use of RTR equipment or performing visual examination to verify waste form contents and AMWTP prohibited items, and/or
- Headspace gas sampling and analysis for target VOCs.

The shipment is not officially accepted until waste fingerprinting/verification results are received that substantiate the data on the generator's waste profile sheet. This 10% verification frequency is adequate to determine whether the shipment is rejected or accepted. Noncompliances with the MWMUs WAC, fingerprinting results, or other discrepancies are formally resolved with the generator. Resolution may be verbal or written. The DEQ is verbally notified in a timely manner of all nonconformances related to off-Site shipments. Written notification of the resolution is provided to the DEQ within 15 days of resolving the nonconformance. In accordance with IDAPA 58.01.05.008 (40 CFR 264.72), the notification describes the discrepancy and attempts to reconcile it. Copies of the manifest and other shipping papers are included.

When off-Site waste shipments arrive, the following steps are implemented:

- Security inspectors or other appropriate personnel notify AMWTP personnel that the waste shipment has arrived.
- AMWTP personnel review the shipping papers for completeness and accuracy.
- AMWTP personnel perform radiological control and industrial safety inspections of the shipment and its contents in accordance with established procedures for receipt, inspection, and documentation of waste received.
- Following completion and documentation of the receiving inspections, the waste shipment is tentatively accepted.
- For off-Site waste, final inspection of incoming shipments is completed and the results are recorded in the Operating Record. After verification has been approved, the waste shipment is officially accepted for receipt, the containers are unloaded, and the containers are then placed in storage.

The ultimate responsibility for MW characterization resides with the generator. Any HWMA/RCRA-regulated waste shipped to the MWMUs that does not conform to the WAP and WAC requirements may be returned to the waste generator for resolution or may be corrected prior to acceptance. AMWTP personnel have the responsibility and authority to evaluate the WAP and WAC violations and to determine the corrective action required of the generator. Attempts are made to resolve discrepancies in shipping manifests. If the discrepancy cannot be resolved, the shipment is returned to the generator unless the discrepancy involves the condition of the package. Damaged containers are repaired, repackaged, or overpacked, to prevent the release of waste constituents during transport.

C-2f Additional Requirements for Ignitable, Reactive, or Incompatible Wastes [IDAPA 58.01.05.008; 40 CFR 264.13(b)(6) and 264.17]

Generators of off-Site waste are required to provide information that identifies any potential ignitable, reactive, or incompatible wastes prior to their acceptance. The generator-supplied information is reviewed to determine if the waste is reactive, explosive, or flammable/hazardous compressed gas.

No waste in the existing TSA inventory is assigned HWN D003 by RPT-TRUW-12. Historically, IDCs RFETS-480 and -481 were the only wastes for which small amounts of pyrophoric, unoxidized plutonium were identified as potential problems. Further examination of the documented process knowledge (from Report No. WM-F1-82-021, "Content Code Assessments for INEL Contact-Handled Stored Transuranic Wastes") revealed that this was a concern only for RFETS-481. However, the referenced report states that any pyrophoric plutonium fines present in the waste were washed off the metal debris prior to packaging. Any IDCs that are determined to contain pyrophoric radionuclides are addressed under the Atomic Energy Act (AEA), and procedures for their management are implemented. However, any such wastes are not designated as HWN D003 reactive wastes, since the pyrophoric/reactive characteristic is associated strictly with the AEA regulated portion of the waste.

Further examination of documented process knowledge (from Report No. ICP/EXT-04-00248, "Historical background Report for Rocky Flats Plant Waste Shipped to the INEEL and Buried in the SDA from 1954 to 1971") and historical shipping records from Rocky Flats to the INL have revealed that depleted uranium waste may be present at the AMWTP. The depleted uranium waste (e.g., machining chips, turnings, and fines) was originally incinerated (i.e., roasted) at Rocky Flats Building 447 in order to convert the depleted uranium to a stable oxide form prior to shipment to the INL. Based upon current evidence, the practice of roasting depleted uranium at the Rocky Flats Facility did not ensure that all of the depleted uranium was completely oxidized. Therefore, there may still be pyrophoric depleted uranium present within IDC 751 (roaster oxides). As stated previously, these wastes are not designated as HWN D003 reactive wastes, since the pyrophoric/reactive characteristic is associated strictly with the AEA regulated portion of the waste. Any IDC 751 roaster oxide containers will be stored, inspected, and managed as stated in Attachments 1.A, 4, and 6.

Only a few of the IDCs in RPT-TRUW-12 are assigned HWN D001. Most of these ignitable IDCs are so designated because of the presence of nitrate salts, which are oxidizers. The remaining IDCs are assigned HWN D001 because of the potential presence of cyclohexane, and are only a concern if liquids are detected. The existing ignitability determinations given in RPT-TRUW-12 are verified and documented in the detailed IDC-specific waste profiles that are maintained for all wastes managed at the MWMUs.

AMWTP personnel ensure that incompatible wastes are segregated during storage. The MWMUs WAC prohibits the receipt of waste with reactives, pesticides/herbicides, unstable chemicals, and incompatible wastes. These prohibitions and limitations have been enacted to ensure safe waste management practices by minimizing the potential for accidental commingling of incompatibles.

A waste compatibility evaluation was performed for the AMWTP using the EPA guidance manual "A Method for Determining the Compatibility of Hazardous Wastes," EPA-600/2-80-076, April 1980. The methodology involves classifying IDCs into 41 reactivity group numbers (RGNs) and then, using a chemical compatibility chart, determining the compatibility of each potential binary combination of reactivity groups. The compatibility evaluation covered the waste IDCs identified in RPT-TRUW-12, and the results are presented in "Chemical Compatibility Evaluation of Transuranic Waste for the AMWTP," AMWTP-5232-RPT-ESH-014, (RPT-ESH-014). RPT-ESH-014 is maintained in the Operating Record and updated as new characterization information becomes available, as required. This evaluation determines the incompatibilities for the storage and treatment (e.g., commingling) of the waste IDCs identified in RPT-TRUW-12.

The commingling of any waste will only occur after the waste streams to be commingled have been evaluated for compatibility. Should the process information on the compatibility of waste be insufficient to determine if liquid waste streams are compatible, a compatibility test will be run using ASTM D5058-90 Test Method A, prior to commingling the liquid waste.

Extensive waste data have been developed for each IDC documenting the existing characterization information and the results of the compatibility evaluations. As the waste characterization efforts progress, the compatibility evaluations are updated and the wastes are re-categorized into the 41 RGNs to identify any new incompatible binary combinations. If additional incompatibilities are identified or data validation/waste characterization eliminates potential incompatibilities, additional precautions may be implemented or certain practices may be relaxed, as warranted.

Table C-2. Summary of General Parameters for Wastes and the Rationale for Selection

Waste Parameter(s)	Media Type	Rationale for Selection
IDC/WG	Debris and non-debris	Determine if HWNs can be assigned based on RPT-TRUW-12.
HWNs and hazardous constituents	Debris and non-debris	Verify HWNs are included in the Part A Permit Application.
Physical matrix via examination (RTR or visual examination)	Debris and non-debris	Verify matrix and debris WG, assign IDC/WG/HWNs to unknown debris drums, identify items that require removal.
Headspace gas	Debris and non-debris	Aid in identifying IDC for drums of unknown non-debris and debris wastes.
Reactivity, ignitability, and compatibility evaluations	Debris and non-debris	Identify potential reactivity and health and safety precautions prior to sorting.
pH	Liquid	Identify liquids requiring neutralization and appropriate precautions for corrosive waste.
Flash point	Liquid	Identify appropriate precautions for ignitable waste.

Table C-3. Minimum Characterization Parameters for Wastes

Waste Stream	Sampling Method	Sampling Frequency	Analytes and Analytical Methods
Primary Wastes			
Boxes and drums	Non-intrusive	100%	Examination (RTR or VE) to verify physical matrix, verify IDC and debris or non-debris WG, identify items for removal
	Non-intrusive	100% of all IDCs with known HWNs and hazardous constituents	Completion of process knowledge-based ignitability, reactivity, and compatibility evaluations
	Intrusive	Based on miscertification rate per the AMWTP Waste Characterization QAPjP	Visual examination to verify RTR results. Removal of any SCW items.
SCW items	Grab with Coliwasa, tube sampler, or equivalent	100% if liquid is unknown	PK for known/listed characteristic HWNs pH, flashpoint Toxic metals Organics
	Grab with scoop (for small inner containers)	100% of unknown non-debris drums initially with statistical revaluation for individual containers; 1 container per selected drum for container-in-container waste from a single IDC	PK for known/listed characteristic HWNs Corrosivity/pH Toxic metals Reactivity and compatibility evaluations based on PK and/or analytical results Containerized free liquid via visual examination or RTR Organics
Secondary Wastes:			
Used PPE, rags, decon debris, etc.	NA	NA	PK – cleanup debris characterization and treatment identical to waste being handled; PCB-contaminated rags are managed per TSCA regulations
Maintenance metal debris	NA	NA	PK – characterization identical to waste being handled
Used HEPA filters in drums	NA	NA	PK – characterization identical to waste being handled
Broken-down wooden process boxes	NA	NA	PK – disposed as LLW unless PK indicates otherwise
Crushed process drums	NA	NA	PK – disposed as LLW unless PK indicates otherwise
Absorbed hydraulic oil	NA	NA	PK – characterization prior to direct ship, identical to waste being handled
Sample Residues	NA	NA	PK—characterization identical to waste being handled
Contracted analytical lab absorbed liquid residues	NA	NA	PK—characterization prior to direct ship, identical to waste being handled

Table C-3. Minimum Characterization Parameters for Wastes (continued)

Waste Stream	Sampling Method	Sampling Frequency	Analytes and Analytical Methods
Absorbed supercompactor liquid	NA	NA	PK – characterization prior to absorption, this is included with the SCW items listed in this table
Absorbed decon water	NA	NA	PK – characterization prior to direct ship, identical to waste being handled
Sweepings from box breakdown area	NA	NA	PK – characterization prior to supercompaction, identical to waste being handled
SCW core sample residue	NA	NA	PK – characterization prior to direct ship, identical to waste being handled
Analytical lab absorbed liquid residues	NA	NA	PK – characterization prior to direct ship, identical to waste being handled

VE = Visual examination

PK = process knowledge

NA = not applicable

Table C-4. Potential Waste Characterization Methods

Parameters	Analyte	Characterization/Analytical Method
IDC/WG	NA	PK, RTR, visual examination
HWNs	NA	PK, RTR, visual examination, drum coring, and/or sampling and analysis
HWMA/RCRA listed wastes, waste constituents, composition	Volatile Organics	PK, SW-846
	Semi-volatile organics	PK, SW-846
	Metals	PK, SW-846
Toxicity characteristic constituents (TCLP may be used for final waste form LDR status determinations)	TCLP metals (Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver)	PK, SW-846
	TCLP organics	PK, SW-846
Other parameters	Free liquids	PK, RTR, visual examination
	Cyanide, total & amenable	PK, SW-846
	Thallium	PK, SW-846
	Antimony	PK, SW-846
	Beryllium	PK, SW-846
	Nickel	PK, SW-846
	Vanadium	PK, SW-846
	Zinc	PK, SW-846
Debris/non-debris status, SCW identification	Physical matrix	PK, RTR, visual examination
Reactivity/cyanide or sulfide-bearing	Reactivity/cyanide or sulfide-bearing	PK; Methods for Chemical Analysis for Water and Waste, EPA-600/4-79-020
Compatibility[a]	Compatibility	PK, waste characterization results, compatibility evaluations, ASTM, SW-846
Ignitability	Ignitability	PK, ASTM, SW-846
Corrosivity/pH	Corrosivity/Ph	PK, SW-846

a. Compatibility determinations are made by a combination of process knowledge; analysis; compatibility evaluations per “A Method for Determining the Compatibility of Hazardous Wastes” (EPA-600/2-80-076), compatibility groupings in 40 CFR 264, Appendix V; compatibility by hazard class in accordance with DOT, and/or waste-to-waste compatibility testing.

Table C-5. Methods and Strategies for Sampling Debris/Secondary Waste

Waste Composition	Sampling Equipment	Sampling Strategies
HEPA filters, composite filters	Shredder, scissors, shears, scoop, spoon Rotating coring device	Shredding, cutting, or size-reducing an appropriately-sized sample Size-reduced composite sample, where applicable
Plastic bags, PPE	Shredder, scissors, shears, scoop, spoon	Shredding, cutting, or size-reducing an appropriately-sized sample (size-reduced composite sample, where applicable)
Filter media and HEPA filters	Shredder, scissors, shears, scoop, spoon Rotating coring device	Shredding, cutting, or size-reducing an appropriately-sized sample Size-reduced composite sample, where applicable
Paper, cloth	Shredder, scissors, shears, scoop, spoon	Shredding, cutting, or size-reducing an appropriately-sized sample (size-reduced composite sample, where applicable)
Drums, cans, furniture, motors/pumps, construction hardware (nails, screws, etc.)	Drill, rotating coring device, surface swipes, grab sample	Size-reduced composite sample, grab sample, or swipe analysis
Asphalt, uncoated concrete, firebrick, cinder block	Impact hammer (hammer and chisel), rotating coring device	Size-reduced composite sample
Uncoated wood	Rotating coring device, shredder, or other appropriate equipment	Size-reduced composite sample
Coated concrete, coated wood	Rotating coring device, shredder, or other appropriate equipment	Size-reduced composite sample
Glass, plastic	Shredder, scissors, shears, impact hammer for fracturing, etc.	Size-reduced composite sample
Rubber	Shredder, scissors, shears, scoop, spoon	Shredding, cutting, or size-reducing an appropriately-sized sample (size-reduced composite sample, where applicable)
Metal tools, structural steel, steel pipe, rebar, assorted scrap	Drill, rotating coring device, surface swipes, grab sample	Size-reduced composite sample, grab sample, or swipe analysis
Contaminated metal equipment (machinery, glove boxes)	Drill, rotating coring device, surface swipes, grab sample	Size-reduced composite sample, grab sample, or swipe analysis
Drums, cans, furniture, motors/pumps, construction hardware (nails, screws, etc.)	Drill, rotating coring device, surface swipes, grab sample	Size-reduced composite sample, grab sample, or swipe analysis

C-3 Waste Analysis Requirements Pertaining to Land Disposal Restrictions [IDAPA 58.01.05.008 and 58.01.05.011; 40 CFR 264.13 and 268.7]

The Hazardous and Solid Waste Amendments (HSWA) prohibit the land disposal of certain types of hazardous wastes. The U. S. Congress has granted the WIPP a “No Migration Variance,” thus waste destined for shipment to the WIPP is not subject to LDR requirements. Therefore, waste destined for the WIPP is not subject to the requirements of this section.

Waste managed at the MWMUs that is destined for disposal at waste management units other than the WIPP is assumed to be restricted waste subject to LDR requirements. Information presented in this section describes how generators and the AMWTP characterize, document, and certify LDR subject wastes.

Off-Site generators sending wastes to the MWMUs are required to provide all notifications and certifications as mandated by IDAPA 58.01.05.011 (40 CFR 268.7). Accordingly, generators of wastes that are subject to the LDRs or any LDR-related variances are required to submit to AMWTP personnel the notifications and certifications required by LDR with their shipments.

In cases where a generator determines that an LDR waste does not meet the applicable treatment standards set forth in IDAPA 58.01.05.011 (40 CFR Part 268, Subpart D), or exceeds the applicable prohibition levels set forth in IDAPA 58.01.05.011 (40 CFR Part 268, Subpart C), the generator provides a one-time written notice with the initial shipment. The following information is included with the initial waste shipment:

- HWNs and shipping information;
- Notification that the waste is subject to LDRs and listing the constituents of concern for HWNs F001-F005, F039, and UHCs, unless the waste is treated and monitored for all constituents. If all constituents are treated and monitored, there is no requirement to list those constituents on the LDR notice;
- The notice must include the applicable wastewater/non-wastewater category {see IDAPA 58.01.05.011 [40 CFR 268.2(d) and (f)]} and subdivisions made within a HWN based on waste-specific criteria (such as HWN D003 reactive cyanide); and
- Waste analysis data when available.

Copies of all LDR-required notices (received or sent by the AMWTP) are retained as part of the Operating Record per IDAPA 58.01.05.008 (40 CFR 264.73).

C-3a Waste Characterization [IDAPA 58.01.05.008 and 58.01.05.011; 40 CFR 264.13 and 268.7]

For non-AMWTP newly-generated and off-Site wastes, the waste generators are required to document the level of characteristic and listed hazardous constituents in wastes shipped to the MWMUs. This information, coupled with the other analytical requirements stipulated in the WAC and WAP, allows generators and AMWTP personnel to accurately make LDR determinations. For wastes in the existing waste inventory and wastes generated by the MWMUs, existing process knowledge/waste characterization information supplemented by waste verification and analysis information are used to make LDR determinations. The supporting data used to make LDR determinations are maintained in the Operating Record, as described earlier.

C-3b Sampling and Analytical Procedures [IDAPA 58.01.05.008 and 58.01.05.011; 40 CFR 264.13(b)(2) and (3), and 268.7]

LDR waste forms generated by the AMWTP are sampled and analyzed (Tables C-4 and C-5) using only EPA-approved methods, as stated in Sections C-2b and C-2c. Approved test methods are discussed in the AMWTP Waste Characterization QAPjP, presented in Appendix XXIV.

C-3c Frequency of Analysis [IDAPA 58.01.05.008 and 58.01.05.011; 40 CFR 264.13(b)(4) and 268.7]

LDR wastes are characterized at frequencies specified in, or designed to meet, the selected waste management unit's WAP. In accordance with IDAPA 58.01.05.008 (40 CFR 264.13), wastes treated at the AMWTP are subjected to a full characterization whenever:

- A new waste stream is generated or received,
- A generating process changes,
- Waste characteristics exhibit temporal variations, or

- Waste from off-Site generators does not match the waste designated on the accompanying manifest or the waste fails waste verification.

Analytical frequencies for LDR purposes are re-evaluated statistically using the statistical formulas given in the AMWTP Waste Characterization QAPjP, presented in Appendix XXIV.

C-3d Additional Requirements for Treatment Facilities [IDAPA 58.01.05.008 and 58.01.05.011; 40 CFR 264.13 and 268.7]

This section describes the additional sampling, analytical, and documentation requirements the AMWTP employs when treating LDR waste at the MWMUs.

In addition to the required information for LDR notifications, any other information required in applicable IDAPA 58.01.05.011 (40 CFR 268.7) notifications must be included. LDR certifications are completed by AMWTP personnel when MW meets LDR treatment standards after treatment, in accordance with IDAPA 58.01.05.011 [40 CFR 268.7(b)] requirements.

C-3d(1) Off-Site Facilities [IDAPA 58.01.05.008 and 58.01.05.011; 40 CFR 264.13(a) and 268.7(b)]

All off-Site waste received by the AMWTP is received per Section C-2e. See Section C-2e for additional information.

C-3d(2) Analysis of Waste or Waste Treatment Residues [IDAPA 58.01.05.008 and 58.01.05.011; 40 CFR 264.13 and 268.7]

Final waste forms are assigned the HWNs assigned to the original waste treated. Characteristic HWNs may be removed if it can be shown that the characteristic HWNs no longer apply. The UHCs expected to be in the original waste are also determined, if the original waste was designated with HWNs D001, D002, D004-D011, or D018-D043. Sampling and analyses of the final waste forms (in accordance with SW-846 methods) determine if the applicable treatment standards and universal treatment standards (UTS) have been satisfied. Because treatment processes often tend to concentrate any inorganic constituents present in the feeds, the inorganic UHCs listed in IDAPA 58.01.05.011 (40 CFR 268.48) are typically measured via TCLP extraction followed by the appropriate analytical methods (except for fluorine, vanadium, and zinc). However, total and amenable cyanide analyses are included only for waste feeds carrying HWNs F006-F009, and are not performed on TCLP extracts. Compliance with the UTS for selected organic UHCs in the feed is also verified by analyses, with the organic UHCs comprised of those organic compounds that caused the original waste to be given either HWNs F001-F005 or D018-D043. The organic UHCs are included in final waste form analyses only until data are available to justify their elimination. The initial checks for compliance with organic UTSs are required to demonstrate that a "good-faith analytical effort" was attempted to achieve analytical detection limits for the organic UHCs that do not exceed the specified UTSs by an order of magnitude.

Secondary wastes generated from normal operations that undergo further treatment at the MWMUs are tested and/or process knowledge is used to determine if the waste mandates any additional LDR treatment standards. The MW generated is assumed to be restricted waste. Final determinations on whether the waste is restricted occur upon receipt of analytical results and/or upon completing process knowledge evaluations.

When sampling and analysis is used to determine if a MW meets LDR treatment standards, total analysis is used for cyanide and organics while metals are determined via totals or TCLP extraction, and the appropriate analytical method, as specified in IDAPA 58.01.05.011 (40 CFR 268.40 and 268.48). Liquid/non-liquid determinations of waste generated are based on process knowledge, visual assessments, and/or testing using the paint filter liquids test.

C-3d(3) Sampling and Analytical Procedures [IDAPA 58.01.05.008 and 58.01.05.011; 40 CFR-264.13 and 268.7]

The sampling and analytical procedures used to characterize secondary wastes for LDR compliance verification are described in the AMWTP Waste Characterization QAPjP, located in Appendix XXIV, and are designed to meet the expected receiving waste management unit's WAC and WAP.

C-3d(4) Frequency of Analysis [IDAPA 58.01.05.008 and 58.01.05.011; 40 CFR 264.13 and 268.7]

The frequency of analyses for final waste forms and secondary wastes is specified in Table C-6, unless changes are warranted based on trends shown in actual analyses. Analytical frequencies for LDR purposes are evaluated statistically per the AMWTP Waste Characterization QAPjP, or in accordance with the receiving waste management unit's WAP.

Table C-6. LDR Sampling and Analysis of Final Waste Forms

Waste Form	Sampling Method	Sampling Frequency	Analytes and Analytical Methods[a]
Final waste forms	Trier, thief, chisel, scoop, auger, impact hammer, rotating coring device to collect composite/grab sample	10% of containers initially with statistical re-evaluation	Toxic metals/inorganic UHCs via TCLP: Antimony Arsenic Barium Beryllium Cadmium Chromium (total) Cyanide (total and amenable) Lead Mercury Nickel Selenium Silver Thallium Volatile and semi-volatile organic regulated hazardous constituents and UHCs

a. Analytical methods are performed in accordance with SW-846 or other EPA-approved methods.

C-4 Waste Analysis Requirements Pertaining to the WIPP [IDAPA 58.01.05.008; 40 CFR 264.13]

The WIPP is a designated disposal facility for TRU waste and is a fully permitted disposal facility for MW. As mentioned in Section C-3, the WIPP is not subject to LDR. All MW disposed at the WIPP is subject to the WIPP Hazardous Waste Permit, as amended, by the New Mexico Environment Department. The information included in this section is a portion of the characterization requirements for disposal at the WIPP, and relates primarily to those activities that are used to update the process knowledge information for the various waste streams destined for disposal at the WIPP.

C-4a Waste Characterization [IDAPA 58.01.05.008; 40 CFR 264.13]

Prior to transfer to and receipt by the WIPP, waste must be characterized according to the WIPP WAP, Attachment B of the WIPP RCRA Hazardous Waste Permit. AMWTP waste destined for WIPP disposal must meet the requirements of the WIPP WAP, as amended. The descriptions of the activities associated with WIPP WAP characterization activities are current as of the submittal date for this revision, and will be adjusted to meet the WIPP WAP amendments, as necessary.

The WIPP allows for waste that consists of particles smaller than 2.36 in. in size to be considered debris if the waste is a manufactured object and if it is not a particle of soil or process residues (i.e., inorganic process residues, inorganic sludges, salt waste, and pyrochemical salt waste). Containers of this waste that can be shipped to the WIPP are characterized using acceptable process knowledge, RTR, visual examination, and/or sampling and analysis. Randomly selected containers of non-debris waste are selected for representative sampling and analyses according to Section C-4b.

C-4b Sampling and Analytical Procedures [IDAPA 58.01.05.008; 40 CFR 264.13(b)(2) and (3)]

Selected drums of non-debris waste that can be direct shipped to the WIPP are sampled within the DCSRS in WMF-634. The drums to be sampled are randomly selected from the waste stream. There are four non-debris waste streams: SI, SO, SW, and soil.

The DCSRS is used to extract a core from the waste in the drum at a randomly selected location. After the core has been extracted, a sample is collected from a random location over the length of the core. This sample, therefore, is extracted from a random location in both the horizontal and vertical planes. The selection of the sample is documented in the Operating Record. Further information is provided in the AMWTP Waste Characterization QAPjP.

The methods used for sampling MW that are described in the AMWTP Waste Characterization QAPjP are those specified in ASTM methods or other EPA-approved methods. SW-846 QA/QC procedures are used for sampling activities; specifically, sample size, container type, holding times, preservatives, replicates, and chain-of-custody. AMWTP personnel performing sample collection are required to maintain a permanent log of sampling activities. The log entries include the following:

- Purpose of sampling,
- Date and time of collection,
- Sample number,
- Sampling location,
- Sampling methodology,
- Container description,
- Waste description (sludge, liquid, contaminated soil, etc.),
- Description of generating process or originating waste (IDC and container barcode number),
- Name and address of waste generator; name and address of field contact; number and volume of samples,
- List of suspected hazardous materials,
- Field observations,
- Field measurements (e.g., pH),
- Destination, and
- Signature of collector.

A chain-of-custody record is assigned to each sample or group of samples. The record includes the sample number, date and time of collection, sample description, and signatures of the collector and subsequent custodians. Upon disposition of the sample, the chain-of-custody record is maintained in the Operating Record. Additional QA/QC procedures are described in the AMWTP Waste Characterization QAPjP.

C-4c Frequency of Analysis [IDAPA 58.01.05.008; 40 CFR 264.13(b)(4)]

Characterization is accomplished on a waste stream basis. The number of samples required per non-debris waste stream is evaluated statistically per the AMWTP Waste Characterization QAPjP. The initial number of samples is estimated to be five samples per non-debris waste stream.

Upon collection and analysis of the preliminary samples, or at any time after the preliminary samples have been analyzed, the AMWTP may assign HWNs to a waste stream. For waste streams with calculated upper confidence limits below the regulatory threshold, the AMWTP collects the statistically required number of samples if the AMWTP intends to establish that the constituent is below the regulatory threshold.

TABLE OF CONTENTS

ATTACHMENT 3

PROCEDURES TO PREVENT HAZARDS (SECURITY)

LIST OF EXHIBITS

F. PROCEDURES TO PREVENT HAZARDS

F-1 Security [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.14, 270.14(b)(4)]

A three-level security system including INL property warning signs, access control for the INL, and security surveillance patrolling provides overall security at the INL, the RWMC, and the AMWTP.

F-1a Security Procedures and Equipment [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.14 and 270.14(b)(4)]

The MWMUs are located within the TSA portion of the RWMC. To gain access to the RWMC and the AMWTP, authorized personnel or visitors must first gain access to the INL by the public highways, as described in Attachment 1. Once within the INL, traffic to the RWMC and the AMWTP enters the RWMC from Adams Boulevard via one of the designated AMWTP access gates. When authorized, traffic may enter the TSA directly through one of four gates in the southern part or one of the two gates in the northern part of the TSA fence. Three of the south gates and both of the north gates are for AMWTP personnel, DOE, Government, and INL contractor-owned vehicle access, and the fourth south gate is a railroad entrance. The access points described above are identified on the RWMC/AMWTP Topographic Map, located in Appendix II. The RWMC and the AMWTP are provided with a surveillance system, a physical barrier, and the means to prevent entry of unauthorized persons to all MWMUs.

F-1a(1) Surveillance System [IDAPA 58.01.05.008; 40 CFR 264.14(b)(1)]

Access to the AMWTP is controlled by access control personnel who are based at or near the various entrances to the AMWTP and the TSA. These entrances serve as the main access control points for persons and vehicles entering or exiting the AMWTP area. Typically, AMWTP personnel and visitors enter the TSA through a dedicated gate either on the south or north end of the TSA. See the RWMC/AMWTP Topographic Map in Appendix II for further information. All personnel entering through the south gate must check in at the AMWTP access point to obtain access authorization. All personnel entering through the north gate must check in at the RWMC access point to obtain access authorization. Visitors to the AMWTP are escorted, as required.

Further security is provided by INL security personnel, who conduct roving patrols around the perimeter of the RWMC. If off-normal conditions are detected, the appropriate AMWTP, RWMC, and/or INL personnel are immediately notified. All gates, located on the outermost fence surrounding the RWMC leading into the AMWTP controlled areas, are locked when not manned or in use.

F-1a(2) Barrier [IDAPA 58.01.05.008; 40 CFR 264.14(b)(2)(i)]

Physical security at the RWMC/AMWTP includes fencing of the entire area with locked or monitored gates. The perimeter fence and access gates are presented on the RWMC/AMWTP Topographic Map, located in Appendix II. The perimeter fence is designed as a deterrent to any unauthorized person attempting to enter or remove material from the RWMC and the AMWTP, and as a deterrent to livestock attempting to enter the RWMC and the AMWTP. The perimeter fence is constructed of either chain link or metal wire. Portions of the fence may be topped with barbed wire.

F-1a(3) Means to Control Entry [IDAPA 58.01.05.008; 40 CFR 264.14(b)(2)(ii)]

Means to control entry at the AMWTP are maintained by both administrative controls and physical measures. As discussed in Sections F-1a(1) and F-1a(2), the RWMC and the AMWTP are provided with a surveillance system and are surrounded by a perimeter fence and lockable gates. Access into the RWMC/AMWTP security area is controlled by locked or manned gates, card-readers, or access control personnel located at the various RWMC and AMWTP entrances.

F-1a(4) Warning Signs [IDAPA 58.01.05.008; 40 CFR 264.14(c)]

Warning signs are posted in the vicinity of each entrance to the MWMUs and in the vicinity of each TSA gate. These signs are written in English (the principal language in southeast Idaho), are legible from a distance of 25 ft, and are visible from most angles of approach. See Exhibits F-1, F-2, and F-3 for example warning signs used throughout the INL and the TSA.

NO GRAZING BEYOND THIS POINT

NO TRESPASSING

By Order of the

United States Department of Energy

The unauthorized entry upon any facility, installation, or real property subject to the jurisdiction, administration or in the custody of the United States Department of Energy, which has been designated as subject to the provisions contained in Part 860 of the Rules and Regulations of the United States Department of Energy (10 CFR Part 860), which rules were continued in effect by Section 705(a) of the Department of Energy Organization Act, is prohibited, and the unauthorized carrying, transporting, or otherwise introducing or causing to be introduced any dangerous weapon, explosive, or other dangerous instrument or material likely to produce substantial injury or damage to persons or property, into or upon such facility, installation, or real property is prohibited.

Whoever willfully violates the aforesaid regulation shall, upon conviction thereof, be punishable by a fine of not more than $1,000. Whoever willfully violates this regulation with respect to any facility, installation, or real property enclosed by a fence, wall, floor, roof, or other structural barrier, shall be guilty of a misdemeanor and, upon conviction thereof, shall be punished by a fine of not to exceed $5,000 or imprisonment for not more than 1 year, or both.

By authority of Section 229 of the Atomic Energy Act of 1954, as amended, and Part 860 of the Rules and Regulations of the United States Department of Energy, this facility, installation, or real property has been designated as subject to these regulations by the United States Department of Energy.

Exhibit F-1. Example INL Boundary No Grazing Sign

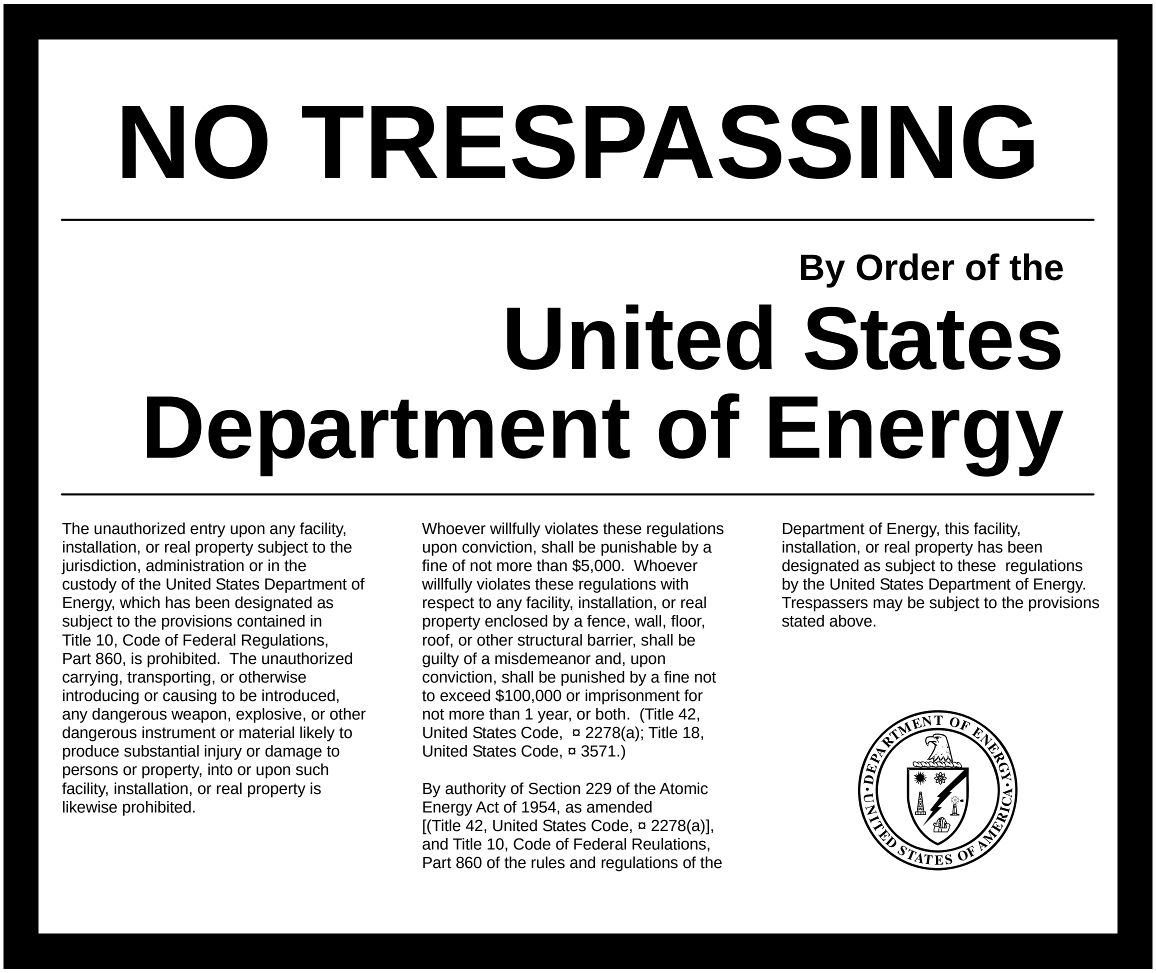

Exhibit F-2. Example INL Boundary No Trespassing Sign

Exhibit F-3. Example of Warning Sign

TABLE OF CONTENTS

ATTACHMENT 4

PROCEDURES TO PREVENT HAZARDS (INSPECTIONS)

LIST OF TABLES

F-2 Inspection Schedule [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.15 and 270.14(b)(5)]

This section describes the various inspection programs in place to ensure safe storage of waste containers at the MWMUs, proper operation of supporting equipment and monitoring equipment, and availability of emergency equipment in sufficient number and in operable condition whenever needed.

Inspections are conducted in the MWMUs to detect leaks, spills, or container deterioration that may lead to the release of HWMA/RCRA-regulated waste constituents to the environment or pose a threat to human health. Inspections typically performed in the MWMUs are for container integrity, fire or spill response equipment, emergency warning or communications systems, or operations support equipment. HWMA/RCRA deficiencies noted during the inspection and any corrective actions taken are documented and placed in the Operating Record. See Attachment 1.A for additional information on the Operating Record and the associated requirements. Deterioration or malfunction of containers, equipment, or structures identified during the inspection is remedied on a schedule that ensures the problem does not lead to any environmental or human health hazard. Imminent hazards or hazards that have already occurred are addressed immediately on a case-by-case basis. Corrective action is initiated and tracked to completion.

F-2a General Inspection Requirements [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.15, 264.33, and 270.14(b)(5)]

Inspections are performed by AMWTP personnel on a routine basis. Table F-1 lists the inspections performed in WMF-634, Table F-2 lists the inspections performed in the Type II Modules (WMF-628 - WMF-633), Table F-3 lists the inspections performed in the Type I Module, Table F-4 lists the inspections performed in SWEPP, Table F-5 lists the inspections performed in WMF-636 Pad 2, Table F-6 lists the inspections performed in the AMWTP Outside Storage Area, and Tables F-7 through F-11 list the inspections performed in WMF-676. These inspections satisfy the HWMA/RCRA-required inspections for container storage/treatment units. In addition to these inspections, preventive maintenance (PM) of buildings, equipment, and various operating systems are conducted on a regular basis and are typically tracked via the

AMWTP computerized maintenance management system (CMMS). Inspection records are maintained as part of the Operating Record. The inspection records are used to document HWMA/RCRA-required inspections conducted at the MWMUs.

AMWTP personnel routinely conduct inspections of the AMWTP area, fences, gates, warning signs, locks, and equipment; waste loading and unloading areas; and structural and operating equipment. These inspections are conducted in accordance with the frequencies noted in Tables F-1 through F-11.

PM inspections are developed, reviewed, approved, scheduled, and issued using the AMWTP CMMS. Typical PM inspections performed at the AMWTP include:

- Fire control system components (e.g., fire sprinklers, fire water pumps, hydrants, etc.)
- Standby power generators
- Emergency lights (including those associated with ventilation systems, indicating possible dangerous conditions due to ventilation system low flow)
- Container handling equipment

PM inspections are performed per a set schedule. The frequency of an inspection is based upon the AMWTP Maintenance Analysis Program, vendor specifications/recommendations, or NFPA requirements. The AMWTP Maintenance Analysis Program is designed to determine the maintenance requirements for a specific piece of equipment. Typical items addressed under the Maintenance Analysis Program include the frequency of use, operational requirements, intended use, failure modes, results/consequences of a failure, environmental conditions, and safety concerns.

Calibration of equipment is performed in accordance with established procedures and integrated into the AMWTP CMMS. Calibrations are scheduled to occur prior to the calibration expiration date. Calibrations are conducted in accordance with specific checklists containing step-by-step instructions, as appropriate.

AMWTP personnel conduct regular radiation surveys of the MWMUs using appropriate instrumentation. These surveys enable the detection of changes in radiation levels related to the wastes in storage. The surveys are recorded on survey forms, which are then signed and dated (including time) by the AMWTP personnel performing the survey. Whenever a container is dropped or otherwise mishandled, AMWTP personnel will conduct a radiation survey and inspect the integrity of the container.

Following completion of the above-described inspections, any problems requiring further action are corrected on a timely basis with full knowledge of the appropriate AMWTP management personnel. AMWTP personnel report and record all identified HWMA/RCRA deficiencies, status of corrective actions, and completions of corrective actions. When a deficiency is identified, the appropriate corrective action and the urgency of the need are evaluated.

Deficiencies are tracked on a weekly basis until the deficiencies have been corrected. The Operations Manager, or designee, shall review all completed HWMA/RCRA inspection forms and the status of all unresolved deficiencies on a weekly basis. The review of the completed inspection forms will be done to ensure that the forms are accurately filled out and that all deficiencies are adequately identified. Conditions identified during the weekly reviews that are adverse to accuracy, completeness, or timeliness of deficiency corrective actions shall be immediately given to AMWTP Management (including the Environmental, Security, Safety, and Health Manager) for resolution. The AMWTP Environmental Manager, or designee, shall provide oversight on deficiency tracking and resolution to ensure that this process is properly implemented. If remedial actions cannot be completed within 21 calendar days of discovery (10 days of determination for any HWMA/RCRA deficiencies associated with secondary containment systems), the Operations Manager, or designee, shall take action to notify the Environmental, Security, Safety, and Health Manager, or designee, for review and determination of necessary notifications and/or other actions. When the deficiency has been corrected, the corrective action taken and date completed are to be entered on the inspection form or in association with the inspection form (e.g., attached to the inspection form).

F-2a(1) Types of Problems [IDAPA 58.01.05.008; 40 CFR 264.15(b)(3)]

Tables F-1 through F-11 identify the types of conditions evaluated during inspections. These inspection items are outlined in operating procedures or maintenance procedures that support the inspections. All HWMA/RCRA deficiencies noted during an inspection are corrected, a work request written, or the deficiency is recorded in the Operating Record. The date when the condition is corrected or repairs are made is recorded in the Operating Record.

F-2a(2) Frequency of Inspections [IDAPA 58.01.05.008; 40 CFR 264.15(b)(4) and 264.174]

The frequency of inspections is outlined in Tables F-1 through F-11. To ensure the safety of personnel and protection of the environment, the inspection frequencies vary according to operational need for the MWMUs and associated equipment. Inspection schedules are based on radiological and personnel safety concerns. These factors are discussed further in Section F-2b.

In addition to the inspections described above, various inspections may be required prior to, and at the start of, operation of various types of equipment.

F-2a(3) Inspection Records and Record Keeping [IDAPA 58.01.05.008; 40 CFR 264.15(d) and 264.73(b)(5)]

Inspection records are maintained as part of the Operating Record. See Attachment 1.A for additional information on the Operating Record. The inspection records include, at a minimum, the date and time of inspection, the name of the person performing the inspection, a notation of the observations made, and the date and nature of any repairs or remedial actions taken.

F-2a(4) Remedy Schedule [IDAPA 58.01.05.008; 40 CFR 264.15(c)]

Deterioration or malfunction of ventilation and/or containment systems may lead to an environmental or human hazard. The presence of and oversight by AMWTP personnel during operations ensures quick detection and mitigation of equipment deterioration and malfunction that could present a hazardous situation. Where a hazard is imminent or has already occurred, remedial action is taken immediately. Equipment is taken out of service, repairs are accomplished, and readiness inspections performed prior to the equipment being placed back into service. See Attachment 7 for further information.

F-2b Specific Process Inspection Requirements [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.15(b)(4), 264.174, and 270.14(b)(5)]

F-2b(1) Container Inspection [IDAPA 58.01.05.008; 40 CFR 264.15(b) and 264.174]

The containers and the container storage areas in the MWMUs are inspected, at least weekly, for leaks, spills, and container deterioration. Specific information on how inspections are performed in the various MWMUs is provided below.

Type II Modules

AMWTP personnel conduct a visual container inspection from the center aisle in WMF-634, looking down the aisle space between each row of containers. The inspector moves from row to row, examining approximately half the length of each aisle (approximately 25 ft). After walking the length of the center aisle, the inspector moves along the wall to the "back" of the module (south wall) to inspect the remaining half-lengths of each row (approximately 25 ft). The inspector walks through each aisle looking for signs of container leaks and deterioration as well as the condition of the pallets or risers. Additional inspections are conducted on containers, which are located on the north side of WMF-634 looking for similar leaks, spills, or container deterioration. Any HWMA/RCRA deficiencies detected during the inspections are reported to the appropriate AMWTP management personnel, and documented in the Operating Record. See Table F-1 for further information on container inspections in WMF-634.

The inspections of containers in the Type II Modules, WMF-628 through WMF-633, are performed on both the north and south sides of the buildings, as described for the inspections on the south side of WMF-634. See Tables F-3 for further information on container inspections in WMF-628 through WMF-633.

Type I Module and SWEPP

Visual inspection of containers in the Type I Module and SWEPP are conducted by the inspector walking around the outside circumference of the storage areas and looking down the aisle space between each row of containers. The inspector walks through each aisle looking for signs of container leaks and deterioration as well as the condition of the pallets or risers. See Table F-3 for further information on container inspections in the Type I Module and Table F-4 for further information on container inspections in SWEPP. Any HWMA/RCRA deficiencies detected during the inspection are reported to the appropriate AMWTP management personnel, and documented in the Operating Record.

WMF-636 Pad 2

Visual inspection of containers in WMF-636 Pad 2 is conducted by the inspector walking around the outside circumference of the storage areas. The inspector walks through each aisle looking for signs of container leaks and deterioration as well as the condition of the pallets or risers. See Table F-5 for further information on container inspections in WMF-636 Pad 2. Any HWMA/RCRA deficiencies detected during the inspection are reported to the appropriate AMWTP management personnel, and documented in the Operating Record.

AMWTP Outside Storage Area

Visual inspection of containers in the AMWTP Outside Storage Area is conducted by the inspector walking around the outside circumference of the storage areas. The inspector walks through each aisle looking for signs of container leaks and deterioration as well as the condition of the pallets or risers. See Table F-6 for further information on container inspections in the AMWTP Outside Storage Area. Any HWMA/RCRA deficiencies detected during the inspection are reported to the appropriate AMWTP management personnel, and documented in the Operating Record.

AMWTP Treatment Facility

AMWTP personnel conduct a visual inspection of containers in the storage areas of WMF-676. AMWTP personnel also conduct a visual inspection of all containers stored within treatment areas. See Attachment 1.H, Table D-3 for a list of storage and treatment areas in WMF-676. The inspector performs inspections, either visually or via the CCTV system, looking for signs of container leaks and deterioration, as well as inspecting the condition of the storage area. Containers are stored such that they are easily visible from all sides either manually by the inspector or via the CCTV system inspection methods. See Table F-7 for further information on container inspections in WMF-676. Any HWMA/RCRA deficiencies detected during the inspection are reported to the appropriate AMTWP management personnel, and documented in the Operating Record.

F-2b(8) Miscellaneous Unit Inspection [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.602, 270.14(b)(5), and 270.23(a)(2)]

The miscellaneous units located in WMF-676 are inspected, at least weekly, for leaks, spills, and secondary container system integrity deterioration. Specific information on how inspections are performed in the various WMF-676 miscellaneous units is provided below.

Box Lines/Hot Maintenance/Import-Export Glovebox

Routine visual inspections of the box lines hot maintenance area, and import/export glovebox may be conducted via observation windows or the CCTV system to limit the number of personnel entries into process areas. The box lines, hot maintenance area, and import/export glovebox are visually inspected for leaks, spills, or signs of physical damage that threatens the integrity of the secondary containment system, when MW is present. Inspection schedules are presented in Table F-8.

SCW Glovebox System

Routine visual inspections of the SCW glovebox system may be conducted via observation windows or the CCTV system. The SCW glovebox system is inspected for signs of leaks, spills, or signs of physical damage that threatens the integrity of the secondary containment system, when MW is present. Inspection schedules are presented in Table F-9.

Supercompactor

Routine visual inspections of the supercompactor may be conducted via observation windows or the CCTV system, limiting the number of personnel entries into process areas. The supercompactor and surrounding area are inspected for signs of leaks, spills, or signs of physical damage that threatens the integrity of the secondary containment system, when MW is present. Inspection schedules are presented in Table F-10.

Drum Repack System

Routine visual inspections of the drum repack system may be conducted via observation windows or the CCTV system, limiting the number of personnel entries into process areas. The drum repack system is inspected for signs of leaks, spills, or signs of physical damage that threatens the integrity of the secondary containment system, when MW is present. Inspection schedules are presented in Table F-11.

Table F-1. WMF-634 Inspection Program Summary

Item IDAPA 58.01.05.008 [40 CFR 264.15(b)(1)]	Frequency[a,b] IDAPA 58.01.05.008 [40 CFR 264.15(b)(4)]	Types of Problems IDAPA 58.01.05.008 [40 CFR 264.15(b)(3)]
Storage Areas		
Secondary Containment System Integrity	W	<u>Problem:</u> Cracks, gaps, or other degradation of floors, ramps, curbs, walls, and special coatings, which could compromise the integrity of the secondary containment system. Visually inspect the floor, including interior ramps, and curbs for evidence of significant cracks and gaps (i.e., $\geq$ 1/32 in.) that may compromise the integrity of the containment. Ensure there is no peeling coating, that curbs are in good condition, and that no liquid is present on the floor.
Spill Pallets/Pans	W	<u>Problem:</u> Cracks, gaps, or other degradation of spill pallets/pans, which could compromise the integrity of the secondary containment system. Liquid in spill containment system. Visually inspect the spill pallets/pans, or equivalent, for evidence of significant cracks and gaps that may compromise the integrity of the containment. Ensure that no liquid is present in the spill containment system.
Leaks/Spills	D/W	<u>Problem:</u> Spilled or leaking containers. Visually inspect the area for MW leaks and spills. Initiate corrective action, if needed. Inspect loading and unloading areas daily when in use. Inspect storage areas weekly.
Aisle Space[c]	W	<u>Problem:</u> Insufficient aisle space. Ensure a minimum of 3-ft aisle space is maintained between rows of containers and between the rows and all internal and external walls unless one side of a container resides against an interior/exterior wall or structure of the building. Ensure a minimum 20-ft center access aisle is maintained in the areas where “fast” assay is not being performed. Ensure a minimum 16-ft center access aisle is maintained in the areas where “fast” assay is being performed.
Container Integrity	W	<u>Problem:</u> Damaged or leaking containers and containers that are not closed. Visually inspect for any liquid present on or near the containers and for defective containers (e.g., metal containers that are visibly pitted or show signs of metal –fatigue; and SSOPs that are ripped or torn, or show signs of stress or strain) by visually scanning around the outside of each stack, and down the aisles.

Table F-1. WMF-634 Inspection Program Summary (continued)

Item IDAPA 58.01.05.008 [40 CFR 264.15(b)(1)]	Frequency[a,b] IDAPA 58.01.05.008 [40 CFR 264.15(b)(4)]	Types of Problems IDAPA 58.01.05.008 [40 CFR 264.15(b)(3)]
Storage Areas (Continued)		
Container Position	W	<u>Problem:</u> Containers may be improperly stored or positioned based on the storage configuration. Check that containers are positioned properly and properly located in the storage configuration. Dense pack configuration: • Drums are no more than 4 wide by 5 high by 22 long. • Boxes are no more than 4 wide by 4 high by 11 long. Row with one side of a container residing against an interior/exterior wall or structure of the building: • Boxes and drums are no more than 1 container wide by 1 container high by 10 containers long. Macroencapsulation containers: • Drums are no more than 2 wide by 2 high by 22 long. • Boxes are no more than 2 wide by 2 high by 11 long. Containers in SSOPs: • Containers in SSOPs are no more than 1 container high. Repaired containers: • Drums are no more than 2 wide by 2 high by 22 long. • Boxes are no more than 2 wide by 2 high by 11 long. Bag/plastic wrap containers: • Containers with rigid waste are no more than 4 wide by 5 high by 22 long. • Containers with non-rigid waste are no more than 4 wide by 1 high by 22 long. Containers identified as pyrophoric radionuclide waste: • Drums identified as pyrophoric radionuclide waste are no more than 2 wide by 2 high by 22 long. • Boxes identified as pyrophoric radionuclide waste are no more than 2 wide by 2 high by 11 long. TDOPs and TPAs: • TDOPs and TPAs are no more than 1 wide by 1 high.

Table F-1. WMF-634 Inspection Program Summary (continued)

Item IDAPA 58.01.05.008 [40 CFR 264.15(b)(1)]	Frequency[a, b] IDAPA 58.01.05.008 [40 CFR 264.15(b)(4)]	Types of Problems IDAPA 58.01.05.008 [40 CFR 264.15(b)(3)]
Treatment Areas		
Leaks/Spills	D	Problem: Spilled or leaking containers. Visually inspect for any liquids present in the treatment area, when treatment activities are occurring. Initiate corrective action if needed.
Safety and Emergency Equipment		
Spill Response Equipment[d]	M	Problem: Required spill response equipment/supplies missing from the spill kit. Check the tamper seal on the spill kit. If the spill kit has been opened since the last inspection, inventory the spill kit contents. Affix seal after inventory check/restocking.
Fire Extinguishers[d]	M[e]	Problem: Missing fire extinguisher, improper type of fire extinguisher, or inaccessible fire extinguisher. Ensure fire extinguishers are visible, are in the proper location, are the proper type, easily accessible, and that the fire extinguishers are adequately pressurized for use.
Fire Hazard Surveillance	M	Problem: Accumulation of flammable/combustible materials and the presence of ignition sources. Ensure all areas are free of uncontrolled accumulation of combustibles.
Fire Suppression Systems	A[e]	Problem: Fire suppression systems not operational. Ensure fire suppression systems (e.g., hydrants, fire hoses, sprinkler systems, and supporting equipment) are present and ready for operation.
Fire Detection Systems and Alarms	A[e]	Problem: Fire detection systems or alarms not operational. Ensure fire detection systems/alarms are ready for operation.
Manual Fire Alarms	A[e]	Problem: Inoperable manual fire alarm systems/equipment. Ensure manual fire alarms are ready for operation.
Emergency Communications Equipment	M	Problem: Emergency communications equipment not operational. Ensure that the telephone(s) are operational by checking for a dial tone.
Standby Generator	M	Problem: Generator is inoperable. Verify that the equipment is functioning properly. Verify fuel level.

Table F-1. WMF-634 Inspection Program Summary (continued)

Item IDAPA 58.01.05.008 [40 CFR 264.15(b)(1)]	Frequency[a, b] IDAPA 58.01.05.008 [40 CFR 264.15(b)(4)]	Types of Problems IDAPA 58.01.05.008 [40 CFR 264.15(b)(3)]
Security Devices[f]		
TSA Fence Area	M	Problem: Fence has been damaged/breached. Check TSA fence for condition, deterioration, and identify areas requiring repair.
TSA Fence and Gate Warning Signs	M	Problem: Fence and gate warning signs missing, not in proper location, not visible, or not in good condition. Check TSA fence and gate warning signs for the condition of the signs. Ensure signs are visible, in good condition, and verify the location of the signs.
TSA Fence Gates and Locks	M	Problem: Gates not operating properly. Gates or locks missing. Check TSA fence gates and locks for condition, deterioration, and identification of items requiring repair.
Door Entrances	M	Problem: Entrance warning signs missing, not in the proper location, not visible, or not in good condition. Verify that required warning signs are located in the vicinity of all doors leading into the operational areas of each MWMU and that the signs are in good condition, and are visible.
Monitoring Equipment		
Continuous Air Monitors (CAMs)	M/A	Problem: CAM is inoperable, not calibrated, filter integrity compromised, or pump inoperable. Conduct monthly CAM performance check. Perform an annual CAM calibration.
Operating and Structural Equipment		
External Structure	A	Problem: Significant precipitation accumulation and/or structure degradation. Inspect the outside areas of WMF-634, looking for significant precipitation accumulation, and inspecting the integrity of the outside of the structure.
AMWTP Drainage System[f]	Q	Problem: Accumulation of material that would affect effective operations of the AMWTP drainage system. Inspect the drainage systems including the fenced area of the drainage canal located within AMWTP area of control for materials that may cause blockage or prevent drainage.

a. D = Daily (each work day); W = Weekly; M = Monthly; Q = Quarterly; A = Annually.

b. Inspections are conducted only when MW is present.

c. Minimum aisle spacing requirements are excluding support beams and portable equipment.

d. Locations and type of equipment are identified in Table G-5 of Attachment 7.

e. Inspection frequencies determined by NFPA 10, 25, and/or 72.

f. The security devices and drainage system inspections identified on Table F-1 are applicable for all of the MWMUs addressed in this document. These inspection items are not reiterated on Tables F-2, F-3, F-4, F-5, F-6, and F-7.

Table F-2. Type II Module (WMF-628 – WMF-633) Inspection Program Summary

Item IDAPA 58.01.05.008 [40 CFR 264.15(b)(1)]	Frequency[a,b] IDAPA 58.01.05.008 [40 CFR 264.15(b)(4)]	Types of Problems IDAPA 58.01.05.008 [40 CFR 264.15(b)(3)]
Storage Areas		
Secondary Containment System Integrity	W	Problem: Cracks, gaps, or other degradation of floors, ramps, curbs, walls, and special coatings, which could compromise the integrity of the secondary containment system. Visually inspect the floor; including interior ramps, and curbs for evidence of significant cracks and gaps (i.e. $\geq$ 1/32 in.) that may compromise the integrity of the containment. Ensure there is no peeling coating, that curbs are in good condition, and that no liquid is present on the floor.
Spill Pallets/Pans	W	Problem: Cracks, gaps, or other degradation of spill pallets/pans, which could compromise the integrity of the secondary containment system. Liquid in spill containment system. Visually inspect the spill pallets/pans, or equivalent, for evidence of significant cracks and gaps that may compromise the integrity of the containment. Ensure that no liquid is present in the spill containment system.
Leaks/Spills	D/W	Problem: Spilled or leaking containers. Visually inspect the area for MW leaks and spills. Initiate corrective action, if needed. Inspect loading and unloading areas daily when in use. Inspect the storage areas weekly.
Aisle Space[c]	W	Problem: Insufficient aisle space. Ensure a minimum of 3-ft aisle space is maintained between rows of containers and between the rows and all internal and external walls unless one side of a container resides against an interior/exterior wall or structure of the building. Ensure a minimum 20-ft center access aisle is maintained in each module in the areas where “fast” assay is not being performed. Ensure a minimum 16-ft center access aisle is maintained in the areas where “fast” assay is being performed.
Container Integrity	W	Problem: Damaged or leaking containers and containers that are not closed. Visually inspect for any liquid present on or near the containers and for defective containers (e.g., metal containers that are visibly pitted or show signs of metal –fatigue; and SSOPs that are ripped or torn, or show signs of stress or strain) by visually scanning around the outside of each stack, and down the aisles.

Table F-2. Type II Module (WMF-628 – WMF-633) Inspection Program Summary (continued)

Item IDAPA 58.01.05.008 [40 CFR 264.15(b)(1)]	Frequency[a, b] IDAPA 58.01.05.008 [40 CFR 264.15(b)(4)]	Types of Problems IDAPA 58.01.05.008 [40 CFR 264.15(b)(3)]
Storage Areas (Continued)		
Container Position	W	<u>Problem:</u> Containers may be improperly stored or positioned based on the storage configuration. Check that containers are positioned properly and properly located in the storage configuration. Dense pack configuration: • Drums are no more than 4 wide by 5 high by 22 long. • Boxes are no more than 4 wide by 4 high by 11 long. Row with one side of a container residing against an interior/exterior wall or structure of the building: • Boxes and drums are no more than 1 container wide by 1 container high by 10 containers long. Macroencapsulation containers: • Drums are no more than 2 wide by 2 high by 22 long. • Boxes are no more than 2 wide by 2 high by 11 long. Containers in SSOPs: • Containers in SSOPs are no more than 1 container high. Repaired containers: • Drums are no more than 2 wide by 2 high by 22 long. • Boxes are no more than 2 wide by 2 high by 11 long. Bag/plastic wrap containers: • Containers with rigid waste are no more than 4 wide by 5 high by 22 long. • Containers with non-rigid waste are no more than 4 wide by 1 high by 22 long. Containers identified as pyrophoric radionuclide waste: • Drums identified as pyrophoric radionuclide waste are no more than 2 wide by 2 high by 22 long. • Boxes identified as pyrophoric radionuclide waste are no more than 2 wide by 2 high by 11 long. TDOPs and TPAs: • TDOPs and TPAs are no more than 1 wide by 1 high.

Table F-2. Type II Module (WMF-628 – WMF-633) Inspection Program Summary (continued)

Item IDAPA 58.01.05.008 [40 CFR 264.15(b)(1)]	Frequency[a,b] IDAPA 58.01.05.008 [40 CFR 264.15(b)(4)]	Types of Problems IDAPA 58.01.05.008 [40 CFR 264.15(b)(3)]
Treatment Areas		
Leaks/Spills	D	Problem: Spilled or leaking containers. Visually inspect for any liquids present in the treatment area(s), when treatment activities are occurring. Initiate corrective action if needed.
Safety and Emergency Equipment		
Spill Response Equipment[d]	M	Problem: Required spill response equipment/supplies missing from the spill kit. Check the tamper seal on the spill kit. If the spill kit has been opened since the last inspection, inventory the spill kit contents. Affix seal after inventory check/restocking.
Fire Extinguishers[d]	M[e]	Problem: Missing fire extinguisher, improper type of fire extinguisher, or inaccessible fire extinguisher. Ensure fire extinguishers are visible, are in the proper location, are the proper type, easily accessible, and that the fire extinguishers are adequately pressurized for use.
Fire Hazard Surveillance	M	Problem: Accumulation of flammable/combustible materials and the presence of ignition sources. Ensure all areas are free of uncontrolled accumulation of combustibles.
Fire Suppression Systems	A[e]	Problem: Fire suppression systems not operational. Ensure fire suppression systems (e.g., hydrants, fire hoses, sprinkler systems, and supporting equipment) are present and ready for operation.
Fire Detection Systems and Alarms	A[e]	Problem: Fire detection systems or alarms not operational. Ensure fire detection systems/alarms are ready for operation.
Manual Fire Alarms	A[e]	Problem: Inoperable manual fire alarm systems/equipment. Ensure manual fire alarms are ready for operation.
Emergency Communications Equipment	M	Problem: Emergency communications equipment not operational. Ensure that the telephone(s) are operational by checking for a dial tone.

Table F-2. Type II Module (WMF-628 – WMF-633) Inspection Program Summary (continued)

Item IDAPA 58.01.05.008 [40 CFR 264.15(b)(1)]	Frequency[a,b] IDAPA 58.01.05.008 [40 CFR 264.15(b)(4)]	Types of Problems IDAPA 58.01.05.008 [40 CFR 264.15(b)(3)]
Monitoring Equipment		
CAMs	M/A	Problem: CAM is inoperable, not calibrated, filter integrity compromised, or pump inoperable. Conduct monthly CAM performance check. Perform an annual CAM calibration.
Operating and Structural Equipment		
External Structure	A	Problem: Significant precipitation accumulation and/or structure degradation. Inspect the outside areas of WMF-628 through WMF-633, looking for significant precipitation accumulation, and inspecting the integrity of the outside of the structures.

a. D = Daily (each work day); W = Weekly; M = Monthly; A = Annually.

b. Inspections are conducted only when MW is present.

c. Minimum aisle spacing requirements are excluding support beams and portable equipment.

d. Locations and type of equipment are identified in Table G-5 of Attachment 7.

e. Inspection frequencies determined by NFPA 10, 25, and/or 72.

Table F-3. Type I Module Inspection Program Summary

Item IDAPA 58.01.05.008 [40 CFR 264.15(b)(1)]	Frequency[a,b] IDAPA 58.01.05.008 [40 CFR 264.15(b)(4)]	Types of Problems IDAPA 58.01.05.008 [40 CFR 264.15(b)(3)]
Storage Areas		
Secondary Containment System Integrity	W	Problem: Cracks, gaps, or other degradation of floors, ramps, curbs, walls, and special coatings, which could compromise the integrity of the secondary containment system. Visually inspect the floor, including interior ramps, and curbs for evidence of significant cracks and gaps (i.e., ≥ 1/32 in.) that may compromise the integrity of the containment. Ensure there is no peeling coating, that curbs are in good condition, and that no liquid is present on the floor.
Spill Pallets/Pans	W	Problem: Cracks, gaps, or other degradation of spill pallets/pans, which could compromise the integrity of the secondary containment system. Liquid in spill containment system. Visually inspect the spill pallets/pans, or equivalent, for evidence of significant cracks and gaps that may compromise the integrity of the containment. Ensure that no liquid is present in the spill containment system.
Leaks/Spills	D/W	Problem: Spilled or leaking containers. Visually inspect the area for MW leaks and spills. Initiate corrective action, if needed. Inspect loading and unloading areas daily when in use. Inspect storage areas weekly.
Aisle Space[c]	W	Problem: Insufficient aisle space. Ensure a minimum of 3-ft aisle space is maintained between the rows of containers and all interior and exterior walls unless one side of a container resides against an interior/exterior wall or structure of the building. Ensure a minimum 10-ft access aisle is maintained in the PAAA/WCRA.
Container Integrity	W	Problem: Damaged or leaking containers and containers that are not closed. Visually inspect for any liquid present on or near the containers and defective containers (e.g., metal containers that are visibly pitted or show signs of metal –fatigue; and SSOPs that are ripped or torn, or show signs of stress or strain) by visually scanning around the outside of each stack, and down the aisles.

Table F-3. Type I Module Inspection Program Summary (continued)

Item IDAPA 58.01.05.008 [40 CFR 264.15(b)(1)]	Frequency[a,b] IDAPA 58.01.05.008 [40 CFR 264.15(b)(4)]	Types of Problems IDAPA 58.01.05.008 [40 CFR 264.15(b)(3)]
Storage Areas (continued)		
Container Position	W	Problem: Containers may be improperly stored or positioned based on the storage configuration. Check that containers are positioned properly and properly located in the storage configuration. Dense pack configuration: • Drums are no more than 4 wide by 5 high by 30 long. • Boxes are no more than 4 wide by 4 high by 15 long. Row with one side of a container residing against an interior/exterior wall or structure of the building: • Boxes and drums are no more than 1 container wide by 1 container high by 10 containers long. Macroencapsulation containers: • Drums are no more than 2 wide by 2 high by 30 long. • Boxes are no more than 2 wide by 2 high by *15 long.* Containers in SSOPs: • Containers in SSOPs are no more than 1 container high. Repaired containers: • Drums are no more than 2 wide by 2 high by 30 long. • Boxes are no more than 2 wide by 2 high by 15 long. Bag/plastic wrap containers: • Containers with rigid waste are no more than 4 wide by 5 high by 30 long. • Containers with non-rigid waste are no more than 4 wide by 1 high by 30 long. Containers identified as pyrophoric radionuclide waste: • Drums identified as pyrophoric radionuclide waste are no more than 2 wide by 2 high by 30 long. • Boxes identified as pyrophoric radionuclide waste are no more than 2 wide by 2 high by 15 long. TDOPs and TPAs: • TDOPs and TPAs are no more than 1 wide by 1 high.

Table F-3. Type I Module Inspection Program Summary (continued)

Item IDAPA 58.01.05.008 [40 CFR 264.15(b)(1)]	Frequency[a,b] IDAPA 58.01.05.008 [40 CFR 264.15(b)(4)]	Types of Problems IDAPA 58.01.05.008 [40 CFR 264.15(b)(3)]
Treatment Areas		
Leaks/Spills	D	Problem: Spilled or leaking containers. Visually inspect for any liquids present in the treatment areas, when treatment activities are occurring. Initiate corrective action if needed.
Safety and Emergency Equipment		
Spill Response Equipment[d]	M	Problem: Required spill response equipment/supplies missing from the spill kit. Check the tamper seal on the spill kit. If the spill kit has been opened since the last inspection, inventory the spill kit contents. Affix seal after inventory check/restocking.
Fire Extinguishers[d]	M[e]	Problem: Missing fire extinguisher, improper type of fire extinguisher, or inaccessible fire extinguisher. Ensure fire extinguishers are visible, are in the proper location, are the proper type, easily accessible, and that the fire extinguishers are adequately pressurized for use.
Fire Hazard Surveillance	M	Problem: Accumulation of flammable/combustible materials and the presence of ignition sources. Ensure all areas are free of uncontrolled accumulation of combustibles.
Fire Suppression Systems	A[e]	Problem: Fire suppression systems not operational. Ensure fire suppression systems (e.g., hydrants, fire hoses, sprinkler systems, and supporting equipment) are present and ready for operation.
Fire Detection Systems and Alarms	A[e]	Problem: Fire detection systems or alarms not operational. Ensure fire detection systems/alarms are ready for operation.
Manual Fire Alarms	A[e]	Problem: Inoperable manual fire alarm systems/equipment. Ensure manual fire alarms are ready for operation.
Emergency Communications Equipment	M	Problem: Emergency communications equipment not operational. Ensure that the telephone(s) are operational by checking for a dial tone.
Standby Generator	M	Problem: Generator is inoperable. Verify that the equipment is functioning properly. Verify fuel level.

Table F-3. Type I Module Inspection Program Summary (continued)

Item IDAPA 58.01.05.008 [40 CFR 264.15(b)(1)]	Frequency[a,b] IDAPA 58.01.05.008 [40 CFR 264.15(b)(4)]	Types of Problems IDAPA 58.01.05.008 [40 CFR 264.15(b)(3)]
Monitoring Equipment		
CAMs	M/A	Problem: CAM is inoperable, not calibrated, filter integrity compromised, or pump inoperable. Conduct monthly CAM performance check. Perform an annual CAM calibration.
Operating and Structural Equipment		
External Structure	A	Problem: Significant precipitation accumulation and/or structure degradation. Inspect the outside areas of WMF-635, looking for significant precipitation accumulation, and inspecting the integrity of the outside of the structure.

a. D = Daily (each work day); W = Weekly; M = Monthly; A = Annually.

b. Inspections are conducted only when MW is present.

c. Minimum aisle spacing requirements are excluding support beams and portable equipment.

d. Locations and type of equipment are identified in Table G-5 of Attachment 7.

e. Inspection frequencies determined by NFPA 10, 25, and/or 72.

Table F-4. SWEPP Inspection Program Summary

Item IDAPA 58.01.05.008 [40 CFR 264.15(b)(1)]	Frequency[a,b] IDAPA 58.01.05.008 [40 CFR 264.15(b)(4)]	Types of Problems IDAPA 58.01.05.008 [40 CFR 264.15(b)(3)]
Storage Areas		
Secondary Containment System Integrity	W	Problem: Cracks, gaps, or other degradation of floors, ramps, curbs, walls, and special coatings, which could compromise the integrity of the secondary containment system. Visually inspect the floor; including interior ramps, and curbs for evidence of significant cracks and gaps (i.e. ≥ 1/32 in.) that may compromise the integrity of the containment. Ensure there is no peeling coating, that curbs are in good condition, and that no liquid is present on the floor.
Spill Pallets/Pans	W	Problem: Cracks, gaps, or other degradation of spill pallets/pans, which could compromise the integrity of the secondary containment system. Liquid in spill containment system. Visually inspect the spill pallets/pans, or equivalent, for evidence of significant cracks and gaps that may compromise the integrity of the containment. Ensure that no liquid is present in the spill containment system.
Leaks/Spills	D/W	Problem: Spilled or leaking containers. Visually inspect the area for MW leaks and spills. Initiate corrective action, if needed. Inspect loading and unloading areas daily when in use. Inspect the storage areas weekly.
Aisle Space[c]	W	Problem: Insufficient aisle space. In the SSA, ensure a minimum of 3-ft aisle space is maintained between rows of containers and, a 2-ft aisle space is maintained between rows of containers and internal and external walls unless one side of a container resides against an interior/exterior wall or structure of the building. In SWEPP Staging Areas 1 and 2 and the north and south loading/unloading areas, ensure that a 3-ft aisle space is maintained between rows of containers and internal and external walls.
Container Integrity	W	Problem: Damaged or leaking containers and containers that are not closed. Visually inspect for any liquid present on or near the containers and for defective containers (e.g., metal containers that are visibly pitted or show signs of metal –fatigue; and SSOPs that are ripped or torn, or show signs of stress or strain) by visually scanning around the outside of each stack, and down the aisles.

Table F-4. SWEPP Inspection Program Summary (continued)

Item IDAPA 58.01.05.008 [40 CFR 264.15(b)(1)]	Frequency[a,b] IDAPA 58.01.05.008 [40 CFR 264.15(b)(4)]	Types of Problems IDAPA 58.01.05.008 [40 CFR 264.15(b)(3)]
Storage Areas (Continued)		
Container Position	W	<u>Problem:</u> Containers may be improperly stored or positioned based on the storage configuration. Check that containers are positioned properly and properly located in the storage configuration. Dense pack configuration: • Containers are no more than 4 wide by 3 high by ‘n’ long, allowing for appropriate aisle space. Row with one side of a container residing against an interior/exterior wall or structure of the building: • Containers are no more than 1 container wide by 1 container high by 10 containers long. Macroencapsulation containers: • Containers are no more than 2 wide by 2 high by ‘n’ containers long, allowing for appropriate aisle space. Containers in SSOPs: • Containers in SSOPs are no more than 1 container high. Repaired containers: • Containers are no more than 2 wide by 2 high by ‘n’ containers long allowing for appropriate aisle space. Bag/plastic wrap containers: • Containers with rigid waste are no more than 4 wide by 5 high by ‘n’ containers long, allowing for appropriate aisle space. • Containers with non-rigid waste are no more than 4 wide by 1 high by ‘n’ long, allowing for appropriate aisle space. Containers identified as pyrophoric radionuclide waste: • Drums identified as pyrophoric radionuclide waste are no more than 2 wide by 2 high by ‘n’ long, allowing for appropriate aisle space. • Boxes identified as pyrophoric radionuclide waste are no more than 2 wide by 2 high by ‘n’ long, allowing for appropriate aisle space. TDOPs and TPAs: • TDOPs and TPAs are no more than 1 wide by 1 high.

Table F-4. SWEPP Inspection Program Summary (continued)

Item IDAPA 58.01.05.008 [40 CFR 264.15(b)(1)]	Frequency[a,b] IDAPA 58.01.05.008 [40 CFR 264.15(b)(4)]	Types of Problems IDAPA 58.01.05.008 [40 CFR 264.15(b)(3)]
Safety and Emergency Equipment		
Spill Response Equipment[d]	M	Problem: Required spill response equipment/supplies missing from the spill kit. Check the tamper seal on the spill kit. If the spill kit has been opened since the last inspection, inventory the spill kit contents. Affix seal after inventory check/restocking.
Fire Extinguishers[d]	M[e]	Problem: Missing fire extinguisher, improper type of fire extinguisher, or inaccessible fire extinguisher. Ensure fire extinguishers are visible, are in the proper location, are the proper type, easily accessible, and that the fire extinguishers are adequately pressurized for use.
Fire Hazard Surveillance	M	Problem: Accumulation of flammable/combustible materials and the presence of ignition sources. Ensure all areas are free of uncontrolled accumulation of combustibles.
Fire Suppression Systems	A[e]	Problem: Fire suppression systems not operational. Ensure fire suppression systems (e.g., hydrants, fire hoses, sprinkler systems, and supporting equipment) are present and ready for operation.
Fire Detection Systems and Alarms	A[e]	Problem: Fire detection systems or alarms not operational. Ensure fire detection systems/alarms are ready for operation.
Manual Fire Alarms	A[e]	Problem: Inoperable manual fire alarm systems/equipment. Ensure manual fire alarms are ready for operation.
Emergency Communications Equipment	M	Problem: Emergency communications equipment not operational. Ensure that the telephone(s) are operational by checking for a dial tone.
Standby Generator	M	Problem: Generator is inoperable. Verify that the equipment is functioning properly. Verify fuel level.
Monitoring Equipment		
CAMs	M/A	Problem: CAM is inoperable, not calibrated, filter integrity compromised, or pump inoperable. Conduct monthly CAM performance check. Perform an annual CAM calibration.

Table F-4. SWEPP Inspection Program Summary (continued)

Item IDAPA 58.01.05.008 [40 CFR 264.15(b)(1)]	Frequency[a,b] IDAPA 58.01.05.008 [40 CFR 264.15(b)(4)]	Types of Problems IDAPA 58.01.05.008 [40 CFR 264.15(b)(3)]
Operating and Structural Equipment		
External Structure	A	Problem: Significant precipitation accumulation and/or structure degradation. Inspect the outside areas of WMF-610, looking for significant precipitation accumulation, and inspecting the integrity of the outside of the structure.

a. D = Daily (each work day); W = Weekly; M = Monthly; A = Annually.

b. Inspections are conducted only when MW is present.

c. Minimum aisle spacing requirements are excluding support beams and portable equipment.

d. Locations and type of equipment are identified in Table G-5 of Attachment 7.

e. Inspection frequencies determined by NFPA 10, 25, and/or 72.

Table F-5. WMF-636 Pad 2 Inspection Program Summary

Item IDAPA 58.01.05.008 [40 CFR 264.15(b)(1)]	Frequency[a,b] IDAPA 58.01.05.008 [40 CFR 264.15(b)(4)]	Types of Problems IDAPA 58.01.05.008 [40 CFR 264.15(b)(3)]
Storage Areas		
Spill Pallets/Pans	W	Problem: Cracks, gaps, or other degradation of spill pallets/pans, which could compromise the integrity of the secondary containment system. Liquid in spill containment system. Visually inspect the spill pallets/pans, or equivalent, for evidence of significant cracks and gaps that may compromise the integrity of the containment. Ensure that no liquid is present in the spill containment system.
Leaks/Spills	D/W	Problem: Spilled or leaking containers. Visually inspect the area for MW leaks and spills. Initiate corrective action, if needed. Inspect loading and unloading areas daily when in use. Inspect storage areas weekly.
Aisle Space[c]	W	Problem: Insufficient aisle space. Ensure a minimum of 3-ft aisle space is maintained between rows of containers and between the rows and all internal and external walls unless one side of a container resides against an interior/exterior wall or structure of the building. Ensure a minimum 20-ft center access aisle is maintained in the areas where “fast” assay is not being performed. Ensure a minimum 16-ft center access aisle is maintained in the areas where “fast” assay is being performed.
Container Integrity/Accumulated Liquids	W	Problem: Damaged or leaking containers and containers that are not closed. Accumulated liquids on top of containers. Visually inspect for any liquid present on or near the containers and for defective containers (e.g., metal containers that are visibly pitted or show signs of metal –fatigue; and SSOPs that are ripped or torn, or show signs of stress or strain) by visually scanning around the outside of each stack, and down the aisles. If water resulting from leaks in the roof of the WMF-636 building is found on or near a row of containers, then inspect the top of containers within the row through the use of equipment (e.g., mirrors on extension rod, portable stairs, etc.) for signs of standing water. If standing water is present, then visually inspect the top of the container for signs of damage (e.g., corrosion, metal fatigue, etc.) from the water.

Table F-5. WMF-636 Pad 2 Inspection Program Summary (continued)

Item IDAPA 58.01.05.008 [40 CFR 264.15(b)(1)]	Frequency[a, b] IDAPA 58.01.05.008 [40 CFR 264.15(b)(4)]	Types of Problems IDAPA 58.01.05.008 [40 CFR 264.15(b)(3)]
Storage Areas (Continued)		
Container Position	W	Problem: Containers may be improperly stored or positioned based on the storage configuration. Check that containers are positioned properly and properly located in the storage configuration. Dense pack configuration: • Drums are no more than 4 wide by 5 high by 40 long. • Boxes are no more than 4 wide by 4 high by 20 long. Row with one side of a container residing against an interior/exterior wall or structure of the building: • Boxes and drums are no more than 1 container wide by 1 container high by 10 containers long. Macroencapsulation containers: • Drums are no more than 2 wide by 2 high by 40 long. • Boxes are no more than 2 wide by 2 high by 20 long. Containers in SSOPs: • Containers in SSOPs are no more than 1 container high. Repaired containers: • Drums are no more than 2 wide by 2 high by 40 long. • Boxes are no more than 2 wide by 2 high by 20 long. Bag/plastic wrap containers: • Containers with rigid waste are no more than 4 wide by 5 high by 40 long. • Containers with non-rigid waste are no more than 4 wide by 1 high by 40 long. Containers identified as pyrophoric radionuclide waste: • Drums identified as pyrophoric radionuclide waste are no more than 2 wide by 2 high by 40 long. • Boxes identified as pyrophoric radionuclide waste are no more than 2 wide by 2 high by 20 long. TDOPs and TPAs: • TDOPs and TPAs are no more than 1 wide by 1 high.

Table F-5. WMF-636 Pad 2 Inspection Program Summary (continued)

Item IDAPA 58.01.05.008 [40 CFR 264.15(b)(1)]	Frequency[a,b] IDAPA 58.01.05.008 [40 CFR 264.15(b)(4)]	Types of Problems IDAPA 58.01.05.008 [40 CFR 264.15(b)(3)]
Safety and Emergency Equipment		
Spill Response Equipment[d]	M	Problem: Required spill response equipment/supplies missing from the spill kit. Check the tamper seal on the spill kit. If the spill kit has been opened since the last inspection, inventory the spill kit contents. Affix seal after inventory check/restocking.
Fire Extinguishers[d]	M[e]	Problem: Missing fire extinguisher, improper type of fire extinguisher, or inaccessible fire extinguisher. Ensure fire extinguishers are visible, are in the proper location, are the proper type, easily accessible, and that the fire extinguishers are adequately pressurized for use.
Fire Hazard Surveillance	M	Problem: Accumulation of flammable/combustible materials and the presence of ignition sources. Ensure all areas are free of uncontrolled accumulation of combustibles.
Fire Suppression Systems	A[e]	Problem: Fire suppression systems not operational. Ensure fire suppression systems (e.g., hydrants, fire hoses, sprinkler systems, and supporting equipment) are present and ready for operation.
Fire Detection Systems and Alarms	A[e]	Problem: Fire detection systems or alarms not operational. Ensure fire detection systems/alarms are ready for operation.
Manual Fire Alarms	A[e]	Problem: Inoperable manual fire alarm systems/equipment. Ensure manual fire alarms are ready for operation.
Standby Generator	M	Problem: Generator is inoperable. Verify that the equipment is functioning properly. Verify fuel level.
Monitoring Equipment		
CAMs	M/A	Problem: CAM is inoperable, not calibrated, filter integrity compromised, or pump inoperable. Conduct monthly CAM performance check. Perform an annual CAM calibration.

Table F-5. WMF-636 Pad 2 Inspection Program Summary (continued)

Item IDAPA 58.01.05.008 [40 CFR 264.15(b)(1)]	Frequency[a,b] IDAPA 58.01.05.008 [40 CFR 264.15(b)(4)]	Types of Problems IDAPA 58.01.05.008 [40 CFR 264.15(b)(3)]
Operating and Structural Equipment		
External Structure	A	Problem: Significant precipitation accumulation and/or structure degradation. Inspect the outside areas of the WMF-636 Pad 2 building, looking for significant precipitation accumulation, and inspecting the integrity of the outside of the structure.

a. D = Daily (each work day); W = Weekly; M = Monthly; A = Annually.

b. Inspections are conducted only when MW is present.

c. Minimum aisle spacing requirements are excluding support beams and portable equipment.

d. Locations and type of equipment are identified in Table G-5 of Attachment 7.

e. Inspection frequencies determined by NFPA 10, 25, and/or 72.

Table F-6. AMWTP Outside Storage Area Program Summary

Item IDAPA 58.01.05.008 [40 CFR 264.15(b)(1)]	Frequency[a,b] IDAPA 58.01.05.008 [40 CFR 264.15(b)(4)]	Types of Problems IDAPA 58.01.05.008 [40 CFR 264.15(b)(3)]
Storage Areas		
Waste Type Stored	W	<u>Problem:</u> Container with free liquids. Ensure that all containers stored in the area do not contain any free liquids, unless stored within a TRUPACT container. Containers within a TRUPACT container may contain up to 1% free liquid by volume.
Leaks/Spills	D/W	<u>Problem:</u> Spilled or leaking containers. Visually inspect the area for MW leaks and spills. Initiate corrective action, if needed. Inspect loading and unloading areas daily when in use. Inspect storage areas weekly.
Aisle Space[c]	D/W	<u>Problem:</u> Insufficient aisle space. Inadequate aisle space due to accumulation of debris and snow. Ensure the following aisle spacing requirements are met: • A minimum of 3-ft aisle space is maintained between rows of containers and/or trailers loaded with MW containers. • A minimum of 5-ft is maintained between rows of containers or loaded trailers with MW containers and the bollards surrounding the fire hydrant and fire hydrant control valve. • Containers and trailers loaded with MW containers are not stored within the 20-ft perimeter access road on the west and north sides of the AMWTP Outside Storage Area. • A minimum of 50-ft is maintained between the eastern row of containers or trailers loaded with MW containers and the western exterior wall of WMF-636 Pad 1. Ensure weekly that all aisle spaces are easily accessible and sufficiently cleared of accumulated materials (e.g., tumbleweeds, snow, miscellaneous debris, etc.) such that access to containers for inspections and emergencies are not impaired. Ensure daily during periods of heavy snow fall or drifting conditions that access to containers for inspections and emergencies are not impaired. Initiate corrective action, as required.

Table F-6. AMWTP Outside Storage Area Program Summary (continued)

Item IDAPA 58.01.05.008 [40 CFR 264.15(b)(1)]	Frequency[a, b] IDAPA 58.01.05.008 [40 CFR 264.15(b)(4)]	Types of Problems IDAPA 58.01.05.008 [40 CFR 264.15(b)(3)]
Storage Areas (Continued)		
Container Integrity/ Accumulated Liquids	D/W	Problem: Damaged or leaking containers and containers that are not closed. Accumulated liquids on top of containers. Visually inspect for any liquid present on or near the container and defective, visibly pitted, or metal-fatigued containers by scanning around the outside of each stack, and down the aisles. Inspect weekly for signs of container degradation due to weather conditions (e.g., rain, snow) from outside storage. Inspect daily, and remove snow as necessary, during periods of heavy snow fall or drifting conditions. Initiate corrective action, as required.
Container Position	W	Problem: Containers may be improperly stored or positioned based on the storage configuration. Check that containers are positioned properly and properly located in the storage configuration. Container storage configuration: • Drums are no more than 2 wide by 3 high by 38 long. • Boxes are no more than 2 wide by 3 high by 19 long. Macroencapsulation containers: • Drums are no more than 2 wide by 2 high by 38 long. • Boxes are no more than 2 wide by 2 high by 19 long. Loaded Trailer with MW Containers • No more than 6 trailers loaded with MW containers shall be present in the AMWTP Outside Storage Area at any time. TDOPs and TPAs: • TDOPs and TPAs are no more than 1 wide by 1 high.
Safety and Emergency Equipment		
Fire Extinguishers[d]	M[e]	Problem: Missing fire extinguisher, improper type of fire extinguisher, or inaccessible fire extinguisher. Ensure fire extinguishers are visible, are in the proper location, are the proper type, easily accessible, and that the fire extinguishers are adequately pressurized for use.

Table F-6. AMWTP Outside Storage Area Program Summary (continued)

Item IDAPA 58.01.05.008 [40 CFR 264.15(b)(1)]	Frequency[a, b] IDAPA 58.01.05.008 [40 CFR 264.15(b)(4)]	Types of Problems IDAPA 58.01.05.008 [40 CFR 264.15(b)(3)]
Safety and Emergency Equipment (continued)		
Fire Hazard Surveillance	M	Problem: Accumulation of flammable/combustible materials and the presence of ignition sources. Ensure all areas within the AMWTP Outside Storage Area are free of uncontrolled accumulation of combustibles.

a. D = Daily (each work day); W = Weekly; M = Monthly.

b. Inspections are conducted only when MW is present.

c. Minimum aisle spacing requirements exclude portable equipment.

d. Locations and type of equipment are identified in Table G-5 of Attachment 7.

e. Inspection frequencies determined by NFPA 10, 25, and/or 72.

Table F-7. WMF-676 General Facility/Storage Areas Inspection Summary

Item **IDAPA 58.01.05.008** **40 CFR 264.15(b)(1)**	**Frequency[a,b]** **IDAPA 58.01.05.008** **40 CFR 264.15(b)(4)**	**Types of Problems** **IDAPA 58.01.05.008** **40 CFR 264.15(b)(3)**
Storage/Treatment Areas		
Secondary Containment System Integrity	W	Problem: Cracks, gaps, or other degradation of floors, ramps, curbs, walls, and special coatings, which could compromise the integrity of the secondary containment system. Manually, or using CCTV, visually inspect the secondary containment system for evidence of significant cracks and gaps (i.e. $\geq$ 1/32 in.) that may compromise the integrity of the containment. Ensure there is no peeling or excessive damage of the coating and that no liquid is present.
Spill Pallets/Pans	W	Problem: Cracks, gaps, or other damage that would compromise the integrity of the secondary containment system. Liquid in spill containment system. Visually inspect the spill pallets/pans, or equivalent, for evidence of significant cracks and gaps that may compromise the integrity of the containment. Ensure that no liquid is present in the spill containment system.
Leaks/Spills	D/W	Problem: Spilled or leaking containers. Manually, or using CCTV, visually inspect the area for MW leaks and spills. Initiate corrective action, if needed. Inspect loading and unloading areas daily when in use. Inspect storage areas weekly.
CCS/Maintenance Area (Rooms 147/147D) and Drum Assay Conveyor Area (Room 126C) Container with Poor Integrity	D	Problem: Spilled or leaking containers. Manually, or using CCTV, visually inspect containers identified with poor integrity in the CCS/Maintenance Area and the Drum Assay Conveyor Area for leaks and spills. Initiate corrective action, if needed. Verify that containers identified with poor integrity do not reside in the CCS/Maintenance Area or the Drum Assay Conveyor Area for longer than seven (7) calendar days.
Container Integrity	W	Problem: Damaged or leaking containers and containers that are not closed. Manually, or using CCTV, visually inspect for any liquid present on or near the containers and for defective containers (e.g., metal containers that are visibly pitted or show signs of metal-fatigue; and SSOPs that are ripped or torn, or show signs of stress or strain).

Table F-7. WMF-676 General Facility/Storage Areas Inspection Summary (continued)

Item IDAPA 58.01.05.008 40 CFR 264.15(b)(1)	Frequency[a,b] IDAPA 58.01.05.008 40 CFR 264.15(b)(4)	Types of Problems IDAPA 58.01.05.008 40 CFR 264.15(b)(3)
Storage/Treatment Areas (continued)		
Container Position	W	Problem: Containers may be improperly stored or positioned based on the storage configuration. Manually, or using CCTV, visually verify containers are properly located in the storage area. Verify that rows of containers are no more than two (2) containers wide, two (2) containers high, by up to 'n' in length, allowing for aisle space requirements given that no container within the row resides against a wall of WMF-676 or that rows of containers are no more than one (1) container wide, two (2) containers high, by up to 'n' in length, allowing for aisle space requirements, given that one side of a container resides against a wall of WMF-676. Containers in SSOPs shall not be stored more than one (1) container high.
Aisle Space [c]	W	Problem: Insufficient aisle space. Ensure a minimum of 2-ft aisle space is maintained between rows of containers and all interior and exterior walls. If a row of containers is only one (1) container wide, then one side of the row may reside against and interior or exterior wall.
Safety and Emergency Equipment		
Spill Response Equipment[d]	M	Problem: Required spill response equipment/supplies missing from the spill kit. Check the tamper seal on the spill kit. If the spill kit has been opened since the last inspection, inventory the spill kit contents. Affix seal after inventory check/restocking.
Fire Extinguishers[d]	M[e]	Problem: Missing fire extinguisher, improper type of fire extinguisher, or inaccessible fire extinguisher. Ensure fire extinguishers are visible, are in the proper location, are the proper type, easily accessible, and that the fire extinguishers are adequately pressurized for use.
Fire Hazard Surveillance	M	Problem: Accumulation of flammable/combustible materials and the presence of ignition sources. Ensure all areas are free of uncontrolled accumulation of combustibles.
Fire Suppression Systems	A[e]	Problem: Fire suppression systems not operational. Ensure fire suppression systems (e.g., hydrants, fire hoses, sprinkler systems, and supporting equipment) are present and ready for operation.

Table F-7. WMF-676 General Facility/Storage Areas Inspection Summary (continued)

Item IDAPA 58.01.05.008 40 CFR 264.15(b)(1)	Frequency[a,b] IDAPA 58.01.05.008 40 CFR 264.15(b)(4)	Types of Problems IDAPA 58.01.05.008 40 CFR 264.15(b)(3)
Safety and Emergency Equipment (continued)		
Fire Detection Systems and Alarms	A[e]	Problem: Fire detection systems or alarms not operational. Ensure fire detection systems/alarms are ready for operation.
Manual Fire Alarms	A[e]	Problem: Inoperable manual fire alarm systems/equipment. Ensure manual fire alarms are ready for operation.
Emergency Communications Equipment	M	Problem: Emergency communication equipment not operational. Ensure that the designated emergency telephone(s) are operational by checking for a dial tone.
Standby Generator	M	Problem: Generator is inoperable. Verify that the generator is functioning properly. Verify fuel level.
Operating and Structural Equipment		
External Structure	A	Problem: Significant precipitation accumulation and/or structure degradation. Inspect the outside areas of WMF-676, looking for significant precipitation accumulation, and inspecting the integrity of the outside of the structure.

a. D = Daily; W = Weekly; M = Monthly;A = Annually.

b. Inspections are conducted only when MW is present.

c. Minimum aisle spacing requirements are excluding support beams and portable equipment.

d. Locations and type of equipment are identified in Table G-5 of Attachment 7.

e. Inspection frequencies determined by NFPA 10, 25, and/or 72.

Table F-8. Box Line Inspection Program Summary[a]

Item IDAPA 58.01.05.008 40 CFR 264.15(b)(1)	Frequency[b,c] IDAPA 58.01.05.008 40 CFR 264.15(b)(4)	Types of Problems IDAPA 58.01.05.008 40 CFR 264.15(b)(3)
Secondary Containment System		
Secondary Containment System Integrity	W	Problem: Cracks, gaps, or other damage that would compromise the integrity of the secondary containment system. Manually, or using CCTV, visually inspect the secondary containment system for evidence of significant cracks and gaps (i.e. $\geq$ 1/32 in.) that may compromise the integrity of the containment. Ensure there is no peeling or excessive damage of the coating and that no liquid is present.
Leaks/Spills	W	Problem: Spilled or leaking containers. Manually, or using CCTV, visually inspect the area for leaks and spills. Initiate corrective action, if needed.
Hot Maintenance		
Leaks/Spills	D	Problems: Leaking or spilled containers. Manually, or using CCTV, visually inspect the area for leaks and spills. Initiate corrective action, if needed.
Import/Export Glovebox		
Leaks/Spills	D	Problems: Leaking or spilled containers. Manually, or using CCTV, visually inspect the area for leaks and spills. Initiate corrective action, if needed.
Safety and Emergency Equipment		
CO_2 Fire Suppression System	M [d]	Problem: Fire suppression system not operational. Ensure fire suppression system is ready for operation.
CO_2 Fire Suppression System Cylinders	A [d]	Problem: CO_2 cylinders not full. Ensure CO2 cylinders are full.
CO2 Fire Suppression System Hoses	5 years [d]	Problem: CO_2 hoses cracked or degraded that would compromise the fire suppression system. Manually, or using CCTV, visually inspect the CO_2 hoses for cracks and degradation. Initiate corrective action, if needed.

Table F-8. Box Line Inspection Program Summary[a] (continued)

Item IDAPA 58.01.05.008 40 CFR 264.15(b)(1)	Frequency[b,c] IDAPA 58.01.05.008 40 CFR 264.15(b)(4)	Types of Problems IDAPA 58.01.05.008 40 CFR 264.15(b)(3)
Equipment		
Box Line Sorting Areas: • Box line size reduction area, • East and west sort trough, • Off-line sorting trough, • South box line, and • Waste export stations.	D	Problem: Presence of spilled liquids. Visually inspect via CCTV and/or observation windows for spilled liquids.
	W	Problem: Damage to structures threatening integrity of the system/equipment. Visually inspect (via CCTV and/or observation windows) structures for signs of damage or deterioration threatening integrity.
	Between incompatible waste streams	Problem: Residual waste. Inspect area for residual waste prior to accepting waste from an incompatible waste stream.
Gloveboxes/Gloveports including the venturi airlock glovebox, the tool/prohibited waste bag/bagless transfer station, and the import/export glovebox.	Q	Problem: Damage to seals threatening integrity. Visually inspect glovebox seals (e.g., gloves, metal panels over gloveports) for signs of damage threatening integrity. Seals will be inspected for conditions that may impact usability or create unacceptable risk of breakthrough.
	Q	Problem: Damaged gloveport seals threatening integrity. Visually inspect gloveport seals for damage threatening integrity.
	Between incompatible waste streams	Problem: Residual waste. Inspect for residual waste prior to accepting waste from an incompatible waste steam.

a. Inspections identified are in addition to the general inspections listed in Table F-7.

b. D = Daily; W = Weekly; Q = Quarterly; A = Annual.

c. Inspections are conducted only when MW is present.

d. Inspection frequencies for CO2 system determined by NFPA 12.

Table F-9. SCW Glovebox System Inspection Program Summary[a]

Item IDAPA 58.01.05.008 40 CFR 264.15(b)(1)	Frequency[b,c] IDAPA 58.01.05.008 40 CFR 264.15(b)(4)	Types of Problems IDAPA 58.01.05.008 40 CFR 264.15(b)(3)
Secondary Containment System		
Secondary Containment System Integrity	W	Problem: Cracks, gaps, or other damage that would compromise the integrity of the secondary containment system. Manually, or using CCTV, visually inspect the secondary containment system for evidence of significant cracks and gaps (i.e. $\geq$ 1/32 in.) that may compromise the integrity of the containment. Ensure there is no peeling or excessive damage of the coating and that no liquid is present.
Leaks/Spills	W	Problem: Spilled or leaking containers. Manually, or using CCTV, visually inspect the area for leaks and spills. Initiate corrective action, if needed.
Equipment		
SCW Gloveboxes: • Transfer glovebox, • Treatment glovebox, • Container-in-container glovebox, and • Sampling glovebox.	D	Problem: Presence of spilled liquids. Visually inspect via CCTV and/or observation windows for spilled liquids.
	W	Problem: Damage to structures, threatening integrity of the system/equipment. Visually inspect (via CCTV and/or observation windows) for signs of damage or deterioration threatening integrity.
	Q	Problem: Damage to seals, threatening integrity. Visually inspect glovebox seals (e.g., gloves, metal panels over gloveports) for signs of damage threatening integrity. Seals will be inspected for conditions that may impact usability or create unacceptable risk of breakthrough.
	Q	Problem: Damaged gloveport seals threatening integrity. Visually inspect gloveport seals for damage, threatening integrity.

Table F-9. SCW Glovebox System Inspection Program Summary[a] (continued)

Item IDAPA 58.01.05.008 40 CFR 264.15(b)(1)	Frequency[b,c] IDAPA 58.01.05.008 40 CFR 264.15(b)(4)	Types of Problems IDAPA 58.01.05.008 40 CFR 264.15(b)(3)
Equipment (continued)		
SCW Gloveboxes (continued):	Between incompatible waste streams	Problem: Residual waste. Inspect for residual waste prior to accepting waste from an incompatible waste stream.

a. Inspections identified are in addition to the general inspections listed in Table F-7.

b. D = Daily; W = Weekly; Q = Quarterly.

c. Inspections are conducted only when MW is present.

Table F-10. Supercompactor Inspection Program Summary[a]

Item IDAPA 58.01.05.008 40 CFR 264.15(b)(1)	Frequency[b,c] IDAPA 58.01.05.008 40 CFR 264.15(b)(4)	Types of Problems IDAPA 58.01.05.008 40 CFR 264.15(b)(3)
Secondary Containment System		
Secondary Containment System Integrity	W	Problem: Cracks, gaps, or other damage that would compromise the integrity of the secondary containment system. Manually, or using CCTV, visually inspect the secondary containment system for evidence of significant cracks and gaps (i.e. ≥ 1/32 in.) that may compromise the integrity of the containment. Ensure there is no peeling or excessive damage of the coating and that no liquid is present.
Leaks/Spills	W	Problem: Spilled or leaking containers. Manually, or using CCTV, visually inspect the area for leaks and spills. Initiate corrective action, if needed.
Equipment		
Supercompactor Gloveboxes: • Infeed glovebox, • Supercompactor glovebox, • Post-compaction glovebox, and • Puck recovery glovebox.	D	Problem: Presence of spilled liquids. Visually inspect via CCTV and/or observation windows the exterior surfaces of the gloveboxes and the area underneath the gloveboxes for spilled liquids.
	W	Problem: Damage to structures, threatening integrity of the system/equipment. Visually inspect (via CCTV and/or observation windows) structures for signs of damage or deterioration, threatening integrity.
	Q	Problem: Damage to seals, threatening integrity. Visually inspect glovebox seals (e.g., gloves, metal panels over gloveports) for signs of damage threatening integrity. Seals will be inspected for conditions that may impact usability or create unacceptable risk of breakthrough.

Table F-10. Supercompactor Inspection Program Summary[a] (continued)

Item IDAPA 58.01.05.008 40 CFR 264.15(b)(1)	Frequency[b,c] IDAPA 58.01.05.008 40 CFR 264.15(b)(4)	Types of Problems IDAPA 58.01.05.008 40 CFR 264.15(b)(3)
Equipment (continued)		
Supercompactor Gloveboxes (continued):	Q	Problem: Damaged gloveport seals, threatening integrity. Visually inspect gloveport seals for damage, threatening integrity.
	Between incompatible waste streams	Problem: Residual waste. Inspect for residual waste prior to accepting waste from an incompatible waste stream.
Sumps/Pumps	Between incompatible waste streams	Problem: Sump contains free liquids and/or free liquid is present in the pump lines. Visually inspect the sump area via observation windows or CCTV for any free liquid and ensure all lines are free from any liquid accumulation.
	M	Problem: Liquid level probe failure. Perform maintenance checks on liquid level probes.

a. Inspections identified are in addition to the general inspections listed in Table F-7.

b. D = Daily; W = Weekly; M = Monthly; Q = Quarterly.

c. Inspections are conducted only when MW is present.

Table F-11. Drum Repack System Inspection Program Summary[a]

Item IDAPA 58.01.05.008 40 CFR 264.15(b)(1)	Frequency[b,c] IDAPA 58.01.05.008 40 CFR 264.15(b)(4)	Types of Problems IDAPA 58.01.05.008 40 CFR 264.15(b)(3)
Secondary Containment System		
Secondary Containment System Integrity	W	Problem: Cracks, gaps, or other damage that would compromise the integrity of the secondary containment system. Manually, or using CCTV, visually inspect the secondary containment system for evidence of significant cracks and gaps (i.e. $\geq$ 1/32 in.) that may compromise the integrity of the containment. Ensure there is no peeling or excessive damage of the coating and that no liquid is present.
Leaks/Spills	W	Problem: Spilled or leaking containers. Manually, or using CCTV, visually inspect the area for leaks and spills. Initiate corrective action, if needed.
Equipment		
DWHE	D	Problem: Presence of spilled liquids. Visually inspect via CCTV and/or observation windows for spilled liquids.
	W	Problem: Damage to structures threatening integrity of the system/equipment. Visually inspect (via CCTV and/or observation windows) structures for signs of damage or deterioration threatening integrity.
	Between incompatible waste streams	Problem: Residual waste. Inspect for residual waste prior to accepting waste from an incompatible waste stream.

Table F-11. Drum Repack System Inspection Program Summary[a] (continued)

Item IDAPA 58.01.05.008 40 CFR 264.15(b)(1)	Frequency[b,c] IDAPA 58.01.05.008 40 CFR 264.15(b)(4)	Types of Problems IDAPA 58.01.05.008 40 CFR 264.15(b)(3)
DWPG	D	Problem: Presence of spilled liquids. Visually inspect via CCTV and/or observation windows for spilled liquids.
	W	Problem: Damage to structures, threatening integrity of the system/equipment. Visually inspect (via CCTV and/or observation windows) structures for signs of damage or deterioration, threatening integrity.
	Q	Problem: Damage to seals threatening integrity. Visually inspect glovebox seals (e.g., gloves, metal panels over gloveports) for signs of damage threatening integrity. Seals will be inspected for conditions that may impact usability or create unacceptable risk of breakthrough.
	Q	Problem: Damaged gloveport seals threatening integrity. Visually inspect gloveport seals for damage threatening integrity.
	Between incompatible waste streams	Problem: Residual waste. Inspect for residual waste prior to accepting waste from an incompatible waste stream.

a. Inspections identified are in addition to the general inspections listed in Table F-7.

b. D = Daily; W = Weekly; Q = Quarterly.

c. Inspections are conducted only when MW is present.

TABLE OF CONTENTS

ATTACHMENT 5

TRAINING PLAN

H. TRAINING PLAN

H-1 Outline of the Training Plan [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.16(a)(1) and 270.14(b)(12)]

This section describes the Training Plan for AMWTP personnel who work at the MWMUs. The Training Plan assists AMWTP personnel in performing their assigned duties in a safe manner, and it includes the required introductory and continuing training. The required training is tailored to each position title responsible for management of MW to cover the various tasks and responsibilities of AMWTP personnel. Successful implementation of the Training Plan enhances the overall safety program and contributes to safe operations involving MW at the MWMUs. The Training Plan satisfies the requirements of IDAPA 58.01.05.008 (40 CFR 264.16) and 29 CFR 1910.120(p) [Hazardous Waste Operations and Emergency Response (HAZWOPER)].

Personnel involved in MW handling, management, and operations at the MWMUs participate in a comprehensive training program per this Training Plan. In general, these employees receive training on operations, proper handling and management of MW, emergency response procedures, and other HWMA/RCRA-related topics.

The following section outlines the Training Plan for employees involved in MW management, handling, or operations at the MWMUs. The training consists of a combination of self-study, classroom instruction, computer-based training, and on-the-job training (OJT) in conjunction with qualification programs. Qualified personnel who have expertise in the subject provide the OJT.

H-1a Job Title/Job Description [IDAPA 58.01.05.008; 40 CFR 264.16(d)(1) and (d)(2)]

The following documents are kept as part of the Operating Record:

- The job title and position description, including requisite skills, education, qualifications, and duties for each position related to the management of MW and the names of the employee filling each job;
- Written descriptions of the type and amount of both introductory and continuing training required by each person filling a job position involved with the management of MW at the MWMUs; and

- Records that document that the minimum training and qualification requirements for the AMWTP personnel involved with management of MW have been successfully completed.

H-1b Training Plan Content and Scheduling [IDAPA 58.01.05.008; 40 CFR 264.16(c) and 264.16(d)(3)]

The Training Manager, or designee, ensures all AMWTP personnel working at the MWMUs are appropriately trained prior to initiating any work that may cause the employee to be potentially exposed to MW. The Training Manager, or designee, with assistance from management, is responsible for the scheduling and completion of all required training. All AMWTP personnel directly involved with activities at the MWMUs receive Facility Access training. Facility Access training is designed to familiarize all employees with the information and protocols necessary to maintain a safe work environment within the MWMUs. Facility Access orientation covers:

- General description of the MWMUs,
- Waste management activities performed in the MWMUs,
- Contingency Plan contents,
- MWMU access and security requirements, and
- Hazards associated with the AMWTP MWMUs.

The Contingency Plan training addresses emergency equipment use, availability, and location; alarms, evacuation procedures and routes; and other relevant emergency procedures.

AMWTP personnel receive annual HWMA/RCRA facility access training. This training is conducted to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, emergency systems, and other relevant topics.

AMWTP personnel working at the MWMUs also receive additional training if their job involves potential exposure to MW. These workers receive HAZWOPER training for TSD facilities (24 hr-initial, 8-hr refresher), as specified in 29 CFR 1910.120(p).

In addition, some AMWTP personnel involved in MW operations, described at 29 CFR 1910.120(p), may receive training in:

- respirator use and fit test,

- radiation worker training,
- first aid, and
- cardiopulmonary resuscitation (CPR).

AMWTP personnel in craft occupations and certain technicians receive specialized training in the areas applicable to their job assignments. This training may be required for acquiring and maintaining certification in their trade, or validating proficiency to perform certain tasks. Certification/proficiency training may be required for personnel responsible for such duties as fitters, mechanics, electricians, equipment operators, instrument technicians, vehicle technicians, and waste handling operators.

Personnel may be given written and/or oral examinations, operational evaluations, and reviews to ensure that they are adequately trained commensurate to their job positions. Examinations and evaluations meet performance-based training criteria. Results of examinations, evaluations, and reviews are documented. Completed checklists, examinations, and evaluations are placed in each individual's training record.

Occasionally, AMWTP personnel attend training classes conducted by outside vendors. In order to verify personnel attendance at such a course, a copy of the class certification or other documentation is maintained in the Operating Record.

H-1c Training Manager [IDAPA 58.01.05.008; 40 CFR 264.16(a)(2)]

The AMWTP Training Manager, or designee, is responsible for fulfilling the requirements of the Training Manager as specified at IDAPA 58.01.05.008 [40 CFR 264.16(a)(2)]. The Training Manager, or designee, is responsible for ensuring that personnel at the AMWTP are trained in programs and procedures for management of MW, environmental requirements, industrial and radiation safety, Contingency Plan, operational skills, and technical training.

The Training Manager, or designee, is responsible for the development or approval of the training courses provided to AMWTP employees. The Training Manager, or designee, reviews lesson plans and instructor’s qualifications to validate the acceptance of the training course. The Training Manager, or designated trainers, are qualified to instruct AMWTP personnel about the subject matter presented in training. Such trainers have academic credentials and/or the instructional experience necessary for teaching the subject(s).

The Training Manager, and designated trainers, are trained in MW management procedures. The Training Manager, or designee, ensures that MW management training (including training on the implementation of the Contingency Plan) is provided to the AMWTP personnel that are working at the MWMUs and that the training is relevant to the assigned positions. The Training Manager, or designee, is trained and qualified in the management of MW. In addition, the Training Manager, or designee, provides overall leadership and management direction to the AMWTP training organization. The Training Manager's, or designee's, duties include the following:

- Provide direction to the training organization,
- Ensure training personnel performance is evaluated,
- Provide direction for and approve the AMWTP Training Plan,
- Ensure AMWTP personnel receive training appropriate to their positions,
- Ensure all program objectives and requirements are satisfied, and
- Ensure the Training Plan meets the requirements of IDAPA 58.01.05.008 (40 CFR 264.16) and 29 CFR 1910.120.

H-1d Relevance of Training to Job Position [IDAPA 58.01.05.008; 40 CFR 264.16(a)(2)]

Individual Training Plan or Qualification Package profiles are prepared for each AMWTP position description that requires a formal Training Plan. Each profile serves as a training guide to identify the minimum requirements for achieving and maintaining required qualifications and certifications. The profile also serves as a checklist to ensure training record completeness. Training requirements for each position are maintained in the Operating Record.

At a minimum, each individual Training Plan profile identifies the following:

- Job description,
- Qualifications, and
- Training requirements.

Profiles identify typical qualification and certification requirements. Some positions may require specialized training (e.g., HWMA/RCRA Secondary Containment System Repair Procedure, Container Repair Procedure, etc.). Special-case training is documented in the training records. Profiles include requirements for hazardous and MW management and emergency response training. The AMWTP Training Manager, or designee, is responsible for monitoring the status of personnel qualifications and certifications.

Persons who have the responsibility for evaluating training requirements for AMWTP personnel include, but are not limited to, the AMWTP Training Manager, or designee, and the appropriate supervisor or manager.

Individuals who demonstrate an equivalency for specific requirements or prerequisites identified in the training profile may be exempted from the associated training. The Training Manager, or designee, consults with the employee's manager/supervisor to review the claim for exemption or completion of equivalent training prior to approving the exemption or equivalency. Each exemption/equivalency is granted in writing and documented in the individual's training record.

H-1e Training for Emergency Response [IDAPA 58.01.05.008; 40 CFR 264.16(a)(3)]

Emergency response training is provided to all AMWTP personnel that work at the AMWTP, including specialized training for the AMWTP Emergency Response Organization (ERO). All personnel requiring unescorted access to the AMWTP receive training on the appropriate response to take when a fire, explosion, or release of MW is occurring or imminent at the MWMUs. This training provides instructions on controlling or responding to the incident and safe evacuation from the building/area. The Training Plan includes the following, as applicable:

- Procedures for using, inspecting, repairing, and replacing emergency and monitoring equipment;
- Use of communications or alarm systems;
- Response to fires or explosions; and
- Shutdown of operations.

Documentation that AMWTP personnel working at the MWMUs have received initial emergency response training, annual training, and specialized training is maintained in their training records.

H-2 Implementation of the Training Plan [IDAPA 58.01.05.008; 40 CFR 264.16(b), 264.16(d)(4), and 264.16(e)]

In conjunction with AMWTP Facility Access training, designated employees enter a qualification or certification program specific to their job assignments. AMWTP personnel holding qualifications and certifications are retrained or evaluated so they may retain their qualifications or certifications. Job assignments, which require the completion of a qualification or certification program, have time requirements associated with the Training Plan.

Initial training requirements are completed within six months of the individual's date of employment or assignment to a MWMU work location when their position involves the management of MW. Employees do not work in unsupervised positions involving MW until they have completed the minimum specified training requirements.

Training files include documentation of completed training, such as class rosters, signed checklists, completed exams, data base printouts, and other documents verifying training. For training provided by organizations external to the AMWTP, the original training records are typically maintained by the presenting organizations, and a copy of corresponding records is provided to the AMWTP Training Manager, or designee. This information is entered into the individual's training record.

A training record includes the person’s name, identification number, job title/position, and associated training documentation. Each training file includes the person’s individual training profile, which identifies the minimum required introductory and continuing training for the calendar year.

Training records for AMWTP personnel are maintained as part of the Operating Record per IDAPA 58.01.05.008 (40 CFR 264.73).

TABLE OF CONTENTS

ATTACHMENT 6

PROCEDURES TO PREVENT HAZARDS

F-3 Preparedness and Prevention Requirements

This section discusses the emergency preparedness and prevention measures at the MWMUs.

F-3a Equipment Requirements [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.32 and 270.14(b)]

The following sections describe the alarms and communications equipment, emergency equipment, fire protection systems, and water for fire control at the MWMUs. The inspection and maintenance of equipment located within a MWMU is included in Attachment 4.

F-3a(1) Alarms and Communication Equipment [IDAPA 58.01.05.008; 40 CFR 264.32(a)]

The MWMU buildings and the AMWTP Outside Storage Area are not continuously manned. They are locally and manually operated. The MWMU buildings are equipped with communications equipment, monitoring systems, and alarms to monitor storage conditions, operating conditions, treatment operations, and to automatically summon emergency assistance or notify personnel working in the area of emergency conditions. Alarms and parameters that are monitored include manual fire alarm pull stations, water flow alarms, low air-temperature alarm (for fire sprinkler riser room), and loss of power. Fire alarm signals are transmitted to the alarm room Fire Alarm Control Panel (FACP) and subsequently to the INL Fire Department. Notifications may then be made to RWMC/Warning Communications Center (WCC), as required, via telephone. The AMWTP Outside Storage Area is not equipped with monitoring systems, however, AMWTP personnel have access to portable radios which allows for immediate access to summon emergency assistance.

Additionally, the WSF, SWEPP, and WMF-636 Pad 2 allow for multiple CAM locations. A minimum of one CAM is located in the WSF, SWEPP, and WMF-636 Pad 2 when MW is present. The CAMs are equipped to provide readings of operational and alarm status, and sound an audible alarm if readings exceed pre-established setpoints. Alarms from CAM monitors are locally audible and visible.

F-3a(2) Internal Communications [IDAPA 58.01.05.008; 40 CFR 264.32(a)]

Telephone systems in the MWMUs other than the AMWTP Outside Storage Area provide communication service between offices, control rooms, selected process areas, the maintenance building, INL emergency services, and off-Site areas. Additional subsystems such as voice-mail, paging, intercom, portable radios, and call accounting are incorporated, as required. WMF-634, at a minimum, is equipped with a telephone in the assay and RTR control rooms. The Type I Module, Type II Modules, SWEPP, and WMF-676 are each equipped, at a minimum, with one telephone. Hand-held radios are the primary communication method routinely used during normal and emergency operations for all of the MWMUs including WMF-636 Pad 2 and the AMWTP Outside Storage Area.

The AMWTP fire alarm system, which serves all TSA MWMUs, is linked to the INL central fire alarm monitoring system. Any alarm condition within the AMWTP is transmitted to the alarm room. The INL Fire Department and WCC are then notified.

Initiating devices may include manual pull stations, area smoke and heat detectors, duct smoke detectors, sprinkler riser flow and tamper (valve position) switches, alarm cabinet door switches, environmental and radiation monitoring alarm contacts, and alarm contacts from any other extinguishing systems panels. Manual pull boxes initiate local and remote alarm signals. Control devices may include door holders, contact outputs for fan and damper control, and alarm and speaker signals.

An emergency notification system allows emergency communications from the AMWTP operator control stations via speakers located throughout the RWMC. The speakers are capable of broadcasting various distinct AMWTP local or global (local refers to the AMWTP control areas, while global includes all RWMC areas including the AMWTP control areas) alarm signals. The MWMUs other than the AMWTP Outside Storage Area are equipped with evacuation/voice paging speakers and manual fire alarm stations. Outdoor weatherproof evacuation/voice paging speakers are located in the vicinity of the AMWTP Outside Storage Area to provide emergency notification.

F-3a(3) External Communications [IDAPA 58.01.05.008; 40 CFR 264.32(b)]

External communication to summon emergency assistance is typically made via the AMWTP telephone system, vehicle two-way radios, hand-held two-way portable radios, and automatic alarms. In the event of an emergency, the organizations that may be contacted include: security personnel, the INL Fire Department, and/or the Emergency Control Center (ECC). See Attachment 7 for additional information on reporting requirements. The WCC summons by telephone or pager system any outside emergency response organizations, as requested by the AMWTP.

The AMWTP alarm system is interfaced with the INL Site evacuation system so that Site evacuation alarms are transmitted to personnel within AMWTP controlled areas. An interface with the INL public address (PA) system allows voice evacuation notices from the INL to be transmitted throughout the AMWTP.

F-3a(4) Emergency Equipment [IDAPA 58.01.05.008; 40 CFR 264.32(c)]

Adequate spill control equipment, PPE, decontamination equipment, monitoring and survey equipment, and fire control equipment are available where required to respond to emergencies at the MWMUs. A list of the emergency equipment available at the MWMUs and its location is provided in Attachment 7.

F-3a(5) Fire Protection System [IDAPA 58.01.05.008; 40 CFR 264.32(c)]

Fire protection in the MWMUs buildings is provided through a combination of smoke detectors, remote and local alarms, automatic fire extinguishing systems (sprinklers), clean agent systems, CO2 Fire Suppression System, located on the arm of the floor mounted manipulator and portable fire extinguishers. Manual fire alarm stations are generally located next to personnel access doors. Once a fire is detected, the alarm sounds, the building HVAC system shuts down, and water is introduced through overhead piping. Once initiated, fire suppression systems are shut-off manually.

AMWTP Waste Characterization Building

The fire protection system design for WMF-634 complies with the UBC occupancy classification F-1, and Type II-N regulations. The building fire protection design is in accordance with NFPA requirements. The fire protection system for WMF-634 meets the requirements for the Type II Modules, as discussed below.

Additional fire protection is provided in the control rooms of WMF-634. The RTR and assay control rooms and the drum coring room utilize a water based fire suppression system. A dedicated (high pressure mist) detection and suppression system is provided in the interior of the DCSRS gloveboxes. Fire protection is provided in areas of the DCSRS ventilation system. Deluge systems, connected to the primary fire water system, are provided to the HEPA filters (final stage) and carbon absorption systems.

Type II Modules

Fire protection for the Type II Modules is provided through a combination of smoke detectors, remote and local alarms, an automatic fire extinguishing system, and portable fire extinguishers. One manual alarm station is located next to each personnel access door in the storage area and in the electrical room. The fire protection system is designed to provide approximately 0.29 gallons per minute (gpm)/ft^2 over a 2,600 ft^2 area with an approximate inside hose allowance of 100 gpm and an approximate outside hose allowance of 400 gpm. The sprinkler riser is located in the fire sprinkler riser room next to the electrical room on the exterior of the Type II Modules.

Type I Module

The Type I Module design complies with UBC occupancy classification H-7, and Type II-N regulations. The building fire protection design is in accordance with NFPA.

Fire protection for the Type I Module is provided through a combination of smoke detectors, remote and local alarms, two water-based automatic fire extinguishing systems, and fire extinguishers. Manual fire alarm pull stations and audible/visible alarm indication devices are installed throughout the Type I Module. Smoke detectors are located in the storage areas, electrical room, and drum venting area. The fire protection room in the northwest corner of the MSA houses the sprinkler riser and valves for the Type I Module. The two sprinkler systems in the building provide full area coverage. One system protects the PAAA/WCRA and the TLA. The second system protects the remaining portions of the building, including the DVF. The systems are designed to deliver a water density of approximately 0.47 gpm/ft^2 over 2,500 ft^2 in the PAAA/WCRA and approximately 0.29 gpm/ft^2 over 2,600 ft^2 in the remaining portions of the building. Both designs include an approximate 500 gpm hose stream allowance.

SWEPP

Fire protection for the SWEPP is provided through a combination of smoke detectors, remote and local alarms, water based fire extinguishing systems, and fire extinguishers. Manual fire alarm pull stations and audible/visible alarm indication devices are installed throughout SWEPP.

The sprinkler system for the SWEPP building is a water-based fire suppression system. The main line of the sprinkler system runs to the center of the building and then runs the length of the building at ceiling level. Multiple branch sprinkler lines connect to the main sprinkler line, and sprinkler heads are located along the sprinkler line to provide coverage for the central areas of the building. The sprinkler system in the High Bay is designed to provide approximately 0.19 gpm/ft^2 over 1,500 ft^2.

WMF-636 Pad 2

Fire protection for WMF-636 Pad 2 is provided through a combination of smoke detectors, remote and local alarms, automatic fire extinguishing systems (sprinklers), and portable fire extinguishers. Manual fire alarm pull stations and audible/visible alarm indication devices are installed throughout the WMF-636 Pad 2 building. The sprinkler system for WMF-636 Pad 2 is a water-based fire suppression system.

AMWTP Outside Storage Area

Fire protection for the AMWTP Outside Storage Area is provided by a fire hydrant located on the south side of the area. Manual fire alarm pull stations are available nearby in the building entrances to the WMF-636 Pad 1 area. Additionally, equipment used to transport containers are typically equipped with fire extinguishers.

AMWTP Treatment Facility

WMF-676 is divided into a process area and a non-process area, which are separated by a two-hr fire wall running east to west. One sprinkler riser serves each area, and these two riser systems are interconnected by the wet sprinkler system to provide operating flexibility during upset conditions.

The process area fire riser is located in the northeast stairwell and serves the first and second floors, interstitial space of the process area, along with the penthouse. It is served by a separate fire sprinkler riser supplied from the 10-in. main and an additional fire sprinkler riser supplied from the 8-in. main. The fire sprinkler system includes both a wet and a preaction system for various areas. The wet sprinkler fire riser and the preaction system fire riser are both located in the northeast stairwell. This riser connects to the 10-in. primary fire main east of WMF-676.

The non-process area fire sprinkler riser is located in the southwest stairwell and serves the first and second floor non-process areas, interstitial space, the central conveyor area, and the attached utility building. The riser is located in the southwest stairwell. The riser connects to the 10-in. secondary fire main south of WMF-676.

All WMF-676 areas have a sprinkler density of 0.20 gpm/ft^2 and a minimum design area of 1,500 ft^2, for a capacity of 300 gpm. The maximum fire water flow (800 gpm) is the sum of the maximum sprinkler flow (300 gpm) plus the required fire hose allowance (500 gpm). To maintain an 800 gpm water flow, the estimated residual pressure required for the non-process area is 105 psi, and 96 psi for the process area.

Additional fire protection is provided in areas of WMF-676. These secondary fire protection systems vary from clean agent systems to preaction dry pipe fire suppression systems to deluge systems. Gloveboxes are provided with fire detection and manually operated carbon dioxide, nitrogen, or water spray suppression systems. Also, each of the floor mounted manipulator arms in the box lines is connected to an independent CO2 fire suppression system.

Each of these systems consists of two 100 pound high pressure carbon dioxide bottles, located outside of the box lines. One of these bottles acts as the primary CO2 source, with the second held in a reserve capacity. The second bottle can be armed by operating a switch in the box line control room. Each system is connected via rigid piping and flexible hose to a dispersion nozzle located on the manipulator arm. A manual switch located at the respective operator's station triggers each system, and the nozzle is aimed by the operator adjusting the arm position. Carbon dioxide suppression systems are designed in accordance with the requirements of NFPA 12, Standard on Carbon Dioxide Extinguishing Systems.

F-3a(6) Water for Fire Control [IDAPA 58.01.05.008; 40 CFR 264.32(d)]

The appropriate fire exitinquishing media for a fire involving pyrophroic radionuclides will be decided by the INL Fire Department. The INL Fire Department is notified of all locations where containers with pyrophoric radionuclides are stored at the AMWTP.

Fire water for the MWMUs is supplied by the RWMC and consists of two 250,000-gal water storage tanks fed by a deep well. One of the water storage tanks is dedicated for fire water storage and supplies a dedicated fire water distribution system. The second water storage tank supplies the RWMC potable water distribution system, which can be configured to supply backup fire water to the distribution system as needed. The fire water distribution system runs throughout the TSA to provide fire water supplies to (or in the immediate vicinity of) the MWMUs. The MWMUs are equipped with automatic sprinklers. Fire hydrants are located in the vicinity of the MWMUs. The RWMC is able to provide water through the fire water supply system at adequate volume, pressure, and duration to supply automatic sprinkler systems and hose streams to successfully fight fires at the MWMUs. Details of the fire water supply system are provided below.

Fire Water Storage Tank

The 250,000-gal fire water storage tank (WMF-727) is the primary RWMC water storage tank and is maintained to provide a minimum 2-hr water supply to meet RWMC's worst-case fire demand. Water is discharged directly into the firewater distribution piping system. Both the tank level and water temperature are monitored by the RWMC fire alarm system. A circulation pump/water heating system is provided to move and heat the tank water as needed.

Potable Water Storage Tank

The 250,000-gal potable water storage tank (WMF-709) serves as a backup fire water tank. Both the tank level and water temperature are monitored as part of the RWMC fire alarm system. The potential for water freezing is reduced by recirculating the water, accomplished by using either the domestic pump or the auxiliary electric fire pump in WMF-603, with a portion of the discharge directed back to the tank. Water can be discharged through a backflow preventer into the fire water distribution piping system.

Water Storage Tank Feed (Deep Well Pump)

The potable water tank (WMF-709) is supplied by a deep well. The deep well pump is controlled automatically by the water level in the potable water tank. The fire water tank (WMF-727) is supplied from the potable water tank (WMF-709). The domestic pumps in the pump house (WMF-603) are used to move water from the potable water tank, through a backflow preventer to the fire water tank. The fire water tank can also be filled from the deep well pump if necessary, bypassing the potable water tank.

Fire Water Distribution System

The fire water storage tank discharges to the fire water distribution piping via pumps and a discharge header. The static water pressure is maintained at 135-150 psi throughout the distribution system. Within the TSA, there is a looped fire main system, with 8-in. and 10-in. mains with hydrants extending along three major roads to provide adequate fire water for all AMWTP MWMUs.

F-3b Aisle Space Requirements [IDAPA 58.01.05.008; 40 CFR 264.35]

The storage configuration for the MWMUs is described in Attachments 1.A, 1.B, 1.C, 1.D, 1.E, 1.F, 1.G, and 1.H.

F-4 Preventive Procedures, Structures, and Equipment

The following sections describe the preventive procedures, structures, and equipment used at the MWMUs to prevent or minimize releases of MW to the environment and to protect human health and the environment during MW management activities.

F-4a Unloading Operations [IDAPA 58.01.05.012; 40 CFR 270.14(b)(8)(i)]

Unloading operations and container handling operations are described in detail in Attachments 1.A, 1.B, 1.C, 1.D, 1.E, 1.F, 1.G, 1.H, 1.H.i, 1.H.ii, 1.H.iii, 1.H.iv, and 2.

F-4b Run-Off [IDAPA 58.01.05.012; 40 CFR 270.14(b)(8)(ii)]

As described in Attachment 1.A, the MWMUs are provided with a variety of flood control and drainage control measures to facilitate the drainage of water away from the TSA. The area around the MWMUs is graded to facilitate the drainage of precipitation away from the MWMUs. Storm water flows from the sloped roof of the structure and is then directed away from the MWMUs via the storm water drainage system. Culverts in the vicinity of the MWMUs are designed to discharge peak flows from a 25-yr storm event.

As described in Attachment 1.G, containers stored in the AMWTP Outside Storage Area are elevated (e.g., pallet, riser, trailer). The asphalt of the AMWTP Outside Storage Area is graded to slope to the northwest. This serves to prevent run-on of precipitation towards the containers and facilitates run-off away from the containers stored in the AMWTP Outside Storage Area.

F-4c Water Supplies [IDAPA 58.01.05.012; 40 CFR 270.14(b)(8)(iii)]

Contamination of the RWMC water supply by MW management activities conducted at the MWMUs is prevented by the design of the MWMUs and the depth to groundwater. The MWMUs are designed to isolate the waste containers in storage from the environment, prevent deterioration of container integrity during long-term storage, and prevent released waste from entering the environment. The MWMUs, other than the AMWTP Outside Storage Area, are enclosed buildings. The AMWTP Outside Storage Area only allows for the storage of containers with no free liquids other than containers with up to 1% free liquid by volume that are stored within TRUPACT containers, and the integrity of the container must be in good condition. Further, frequent inspections of container condition and the presence of waste leaks and/or spills are conducted, as described in Attachment 4, to allow timely response and cleanup for any waste leak and/or spill. The design features and operational practices described above prevent leaks and/or spills from contacting soil which could migrate to the groundwater.

F-4d Equipment and Power Failure [IDAPA 58.01.05.012; 40 CFR 270.14(b)(8)(iv)]

Operational equipment failures can occur within the MWMUs without a power failure. Such failures do not unduly affect waste handling or storage activities. Operational equipment of concern at the MWMUs includes waste handling equipment (e.g., conveyors, forklifts, pallet-lift trucks), ventilation systems (e.g., air handlers, dampers, etc.), and monitoring equipment (e.g., detectors, alarms, etc.). If a malfunction occurs in the waste handling equipment during container handling, the equipment is designed to cease functioning and hold containers in position. Some of the systems identified above have local and/or remote alarms to signal trouble.

All of the above-described equipment undergoes periodic inspections to detect malfunctions and preventive maintenance to ensure acceptable operating performance. This is described in additional detail in Attachment 4. All personnel operating waste handling equipment are trained and qualified on the equipment. Training requirements are described in Attachment 5.

The RWMC and AMWTP have standby power sources for continued operation of critical systems during periods of commercial power outage. All generators come online automatically when commercial power is interrupted, unless manually overridden. They can be started manually and are equipped with time delays of several seconds to prevent nuisance starts.

A 175-kilo Watt (kW) generator is located at the pump house (WMF-603), and it supplies the power panel that provides standby power to RWMC/AMWTP facilities, monitoring systems, and emergency alarms. This generator is fueled by a 500-gal propane tank. A battery to supply continuous emergency power to the AMWTP Command Post is provided by an uninterruptible power supply (UPS) system. In addition, the fire alarm system has a battery backup, in case of power failure.

Specific information about the various standby power sources for the MWMUs is provided below.

Type II Module (Other Than WMF-634), Type I Module, WMF-636 Pad 2, and SWEPP

A 75-kW generator is located at the SWEPP, which supplies power for nearby lights and power receptacles, as well as for other TSA facilities. A 500-kW diesel generator supplies standby power to the various RWMC/AMWTP facilities, and is located on the east side of the TSA-RE. These standby generators ensure continued monitoring and alarm detection of fire detection systems, CAMs (except WMF-634), and other critical monitors and response systems for wastes in storage. In the event of a loss of standby power to the CAMs in one of Type II Modules (other than WMF-634), the Type I Module, WMF-636 Pad 2, or SWEPP or if a CAM is temporarily non-functional; then radiological surveys are performed, as required, to detect possible releases of MW/MW constituents.

AMWTP Waste Characterization Building

WMF-634 has its own standby power supply that maintains certain HVAC systems and alarm systems. The power supply is supplied by a diesel generator, located on the exterior northwest wall, which provides sufficient power for WMF-634 to continue operations and shutdown characterization equipment in an operationally sound manner. The fire alarms are equipped with separate battery backup to provide at least 24 hrs of standby operation. Emergency lighting at WMF-634 is provided from battery-operated, automatically recharging, push-to-test lighting units and exit lights located at all doors to light egress routes upon loss of commercial power. The CAM(s) located in WMF-634 are not provided with standby power. In the event of a loss of power to WMF-634, radiological surveys are performed, as required, to detect possible releases of MW/MW constituents.

AMWTP Treatment Facility

The WMF-676 electrical power system is designed such that there are no single point failures to the devices supplied that will prevent proper protective action when required.

Standby power for WMF-676 is supplied from a diesel-powered generator adequate to support all critical and safety-related loads. The diesel-powered generator also supplies power to essential process loads that cannot tolerate periods of interruption in excess of one hour. Additionally, WMF-676 is equipped with UPS systems that supply power to electrical loads that require continuous operation without interruption or perturbation. Additional detail on the WMF-676 electrical system is provided in Drawings 54-0101, 54-0102, and 54-0103 in Appendix IX.

The WMF-676 UPS is located in the electrical room adjacent to the computer room and is continuous duty and solid state. It consists of an alternate current inverter, rectifier/battery charger, storage batteries, control circuitry, status and metering panels, and a bypass transfer switch. The UPS supplies power to the UPS power distribution panel board, also housed in the electrical room. The UPS storage batteries are located in a cabinet next to the UPS.

Battery operated lighting is provided in areas that may be in use during emergencies or power outages, including those along the appropriate egress routes. Self-contained, battery-operated fixtures provide exit lighting. The CCR, the computer room, and the backup monitoring room lighting fixtures are provided with emergency power. Select lighting fixtures throughout WMF-676 are provided with standby power to aid in restoring WMF-676 to normal operations or to aid in safe shutdown during a power outage.

F-4e Personnel Protection Equipment [IDAPA 58.01.05.012; 40 CFR 270.14(b)(8)(v)]

Personnel are notified of and protected from chemical and radiological hazards associated with wastes managed at the MWMUs through radiological monitoring of personnel and containers, use of PPE (as may be required for particular tasks), and alarmed monitoring equipment. All operations are conducted such that employee exposures to MW are as low as reasonably achievable (ALARA), in accordance with AMWTP policy. All personnel involved in the management of MW are instructed in the use of PPE, as appropriate to their job functions and assigned tasks.

Prior to the start of any operation that may expose employees to the risk of injury or exposure to MW constituents, AMWTP personnel review the operation to ensure that the nature of hazards that might be encountered are properly considered; appropriate PPE is selected; and appropriate safety procedures and equipment are included. This review typically involves radiological control, industrial hygiene, and safety personnel, in addition to knowledgeable operations personnel.

If a particular activity to be conducted has not previously been performed or there are unique considerations to be addressed, appropriate work control documentation specifies precautions, PPE, monitoring, industrial safety, and industrial hygiene controls or activities to be performed. The work control documents also present the sequence of activities to be completed, limiting factors to be identified, information to be recorded, and situations that may require operations to be shut down.

F-5 Prevention of Reaction of Ignitable, Reactive, and Incompatible Waste

Containers stored at the MWMUs are packaged, handled, and managed to prevent the reaction of ignitable and incompatible wastes. HWMA/RCRA-regulated wastes (i.e., hazardous only wastes) are not stored in the MWMUs, with the exception of AMWTP generated wastes, which are managed in accumulation areas in accordance with IDAPA 58.01.05.006 (40 CFR 262.34).

The AMWTP strategy for treating waste minimizes the handling of incompatible wastes. Wastes are sequenced to be compatible with preceding and succeeding waste streams. Clean-out is initiated at changes between incompatible wastes (including unknowns). Clean-out involves emptying relevant treatment areas (e.g., sumps, containment enclosures, troughs) and removing visible waste from the area and equipment. Attachment 2 provides further information on the waste streams that are known to contain constituents that may be incompatible with other waste streams (e.g., high acidic, caustic, corrosive, unknown, pyrophoric radionuclide metals). Identification of waste streams with potential incompatibility issues is ongoing; the list is updated as more information becomes available about the waste (e.g., sample results, RTR observations, visual inspections).

F-5a Precautions to Prevent Ignition or Reaction of Ignitable or Reactive Waste [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.17(a) and 270.14(b)(9)]]

Many precautions are taken at the MWMUs that manage ignitable or pyrophoric radionuclide metals to prevent the accidental reaction or ignition of the waste. The following precautions are taken to prevent the reaction or ignition of waste managed at the AMWTP:

- Pyrophoric radionuclide metals are physically separated from the general waste population while in the MWMUs.
- Ensuring the integrity of containers identified as pyrophoric radionuclides metals is such that the container is sufficiently impervious to air and water intrusion. Ensuring that the outer most container of a pyrophoric radionuclide metal waste stream is un-vented or has a vent that is sufficiently impervious to water intrusion.
- Ignitable wastes are segregated in the MWMUs, as described in Section F-6.

- Most stationary equipment used is grounded, as are the MWMUs, thereby preventing sparking. Portable electric tools are double-insulated, battery-operated, or have ground fault interrupter (GFI) circuit protection.
- Liquids collected from wastes are removed and treated as appropriate (e.g., neutralization or absorption for subsequent treatment or disposal). Residual liquids are cleaned up from a treatment unit (e.g., trough, containment enclosure) before receiving wastes from an incompatible waste IDC/WG or unknown.
- Open flame cutting or other similar spark or ignition sources are not allowed inside the MWMUs unless the open flame or spark source is isolated to the extent feasible from the waste present in the area. All such work is conducted in accordance with a specific procedure or under a cutting and welding permit reviewed by safety personnel. Gas hoses for welding are equipped with flashback preventers.
- All electrical wiring and equipment complies with applicable NFPA codes.
- Smoking is only allowed outside the MWMUs in designated areas.
- Welding is allowed for performing treatment (macroencapsulation in stainless steel containers/liners) inside WMF-610, WMF-628 through WMF-635, WMF-636 Pad 2, and the AMWTP Outside Storage Area. All equipment is isolated to the extent feasible from the waste in storage. All such work in conducted in accordance with a specific procedure or under a hot work permit that has been reviewed by safety personnel. Gas hoses for welding are equipped with flashback preventers.

In addition to the general precautions listed above, the following are specific to containment enclosures located in the WSF and SWEPP.

- Restricting sizing operations to metal shears, nibblers, and other mechanical equipment that minimizes the generation of sparks unless evaluation of the waste present in the area indicates that ignition sources are unlikely to be a safety concern.
- When processing ignitable or incompatible wastes, treatment areas are visually inspected and residual waste is cleaned up and removed between incompatible sequences.
- Unknown wastes are sequenced through containment enclosures as if they are incompatible wastes. AMWTP personnel are required to visually inspect and clean up residues before and after unknowns or incompatibles are handled.

In addition to the general precautions listed above, the following are specific to WMF-676.

Box Lines/Hot Maintenance/Import-Export Glovebox

- Restricting sizing operations to metal shears, nibblers, and other mechanical equipment that minimize the generation of sparks unless evaluation of the waste present in the area indicates that ignition sources are unlikely to be a safety concern.
- When processing ignitable or incompatible wastes, sorting areas are visually inspected and residual waste is cleaned up and removed between incompatible sequences.
- When using the overhead power manipulator to cut the lid of a box within one of the box lines, ignitable uncontainerized waste will not be located within the box line where the box lid cutting activity is occurring.
- Unknown wastes are sequenced through the box lines as if they are incompatible wastes. AMWTP personnel are required to visually inspect and clean up residues before and after unknowns or incompatibles are handled.
- Open flame cutting or other similar spark or ignition sources (e.g., plasma torch cutting) are not allowed inside box lines/hot maintenance area unless the open flame or spark source is isolated to the extent feasible from the waste present in the area. All such work is conducted in accordance with a specific procedure or under a cutting and welding permit reviewed by safety personnel. Gas hoses for welding are equipped with flashback preventers.
- All waste stored in the import/export glovebox is cleaned up and removed prior to receiving wastes from a different IDC/WG unless waste characterization or compatibility determines otherwise.
- Unknown wastes are sequenced through the import/export glovebox as if they are incompatible. Glovebox areas are visually inspected and residues cleaned up (if present) before and after handling unknown wastes.

SCW Glovebox System

- Unknown wastes are sequenced through the SCW glovebox system as if they are incompatible. Glovebox areas are visually inspected and residues cleaned up (if present) before and after handling unknown wastes.
- All waste stored in the SCW gloveboxes is cleaned up and removed prior to receiving wastes from a different IDC/WG unless waste characterization or compatibility determines otherwise.

Supercompactor

- Fire suppression through a water misting system is provided in the supercompactor glovebox to suppress combustion during supercompaction of HWN D001 wastes.
- Any liquids collected in gloveboxes/sump are cleaned up and removed prior to receiving wastes from a different IDC/WG unless characterization information or compatibility determinations conclude otherwise.

Drum Repack System

- Unknown wastes are sequenced through the drum repack system as if they were incompatible. Areas are visually inspected and residues cleaned up (if present) before and after handling unknown wastes.
- All waste stored in the drum repack system is cleaned up and removed prior to receiving wastes from a different IDC/WG unless waste characterization or compatibility determinations conclude otherwise.

F-5b General Precautions for Handling Ignitable or Reactive Waste and Mixing of Incompatible Waste [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.17(b) and 270.14(b)(9)]

The MWMUs design and operating practices provide precautions to prevent reactions which:

- Generate extreme heat or pressure, fire, explosions, or violent reactions;
- Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to pose a risk of fire or explosion or to threaten human health or the environment;
- Damage the structural integrity of the MWMU or secondary containment system; and
- Through similar means, threaten human health or the environment.

These practices and design features are intended to separate and protect wastes from sources of ignition, reaction, or spontaneous ignition, as follows:

- If incompatible wastes are placed in storage at the MWMUs, they are segregated/separated as discussed in Section F-6.
- If additional incompatibilities are identified or data review/waste characterization eliminates potential incompatibilities, additional precautions are implemented or certain separation/segregation practices may be relaxed, as warranted.
- Any leaks or spills that occur during waste processing are detected through the inspection program or by personnel present during specific operations. Personnel clean up incidental spills in a timely manner.
- The presence and oversight of personnel during waste handling and processing activities ensures quick detection and mitigation of leaks, spills, equipment failure, or other events that could present a hazardous situation.
- Alarms and emergency equipment are located throughout the MWMUs to ensure rapid response to potential problems, such as fires.

- Should a fire develop that is larger than can be manually controlled, then fire detection/suppression systems are automatically activated and the INL Fire Department is automatically notified.
- Ventilation systems in the MWMUs prevent buildup of toxic gases (e.g., CO) from equipment operation.
- Malfunctioning equipment is tagged and either locked out or isolated.
- Unknowns are physically separated from the general waste population while in the MWMUs.
- Criticality clean-outs of the MWMU treatment areas provide regular assessment of waste handling and processing conditions (e.g. leaking containers), thereby providing early identification of potentially hazardous situations (e.g., co-mingling of incompatible wastes).
- Treatment areas are emptied prior to receiving waste from a different IDC/WG, unless the characterization information or compatibility determinations allow mixing of wastes.
- Routine inspections of the storage areas provide regular assessment of storage conditions and early identification of potentially hazardous situations.
- The WSF, SWEPP, and WMF-636 Pad 2 are equipped with CAMs to monitor storage conditions and alarm locally (visible and audible) if materials monitored exceed acceptable levels. This system provides sufficient early warning such that the source problem can be evaluated or personnel evacuated from the building, if necessary.
- Wastes are stored in containers that are kept closed at all times, except when removing or adding waste.
- Routine inspections of the MWMUs provide regular assessment of storage/treatment areas and early identification of potentially hazardous situations.

In addition to the general precautions for handling ignitable or reactive wastes listed above, those specific to WMF-676 are provide below.

Supercompactor

- Residual liquids released during the supercompaction process are collected in the puck recovery glovebox sump. The liquid wastes retain the listed HWNs associated with the original waste and are collected in compatible containers and may be transferred to the SCW glovebox system or the DWPG for additional characterization/treatment, if required, or absorbed in place. Additionally, liquid wastes may be absorbed in an area outside the supercompactor gloveboxes, in accordance with IDAPA 58.01.05.006 (40 CFR 262.34) standards.

F-5c Management of Ignitable or Reactive Wastes in Containers [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.176 and 270.15(c)]

The facility boundary line is defined as the INL boundary. The RWMC is three miles from the southern INL boundary, which is the closest boundary to the RWMC. Thus, the waste stored at the MWMUs is more than 50 ft from the INL boundary. Attachment 1, Exhibit B-1 provides a diagram showing the location of the RWMC relative to the INL boundary.

F-5d Management of Incompatible Wastes in Containers [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.177 and 270.15(d)]

AMWTP procedures specify that incompatible wastes are not to be placed in the same container. Procedures used to ensure that incompatible wastes are not co-mingled in process areas are listed below.

- Waste characterization information is reviewed to ensure incompatible wastes are not placed in the same container during operations;
- When liquids are encountered in process areas, the liquids are collected in separate containers and separated/segregated, if required, or absorbed in place;
- Process areas, from which unknown liquids have been collected and removed, are cleaned up prior to receipt of additional waste, unless the compatibility determinations allow mixing of liquids between containers of the same IDC/WG;
- Waste shall not be placed in an unwashed container that previously held an incompatible waste or material;
- Process area sumps and drip trays are emptied prior to receiving waste from incompatible IDCs/WGs or unknowns; and
- Unknowns are physically separated from the general waste population while managed in the MWMU container storage areas, unless the wastes are containerized and are located in an open SCW transfer container within WMF-676. Unknowns shall not be managed in the WMF-636 Pad 2 or the AMWTP Outside Storage Area.

F-6 Interim Waste Management Strategy for the MWMUs

F-6a Background

Wastes received in prior years and stored at the MWMUs are managed as if they contain free liquid, unless it can be documented, other than by historical record, that no free liquids are present. Some of these wastes are potentially incompatible with other wastes managed at the MWMUs. To effectively control potential risks associated with incompatible wastes and ensure safe storage practices, all wastes are managed at the MWMUs in strict accordance with the special procedures described in Section F-6b.

F-6b Special Procedures

Wastes containing free liquids and/or potential incompatibles are safely managed at the MWMUs if:

- All wastes are evaluated for potential incompatibilities using the methodology presented in the guidance manual "A Method for Determining the Compatibility of Hazardous Wastes," EPA-600/2-80-076, April 1980,
- All wastes are stored in compatible groupings, and
- Unknown wastes, wastes with unknown IDCs/WGs following RTR examination or, wastes with known IDCs/WGs but unknown HWNs, are separated from the general waste population.
- Containers identified as pyrophoric radionuclide metals are separated from the general waste population.

Sections F-6b(1) through F-6b(5) contain procedures used to organize waste inventories into compatible groups and segregate/separate incompatibles and unknowns.

F-6b(1) Compatibility Determination

For information on compatibility determinations, see Attachment 2.

F-6b(2) Waste Segregation on the Basis of Compatibility

Based on the results of the compatibility determinations described in Attachment 2, wastes are categorized into RGNs. Incompatible binary combinations of RGNs are identified and requirements for segregating/separating wastes with incompatible RGNs are established. It must be noted that many IDCs have multiple RGNs. As the compatibility evaluations and segregation/separation activities progress, with regard to characterization of existing "unidentified" inventories, and as newly generated wastes are received, additional incompatible binary RGN combinations may be identified. If additional incompatibilities are identified or data validation eliminates potential incompatibilities, the number of segregated/separated storage areas may increase or decrease.

F-6b(3) Waste Separation on the Basis of Unknowns

Unknown wastes following RTR may be stored in the MWMUs pending further characterization. These wastes are physically separated from the general waste population.

F-6b(4) Waste Separation on the Basis of Free Liquids Content

All waste stored in the MWMUs is managed in compliance with HWMA/RCRA requirements for containers with free liquids (e.g., elevated on pallets in a secondary containment area/system), unless documented not to contain any free liquids. Containers documented not to contain any free liquids through means (e.g., RTR visual examination) other than historical knowledge may be stored in a MWMU without a containment system that meets the requirements of IDAPA 58.01.05.008 [40 CFR 264.175(b)].

F-6b(5) Special Facility Modifications

To meet the requirement for segregated storage areas, movable synthetic spill barriers developed for the purpose of spill control and liquids containment may be used. These barriers are compatible with the waste types expected for storage in the MWMUs. The barriers adhere to the floor surface without the need for any mechanical fasteners, thus protecting the integrity of the secondary containment system. The barriers are joined together with interlocking fasteners that are compatible with the wastes managed at the MWMUs. The fasteners are removable, allowing for the area surrounded by the barriers to be increased or decreased in size according to operational demands. Portable spill pallets that provide a separate segregation area may also be used to segregate MW within the MWMUs. In addition, a container holding a MW that is incompatible with any MW or other material stored nearby may be segregated from the incompatible MW/material by means of a dike, berm, wall, or other device. Segregation devices used are compatible with the MW stored within the segregation area and prevent the migration of MW from the segregation area and/or commingling of incompatible MW/materials in the event of a release.

TABLE OF CONTENTS

ATTACHMENT 7

CONTINGENCY PLAN

LIST OF TABLES

LIST OF EXHIBITS

G. CONTINGENCY PLAN

G-1 General Information [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.51 and 270.14(b)(14)]

This HWMA/RCRA Contingency Plan discusses emergency response for the MWMUs. Emergency actions addressed include protection of human health, the environment, and RWMC/AMWTP buildings and equipment in an event originating from or affecting the MWMUs. The "Emergency Plan/RCRA Contingency Plan for the AMWTP" contains the implementing documents for emergency response for the AMWTP and is written to comply with requirements that are in addition to those of HWMA/RCRA. This Contingency Plan provides the HWMA/RCRA requirements that are being implemented through the "Emergency Plan/RCRA Contingency Plan for the AMWTP".

The Contingency Plan addresses the actions to be taken to protect human health and the environment at the MWMUs, in the event of an emergency. When implemented, the Contingency Plan is designed to minimize the hazards from fires, explosions, or any unplanned significant release of MW, or chemical constituents of the waste to the air, soil, surface water, or groundwater. The Contingency Plan provides for emergency procedures, identifies authorities and responsibilities of emergency response personnel and organizations, and identifies the manpower, equipment, and specialized services that are available to manage an emergency situation.

The Contingency Plan is maintained, at a minimum, at the AMWTP ECC office and as part of the AMWTP HWMA/RCRA Permit at the AMWTP.

The Contingency Plan applies to all AMWTP personnel who are assigned to the MWMUs, support personnel who work at the MWMUs, or personnel who are providing assistance during an emergency. The plan also applies to visitors.

At a minimum, the Contingency Plan is amended, if necessary, whenever:

- The HWMA/RCRA permit is modified;
- The plan fails in an emergency;
- The design, construction, operation, maintenance, or other circumstances involving a MWMU changes, in a way that materially increases the potential for fires, explosions,

or significant releases of MW or waste constituents, or changes the response necessary in an emergency;

- The list of Emergency Coordinators (ECs), commonly referred to as the Emergency Action Manager (EAM), changes; or
- The list of emergency equipment changes.

General descriptions of the activities occurring in the MWMUs are provided in Attachments 1.A, 1.B, 1.C, 1.D, I.E, 1.F, 1.G, 1.H, 1.H.i, 1.H.ii, 1.H.iii, and 1.H.iv.

G-2 Emergency Coordinators [IDAPA 58.01.05.008; 40 CFR 264.52(d) and 264.55]

Table G-1 lists the names, addresses, and telephone numbers of the current AMWTP EAMs.

Due to the shift-work structure and remoteness of the AMWTP, it is not possible or practical for one individual to assume "primary" responsibilities. Rather, responsibility is best assigned through "redundant primary" EAMs. The EAM is at the AMWTP at all times or on call. When on call, the EAM must be available to respond to emergencies by reaching the facility within a short period of time. If an incident overlaps more than one shift, the active EAM shall maintain the command until responsibility is officially passed to the oncoming EAM.

The AMWTP has an ERO that includes the EAM position. The EAM has managerial responsibilities and the technical knowledge of the MWMUs. The EAM is knowledgeable of operational activities at the MWMUs, building controls and equipment, building layout, characteristics of waste being handled, and the personnel involved with the MWMUs. The EAM also has the authority to commit the necessary resources to implement the Contingency Plan. This knowledge, leadership, and authority allows the EAM to function quickly and effectively when responding to an emergency incident.

The EAM, or designee, is responsible for:

- Ensuring that the emergency procedures are implemented when responding to any incident involving MW to mitigate or eliminate any immediate or potential hazard to personnel and/or the environment, and
- Serving as primary lead in coordinating with the INL Fire Department and Emergency Medical Technician (EMT) Services, INL ERO, and the WCC for the proper support from these organizations.

Table G-1. AMWTP Emergency Action Managers

Status	Name	Pager	Work Phone	Home Phone	Cell Phone	S#	Home Address
Primary	Joel Shokes	—	557-7222	—	—	—	—
Primary	Michael Fogarty	—	557-7222	—	—	—	—
Primary	Nathan Loftus	—	557-7222 557-7311	—	—	—	—
Primary	Jason Bottles	—	557-7222 557-7311	—	—	—	—
Primary	Mike Loftus	—	557-7311	—	—	—	—
Alternate	Brett Stacey	—	557-7311	—	—	—	—
Alternate	Ted Griffith	—	557-7222	—	—	—	—

G-3 Implementation [IDAPA 58.01.05.008; 40 CFR 264.52(a) and 264.56(d)]

The provisions of the Contingency Plan are implemented immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment. Minor incidents (those that can be controlled with on-Site resources and do not threaten human health or the environment) are managed by trained personnel according to the provisions of this plan. Such responses are not considered activation of the Contingency Plan.

G-4 Emergency Response Procedure

G-4a Notification [IDAPA 58.01.05.008; 40 CFR 264.56(a)]

Regardless of classification, once an event is categorized as an emergency, the EAM (or designated representative) immediately notifies personnel within the affected MWMU of appropriate protective actions by activating the voice paging system, alarm system and/or radio, phone, or by word-of-mouth. During an emergency, the EAM informs the INL WCC of the event typically by using either a phone or two-way radio.

Personnel in the MWMU(s) are notified of an emergency either by radio, phone, word-of-mouth or by the evacuation and voice paging system. The paging system consists of a manually activated operator control system connected to AMWTP local and global communications and alarms system.

Once activated, the paging system simultaneously distributes the same "page alert tone" (chimes), followed by a voice message, if required, to all speakers connected to the system. The system consists of indoor/outdoor weatherproof paging speakers to distribute the voice message to the MWMU(s). Additionally, the MWMUs are equipped with telephones and AMWTP personnel have access to two way radios to allow for communications both on- and off-Site for summoning emergency assistance.

Monitoring systems (e.g., fire, radiation) in the MWMUs are equipped with audible alarms to notify personnel of potential emergencies.

If it is determined that a MWMU has had a significant release, fire, or explosion which could threaten human health, or the environment outside the MWMU, the AMWTP EAM will ensure that local authorities are notified by phone and/or faxed notification forms. These notifications are normally made by the INL WCC, based upon the initial information provided by the EAM.

The agencies that may be notified are:

- The management and operations (M&O) contractor emergency director (the M&O contractor emergency director may direct the WCC to contact the DOE-ID Management Duty Officer and/or activate the ERO's);
- INL ERO personnel if an alert, site area, or general emergency has been declared;

- DOE-ID Emergency Management Program Administrator;
- Other affected INL EROs, as deemed necessary;
- State, local, and tribal agencies, if help is needed; and
- DOE Headquarters Emergency Management Team, as deemed necessary.

The notification includes the following information:

- Name and telephone number of reporter;
- Name and address of the MWMU;
- Time and type of incident (e.g., release, fire);
- Name and quantity of material(s) involved, to the extent known;
- The extent of injuries, if any; and
- Possible hazards to human health, or the environment, outside the MWMU.

The EAM or the ECC also recommends to the appropriate local, state, or federal officials whether local areas should be evacuated.

G-4b Identification of Hazardous Materials [IDAPA 58.01.05.008; 40 CFR 264.56(b)]

The Operating Record contains information on the waste received at the MWMUs. The Operating Record includes information, to the extent known, relative to the content of each waste container, the generator of the waste, volumes of waste, and locations of waste containers within the MWMUs. The Operating Record is used to assist in the identification of waste materials involved in an emergency at the MWMUs. Additionally, AMWTP barcodes on containers are scanned as the containers are transferred to, from, and within the MWMUs. The container information, to the extent known, is maintained in the Operating Record. The Operating Record accounts for the waste types and provides a real time inventory of waste as it is being processed through the MWMUs. The EAM will determine the identity, source, amount, and extent of any released materials. Sources of information include, but may not be limited to:

- Observations of personnel involved in or discovering the situation,
- Operating Record,
- MSDSs,
- Monitoring performed by Industrial Safety/Industrial Hygiene personnel,

- Monitoring performed by Radiological Safety personnel, and
- INL Fire Department findings and/or report.

Measured or estimated radiological/chemical concentrations in air, soil, and water (mainly contaminated fire water at the MWMU) or on surfaces are used to characterize and identify the magnitude of any released MW constituents. Also, monitoring for radiological and chemical hazards may be performed to track any spread of MW constituents. The data may be collected from fixed and/or portable radiation/chemical monitoring instrumentation.

G-4c Assessment [IDAPA 58.01.05.008; 40 CFR 264.56(c) and (d)]

As feasible, and as safety conditions warrant, information shall be gathered near the scene of the incident to aid in the assessment of an actual or imminent fire, explosion, or significant release of MW so that the appropriate protective actions can be implemented. If required to gather information for the assessment, then individuals entering the affected area will wear appropriate PPE. Typically, the AMWTP EAM and supporting personnel gather assessment information, when feasible, from remote locations.

Based on conservative estimates of the potential source term(s) at the AMWTP, emergency action levels (EALs) have been developed for fires, explosions, radiological releases, and other emergency events. EALs are specific, predetermined, observable criteria used for determining the emergency classification and initial protective actions for emergencies. These EALs provide guidance for activating the INL EROs at the appropriate level in response to an incident. The EALs specify the initial protective actions (e.g., evacuation, take shelter, etc.) to be taken in response to the event.

The emergency assessment requires determination of hazards involving evaluation of several criteria, including the following:

- Nature of the accident – Known or probable cause, current/projected status of the affected area, facility conditions, status of containment boundaries/systems, and type(s) and quantities of hazardous waste/material (non-radiological and radiological) involved in the incident.
- Weather conditions, present and expected – Wind speed and direction, precipitation, time of day, stability class, weather forecast, anticipated dispersion pattern, direction of travel and width of plume, and locations affected.

- Exposure – Magnitude of actual or potential exposure to employees, the general public and the environment, the duration of human and environmental exposure, and pathways of exposure.
- Toxicity – Types of adverse health or environmental effects associated with exposures, and the relationship between the magnitude of exposure and adverse effects.
- Reactivity – Hazardous materials or waste involved in an incident will be assessed to determine its reactivity and the method(s) for managing such waste.
- Effects – Direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-off from water or chemical agents used to control a fire or explosion).
- Uncertainties – Considerations for undeterminable or future exposures, and uncertain or unknown health effects including future health effects.

If the assessment indicates no real or potential threat to human health or the environment, then the occurrence will be considered a minor incident. Minor incidents do not require further activation of the Contingency Plan.

G-4d Control Procedures [IDAPA 58.01.05.008; 40 CFR 264.52(a)]

Fire. A fire at the MWMUs may arise from operations involving ignitable MW. A fire may also originate from the ignition of flammable or combustible equipment/fuels and then spread to involve or engulf nearby MW.

The MWMUs are constructed and designed to avoid the occurrence of a fire or control a fire if one starts. The MWMUs contain fire suppression systems/equipment, fire/smoke detectors, fire alarm systems, automatic systems for notifying the INL Fire Department, and use of building materials and components that adhere to regulations/codes for fire prevention.

Explosion. An imminent explosion or actual explosion at a MWMU is detected by:

- Gauges, monitors, or instrumentation that indicates an enclosed vessel or line is accumulating an abnormally large build-up of pressure or temperature;
- Visual identification of a bulging or ruptured drum, cylinder, vessel or line; or
- An explosion that progresses into fire and smoke, which then activates a fire/smoke alarm within a MWMU.

The MWMUs have few potential explosive hazards, and safety equipment and work practices reduce the probability of an explosion. An explosion at a MWMU may originate from a rupture in a compressed gas cylinder, failure of a liquefied petroleum gas tank, or a break in a high-pressure line/vessel.

Significant Release of MW. A significant release of MW constituents at a MWMU could result in an exposure to personnel or contamination of the surrounding environment. A significant release could occur from a spill of the MW during storage, characterization, or treatment operations or failure of characterization equipment or control systems. Also, water used to fight fires may become contaminated with MW constituents, imposing additional considerations when disposing of the water. However, the MWMUs are designed and constructed to eliminate, minimize, or control a potential release of MW. Also, safe work practices are implemented to further reduce the potential for a MW release.

Released or residual waste (from a fire or explosion) that cannot be identified by labels, records, logbooks, identification numbers, or the Operating Record are sampled and analyzed to determine the chemical properties of the waste. The resulting information is used to determine the proper disposition of the waste.

G-4e Prevention of Recurrence or Spread of Fires, Explosions, or Releases [IDAPA 58.01.05.008; 40 CFR 264.56(e) and (f)]

The AMWTP EAM is responsible for all reasonable measures necessary to ensure fires, explosions, and significant releases do not occur, recur, or spread to other wastes at the MWMUs. These measures may include, where applicable, stopping processes and operations, collecting and containing released waste constituents, and removing or isolating containers.

The AMWTP EAM is also responsible for ensuring that the MWMUs and equipment contained within are monitored (as practical) for pressure buildup, gas generation, or rupture in valves, pipes, or other equipment.

Fires. The MWMUs have many pre-engineered features that reduce the likelihood for a fire to occur, recur, or spread to other wastes contained within the building. All the materials used in the construction of the MWMUs are in accordance with UL, NFPA, and UBC requirements. The MWMUs are equipped with automatic fire protection systems, which consist of a combination of smoke detectors, remote and local alarms, an automatic fire extinguishing system (sprinklers), clean agent systems, CO2 Fire Suppression System, located on the arm of the floor mounted manipulator and fire extinguishers. Typically, once a fire is detected in a MWMU, the alarm sounds, the building HVAC system shuts down, and water is introduced through overhead piping.

Explosions. The WAC for newly generated waste received at the AMWTP prohibits the receipt of explosives. Therefore, only existing wastes stored at the TSA in sealed containers have the potential for hydrogen gas buildup, which could result in an explosion. Unvented, sealed containers with the potential for pressure build-up are vented in the DVS (WMF-634) or DVF (Type I Module). In order to prevent pressure build-up due to radiolytically generated gas, filters are inserted into drums in the DVS or the DVF. See Attachments 1, 1.A, and 1.C for additional information. The following steps are implemented, as necessary, in response to an explosion in a MWMU:

- Ensure notification to the INL Fire Department,
- Shut down equipment operating in the MWMU,
- Evacuate the immediate area of the explosion, and
- Implement applicable emergency response procedures, as appropriate.

Releases. The MWMUs are designed to meet the HWMA/RCRA secondary containment system requirements, when containers with free liquids are present, and are capable of containing spills and leaks. Moveable synthetic spill control barriers may be used between segregated storage areas to provide physical containment for incompatible wastes, if required. Spill pallets/pans may be used to provide secondary containment when free liquids are stored in WMF-636 Pad 2, or other areas that may not have secondary containment. Container storage areas in the MWMUs are visually inspected for evidence of deterioration or releases. See Attachment 4 for further information on inspections. CAMs are used to detect the spread of airborne radioactive contamination where the dense pack container storage configuration is utilized. The CAMs also provide a reasonable indication of a potential significant release of hazardous constituents from the waste, as the radioactive and chemical wastes are commingled.

The following actions will be implemented in the event that: (a) a MW spill causes an immediate health hazard; (b) a MW spill cannot be contained with secondary containment or the application of absorbents; or (c) a threat exists for spilled material to migrate out of the MWMUs:

- Evacuate the immediate area.
- Review facility records to determine the identity and chemical nature of the released material, to the extent possible.
- Ensure the source of the release is secured, if possible.
- Ensure that a dike/spill containment is built to contain run-off, if required.
- Ensure storm drains do not receive potentially hazardous run-off or spill material. Build dikes around storm drains and close any valves controlling discharge, if required.

For additional information on the required responses to spills/leaks within a MWMU, see Sections G-4f and G-4i.

G-4f Storage and Treatment of Released Materials [IDAPA 58.01.05.008; 40 CFR 264.56(g)]

Once initial spill containment has been completed, the EAM ensures that recovered wastes are properly stored, treated, and/or disposed of, as required by HWMA/RCRA. For spills of liquid that escape secondary containment, the perimeter of the spill is diked with an absorbent material, such as absorbent pillows, that is compatible with the waste(s) released. Freestanding liquid is transferred to a labeled compatible container.

The remaining liquid is absorbed with an absorbent material and swept or scooped into a labeled compatible container. Spill residue is removed. Spills of dry waste are swept or shoveled into a labeled compatible container. Waste recovered from the spill is transferred to a new or clean, reusable container.

Waste resulting from the cleanup of a fire, explosion, or release of MW is contained and managed as HWMA/RCRA-regulated waste, until such time that it can be determined otherwise. In most cases the MW inventory, as part of the Operating Record, and process knowledge allow a determination of the waste constituents. When necessary, however, samples of the waste may be collected and analyzed to determine applicable HWNs. Typically, EPA-approved sampling and analytical methods are used.

Any contaminated soil resulting from a release of MW outside of secondary containment will be removed and placed into a labeled compatible container. If a spill is contained within secondary containment, then the area will either be decontaminated, the contaminated material (e.g., floor coating) will be removed and replaced, or the contamination will be fixed in place.

G-4g Incompatible Waste [IDAPA 58.01.05.008; 40 CFR 264.56(h)(1)]

In the event of a significant waste release, the EAM ensures that no wastes are received, treated, or stored in the affected areas until cleanup operations have been completed. This procedure ensures that incompatible wastes are not present in the vicinity of the significant release.

Abatement and cleanup waste generated as the result of a spill or release is evaluated to determine its compatibility with other wastes being managed in the storage areas. The evaluation identifies the material or waste that is spilled or released and determines its characteristics (e.g., ignitable, reactive, corrosive, and toxic). The waste generated by the abatement and cleanup activities are stored in that part of the storage area at the MWMUs that have been established to manage wastes with which it is compatible.

Additional controls are implemented (as necessary) to ensure segregation/separation of wastes, as required.

The AMWTP EAM does not allow MW operations to resume in a MWMU if significant amounts of incompatible wastes/materials have been released, before ensuring that necessary post-emergency cleanup operations to remove potentially incompatible wastes/materials are completed. Operations not associated with a leak/spill in a specific MWMU may continue while the leak/spill is mitigated. For example, should a leak/spill occur in the WMF-676 SCW glovebox system, the supercompactor may continue operations.

G-4h Post-Emergency Equipment Maintenance [IDAPA 58.01.05.008; 40 CFR 264.56(h)(2)]

The AMWTP EAM ensures that emergency equipment is available and ready for its intended use before operations resume. Any equipment that cannot be decontaminated may be discarded. Equipment or supplies that cannot be reused following an emergency are replaced. After the equipment has been cleaned, repaired, or replaced, a post-emergency MWMU and equipment inspection is performed, and the results are recorded.

Cleaning and decontamination of equipment may be accomplished using non-hazardous materials whenever possible, by physically removing gross or solid residue, rinsing with water or another non-hazardous liquid, and/or washing with detergent and water.

Decontamination and cleaning may be conducted in a confined area that is isolated from the environment. Care is taken to prevent wind dispersion of particles and spray. Liquid or particulate resulting from cleaning and decontamination of equipment is placed in clean, compatible containers.

After AMWTP personnel have completed any post-emergency cleanup of waste and waste residues from areas where MWMU operations are ready to resume, and the AMWTP EAM has ensured that all emergency equipment used in managing the emergency has been cleaned or replaced and is ready for use, notifications are made to the following: EPA Regional Administrator, the Director of the Idaho DEQ, and any relevant local authorities. This post-emergency notification complies with IDAPA 58.01.05.008 [40 CFR 264.56(i)].

G-4i Container Spills and Leakage [IDAPA 58.01.05.008; 40 CFR 264.52(b), 264.171, and 264.175(b)]

Treatment/storage areas and containers at the MWMUs are inspected per a set schedule, as described in Attachment 4. Corrective or mitigative action is taken when container integrity is significantly deteriorated or compromised.

Additionally, AMWTP personnel can repair or overpack a leaking container, or place it in a drip pan before repairing, repackaging, or overpacking, to prevent continued leakage into a storage area that may affect other stored wastes. Damaged or leaking containers are repaired or overpacked before acceptance for storage in a MWMU, or are rejected and repaired, repackaged, or overpacked before being returned to the generator.

Waste containers are stored in the MWMUs on pallets, conveyors, or risers (conventional and spill) to prevent released waste from contacting or affecting other containers in storage. Inspections are conducted as described in Attachment 4. Spill response is completed as discussed in Section G-4e, Prevention of Recurrence or Spread of Fires, Explosions, or Releases, except for incidental spills, which would be immediately cleaned up. All spilled or leaked waste is cleaned up in a timely manner.

G-5 Emergency Equipment [IDAPA 58.01.05.008; 40 CFR 264.52(e)]

The types, locations, and capabilities of emergency equipment available in the MWMUs are listed in Table G-2.

Communications systems used by the AMWTP include commercial telephone, commercial cellular telephones, and radio networks. These communications systems, though not dedicated to emergency response, are available at the RWMC/AMWTP to provide prompt communications.

The RWMC/AMWTP evacuation siren and take cover alarm, as well as the emergency voice paging system, are operated from any one of the emergency notification system control panels located in WMF-637, WMF-620, WMF-610, WMF-601, WMF-685 and the Operator Control Stations in WMF-634 and WMF-636. Take cover and evacuation alarms are audible in all areas of the MWMUs.

The MWMUs' fire protection systems consist of a combination of smoke detectors, remote and local alarms, automatic sprinkler systems, and/or fire hydrants. Fire alarms are triggered either automatically in response to a fire or manually at a pull box. Once activated, the fire alarm system activates a local alarm and transmits an alarm signal to the INL Fire Department.

Table G-2. Emergency Equipment for the MWMUs

MWMU	Location[a]	Equipment
WMF-634	North Wall (3) South Wall (3) West Wall East Wall In the Electrical Room	Fire Extinguishers (ABC Type)
	West Wall East Wall	Spill Control / Cleanup Equipment[b]
	Next to each overhead access door into WMF-634.	Class D Fire Extinguishing Media[c]
Type II Modules (WMF-628 through WMF-633)	North Wall (3) South Wall (3) West Wall East Wall In the Electrical Room	Fire Extinguishers (ABC Type)
	West Wall East Wall	Spill Control / Cleanup Equipment[b]
	Next to each overhead access door into Type II Modules (WMF-628 through WMF-633).	Class D Fire Extinguishing Media[c]
Type I Module[d]	North Wall (2) South Wall (2) West Wall (2) East Wall (4) WMF-615 Area (2) PAAA Interior Walls (2) In the Electrical Room	Fire Extinguishers (ABC Type)
	East Wall South Wall West Wall (2)	Spill Control / Cleanup Equipment[b]
	Next to each overhead access door into WMF-635.	Class D Fire Extinguishing Media[c]
SWEPP	North Wall North Stairwell (2) South Wall East Wall Generator Room H&V Room Electrical Panel Area	Fire Extinguishers (ABC Type)

Table G-2. List of Emergency Equipment (continued)

SWEPP	South Wall West Wall	Spill Control / Cleanup Equipment[b]
	Next to each overhead access door into the SSA.	Class D Fire Extinguishing Media[c]
WMF-676	Spill Control/Cleanup Equipment 1st Floor Waste Receiving and Storage, Room 134 (2 locations) 1st Floor Supercompaction, Room 141B 1st Floor Drum Staging Area, Room 143 (2 locations) 2nd Floor SCW Treatment, Room 236 (3 locations)	Spill Control/Cleanup Equipment[b]
WMF-676	Fire Extinguisher Locations 1st Floor Drum Storage Area ‘C’, Room 143 (4 locations) 1st Floor Corridor, Room 145 1st Floor Drum Storage Area ‘A’, Room 146 1st Floor Drum Storage Area ‘B’, Room 146B 1st Floor Waste Drum Venturi/Filter, Room 146A 1st Floor Supercompaction, Room 141B 1st Floor Drum Venturi Airlock, Room 127A (2 locations) 1st Floor Transfer Conveyor, Room 131 (3 locations) 1st Floor LLW Box Fill Station, Room 128A 1st Floor Secondary Waste Room, Room 128B (2 locations) 1st Floor Empty Container/LLW Export, Room 128C (2 locations) 1st Floor Terminal Filter Room, Room 122A (2 locations) 1st Floor Terminal Filter Room, Room142B	Fire Extinguisher (ABC Type)

Table G-2. List of Emergency Equipment (continued)

WMF-676	Fire Extinguisher Locations 1st Floor Waste Receiving and Storage, Room 134 (3 locations) 2nd Floor SCW Treatment, Room 236 (6 locations) 2nd Floor Box Conveyor Area, Room 226 2nd Floor Area 300 HEPA Filter Room, Room 214A (3 locations) Interstitial Filter Maintenance Area, Room 212C Interstitial Filter Maintenance Area, Room 212F Interstitial Filter Maintenance Area, Room 212H	Fire Extinguisher (ABC Type)
WMF-676	CO2 Fire Suppression System Locations 2nd Floor North Box Line Area, Room 229B (2 locations) 2nd Floor South Box Line Area, Room 228B	CO2 Fire Suppression System
WMF-636 Pad 2	North Wall (2) South Wall (2) West Wall (2)	Fire Extinguisher (ABC Type)
	North Wall South Wall West Wall	Spill Control / Cleanup Equipment[b]
	Next to each overhead door providing direct access into WMF-636 Pad 2.	Class D Fire Extinguishing Media[c]

a. The equipment listed in this Table is located in the vicinity of the areas described in the “Location” column. A single piece of equipment is provided at each location unless otherwise noted in parenthesis following the location description.

b. The Spill Control / Cleanup Equipment includes shovel/broom, vermiculite/absorbent, spill pads, acid neutralizer, caustic neutralizer, solvent absorbent, spill disposal plastic bags, scraper/scoop, and pH paper.

c. Class D fire extinguishing media is only required when containers identified as pyrophoric radionuclides are stored within a MWMU. The total quantity and location of Class D fire extinguishing media is determined either by the AMWTP Fire Marshall or the INL Fire Department. A minimum of one Class D fire extinguisher will be provided adjacent to each overhead access door into a building that contains pyrophoric radionuclides.

d. All wall locations noted for the Type I Module are the exterior walls unless otherwise noted.

G-6 Coordination Agreements [IDAPA 58.01.05.008; 40 CFR 264.52(c) and 264.37]

The AMWTP has access to INL resources, such as on-Site security, medical, and fire assistance, on a 24-hr basis. The INL Fire Department would be the primary initial responder to an emergency event originating at the MWMUs. The INL Fire Department is notified of the storage location of all pyrophoric radionuclides stored at the AMWTP.

If additional resources are necessary, off-Site assistance is requested through the AMWTP and/or INL ERO. Off-Site interfaces for providing emergency response support are coordinated through DOE-ID. DOE-ID has mutual aid agreements in place with federal, state, local, and tribal agencies that define cooperative emergency policies and procedures and the roles of the participants.

Appropriate information from the Contingency Plan is provided to the following agencies through the Memorandum of Understandings (MOUs) and Memorandum of Agreements (MOAs) with the DOE-ID.

- Bingham, Bonneville, Butte, Clark, and Jefferson County Sheriff's Departments.
- Rexburg City/Madison County, City of Ammon, Hamer Volunteer, West Jefferson, City of Arco, City of American Falls, City of Blackfoot, City of Chubbuck, City of Pocatello, City of Rigby, and City of Idaho Falls Fire Departments.
- Jefferson Central, Lost River, South Custer Rural, North Custer Rural, and Shelly/Firth Fire Districts.
- Fort Hall Fire Protection District.
- Portneuf Medical Center, Eastern Idaho Regional Medical Center, Bingham County Memorial Hospital, and Lost River District Hospital.
- Bingham County Emergency Management Services, Bonneville County Emergency Management Services, Butte County Emergency Services, Clark County Civil Defense, and Jefferson County Emergency Management.
- Shoshone-Bannock Tribes.
- Bureau of Land Management, National Park Service, and Department of Agriculture.
- State of Idaho and Idaho Transportation Department.
- Naval Reactors Facility.

The AMWTP has limited capabilities for immediate response for emergencies that occur under controlled conditions (e.g., confined spill/leak that has the potential to affect human health or the environment). The INL Fire Department is the primary responder to all fire and emergency situations at the AMWTP. The INL Fire Department operates separately from the AMWTP, but their activities are coordinated with the EAM. DOE-ID maintains MOUs and MOAs with local and outside agencies that make additional equipment and emergency personnel available if outside assistance is required. In addition, as a DOE facility, the AMWTP can call upon additional resources of the INL ERO for assistance. Assistance includes, but is not limited to, local agencies (such as outside medical facilities or state and local law enforcement agencies) and other federal agencies.

G-7 Evacuation Plan [IDAPA 58.01.05.008; 40 CFR 264.52(f)]

Personnel are notified to take cover and/or evacuate by alarms and voice paging messages. Evacuation routes are through the nearest unobstructed emergency exit. Exhibit G-1 provides the location of evacuation routes for AMWTP personnel at the RWMC.

AMWTP personnel are notified of an emergency by the internal communications and alarm system (voice or signal). This system is connected to and compatible with the existing RWMC communications and alarm system. Different audible signals are sounded for fire or building evacuation.

The evacuation routes for the MWMUs are through the nearest personnel exit or egress doors. Exhibit G-2 shows evacuation routes and the locations of the personnel egress doors at WMF-634. Exhibit G-3 shows evacuation routes and the locations of the personnel egress doors in the Type II Modules (WMF-628 through WMF-633). Exhibit G-4 shows evacuation routes and the locations of the personnel egress doors in the Type I Module. Exhibit G-5 shows evacuation routes and the locations of the personnel egress doors at SWEPP. Exhibits G-6, G-7, and G-8 show evacuation routes and the locations of the personnel egress doors at WMF-676. Exhibit G-8 shows evacuation routes and the locations of the personnel egress doors for WMF-636 Pad 2. Exhibit G-9 shows evacuation routes for the AMTWP Outside Storage Area.

The MWMU layouts provide adequate emergency evacuation routes through aisles around stored waste. Upon evacuating the MWMUs, personnel exit the RWMC through either the south or north gate designated for the AMWTP, unless directed otherwise. Personnel evacuate to a designated assembly area, normally the south gate evacuation assembly area. During an evacuation of the RWMC or the AMWTP, AMWTP personnel typically use buses, government vehicles, or privately owned vehicles to evacuate the site.

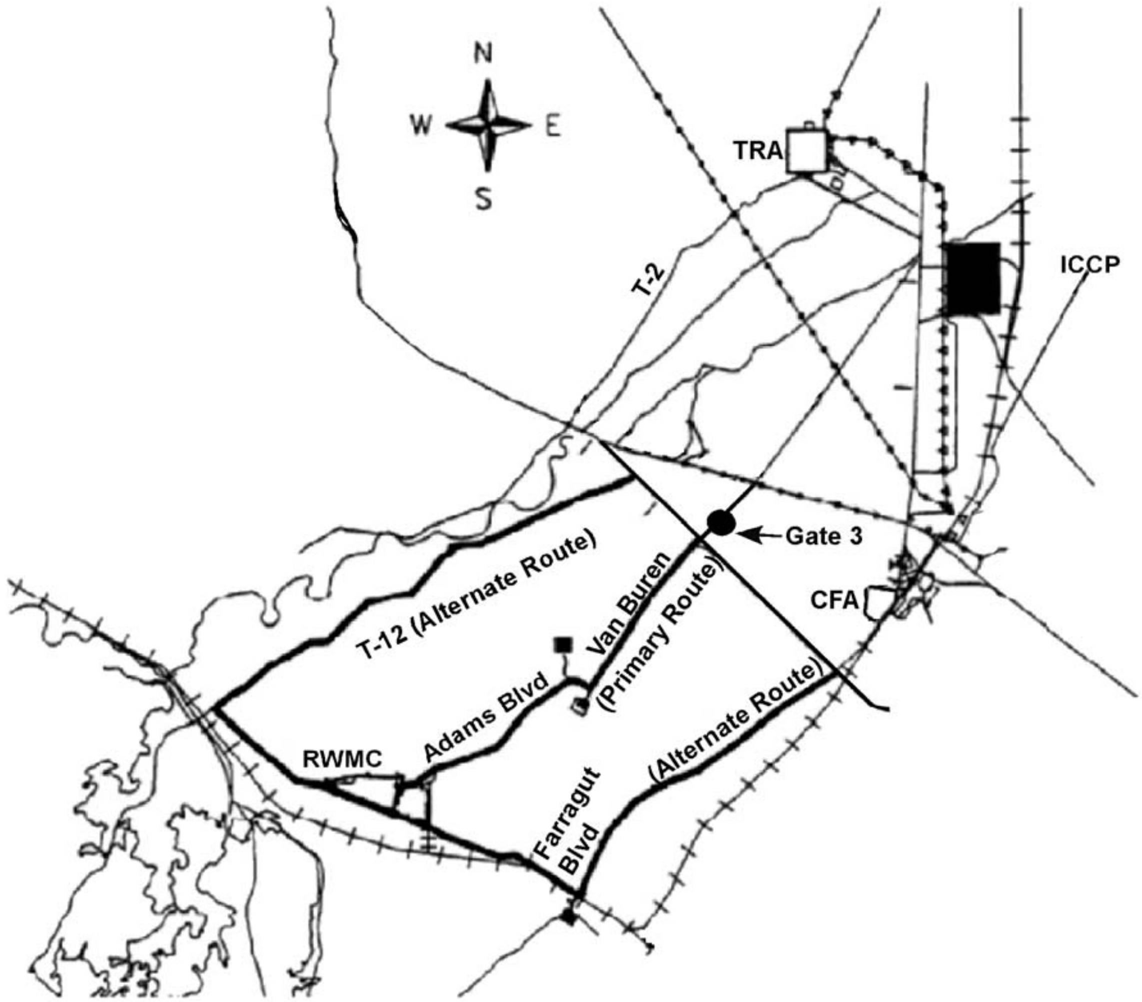

Exhibit G-1. AMWTP Evacuation Routes

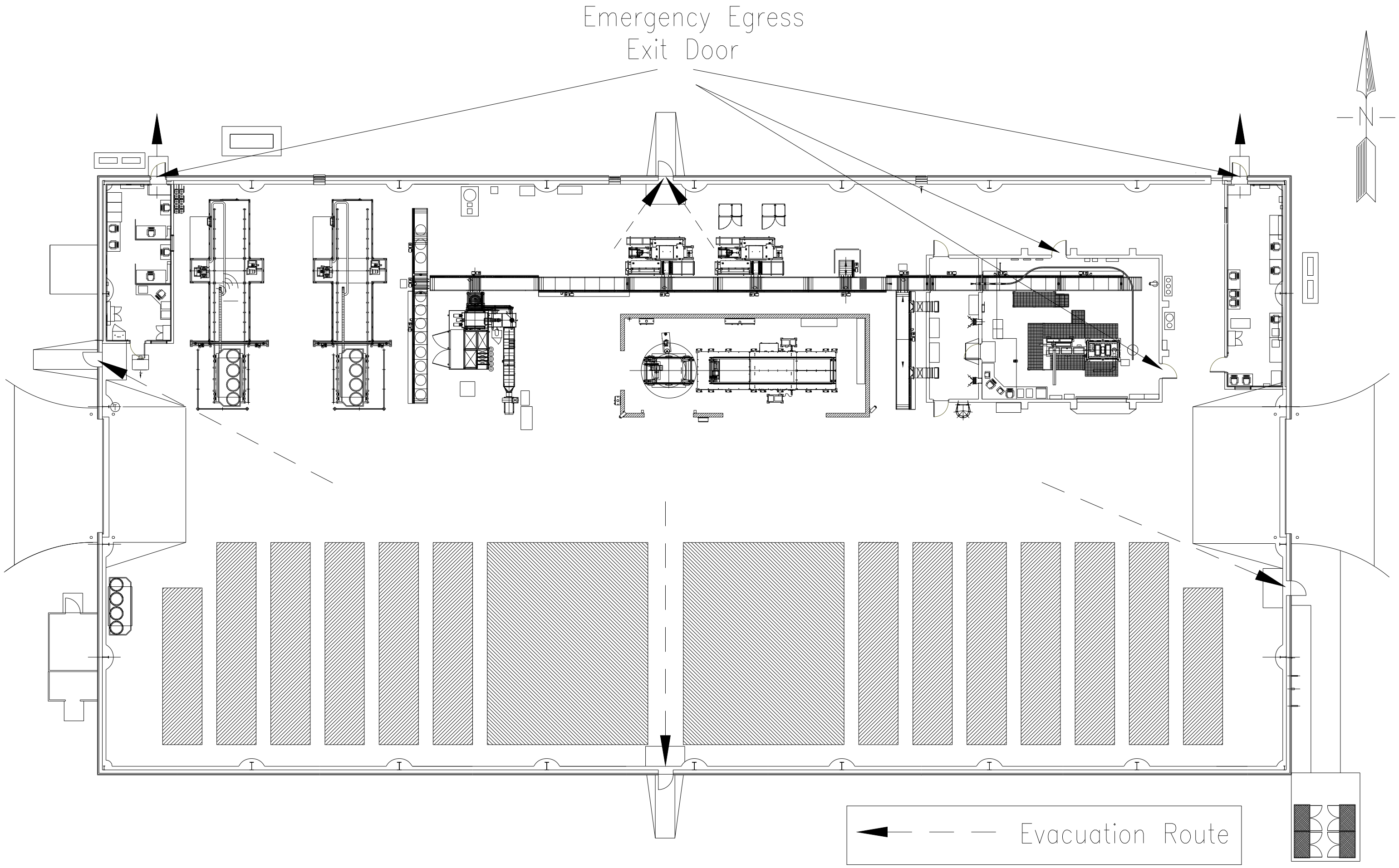

Exhibit G-2. WMF-634 Evacuation Routes

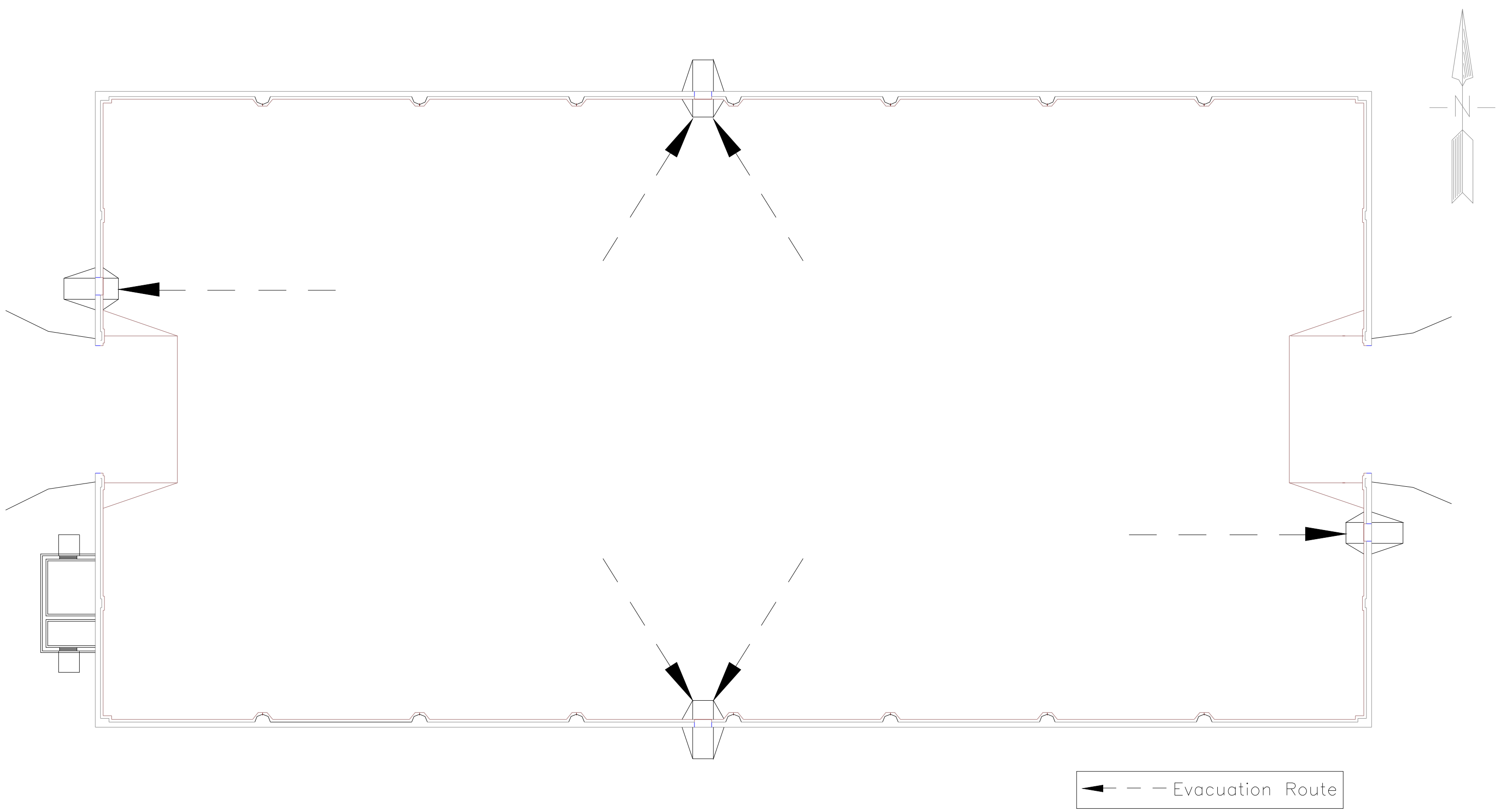

Exhibit G-3. Type II Module Evacuation Routes

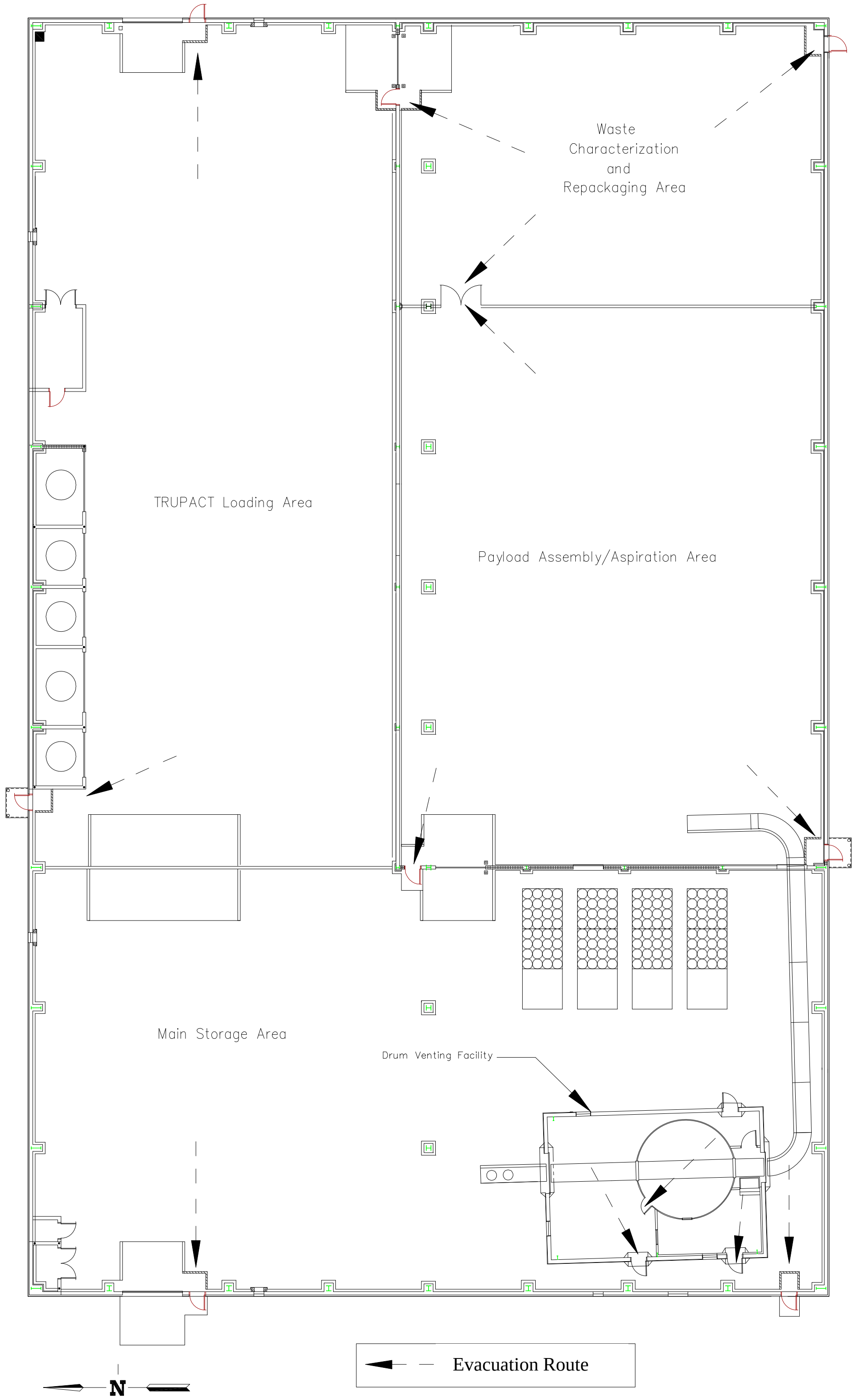

Exhibit G-4. Type I Module Evacuation Routes

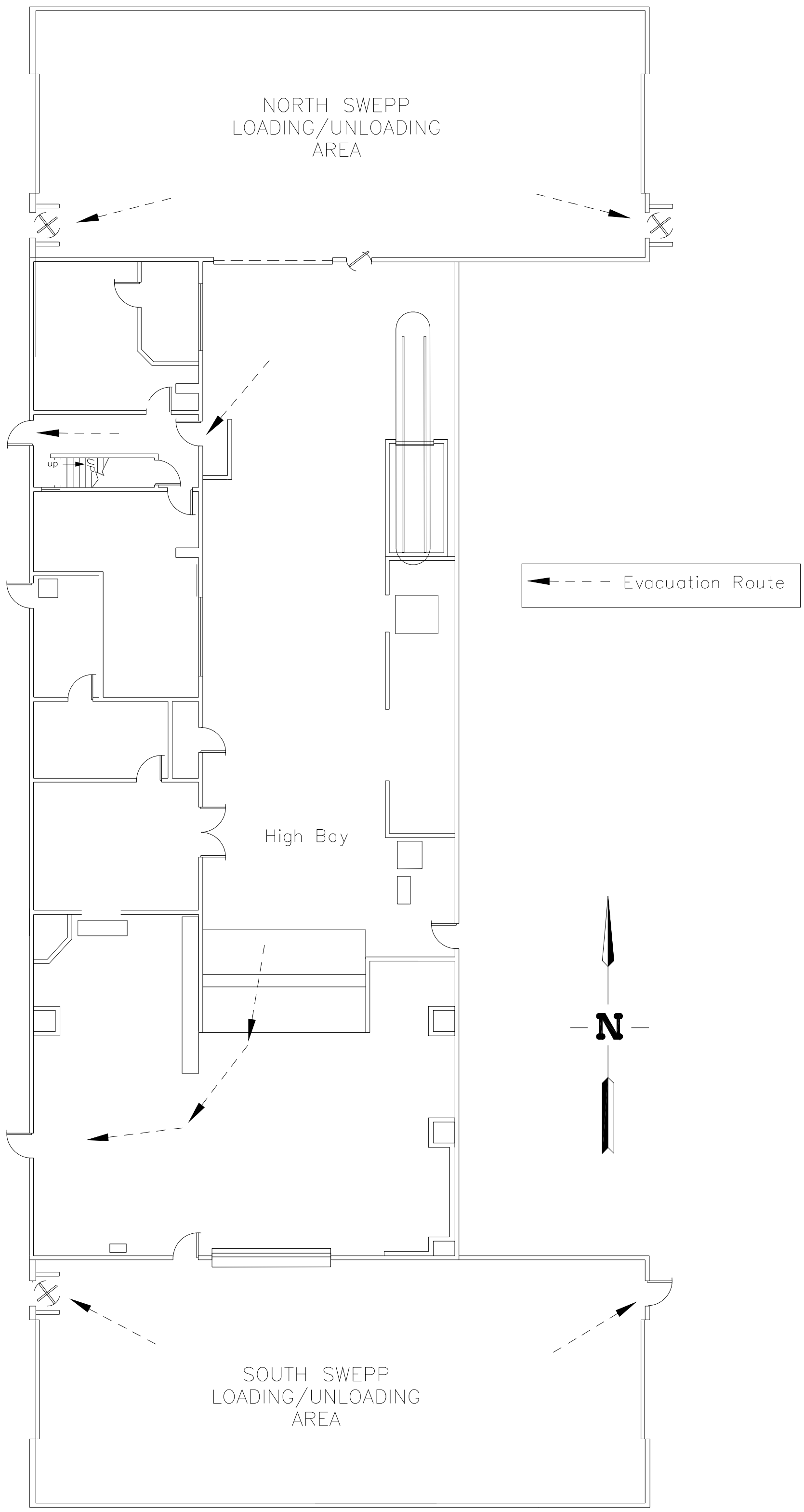

Exhibit G-5. SWEPP Evacuation Routes

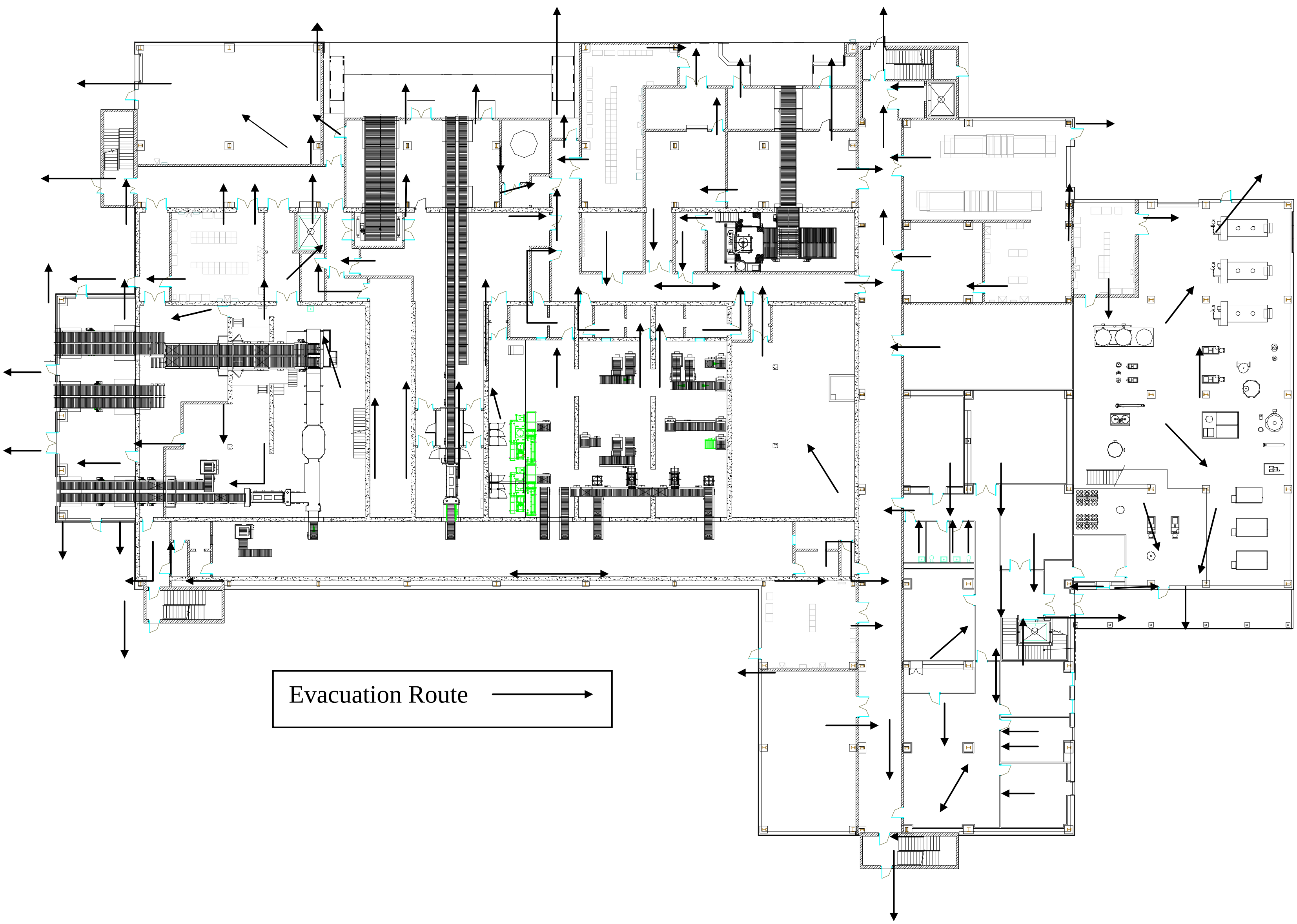

Exhibit G-6. WMF-676 First Floor Evacuation Routes

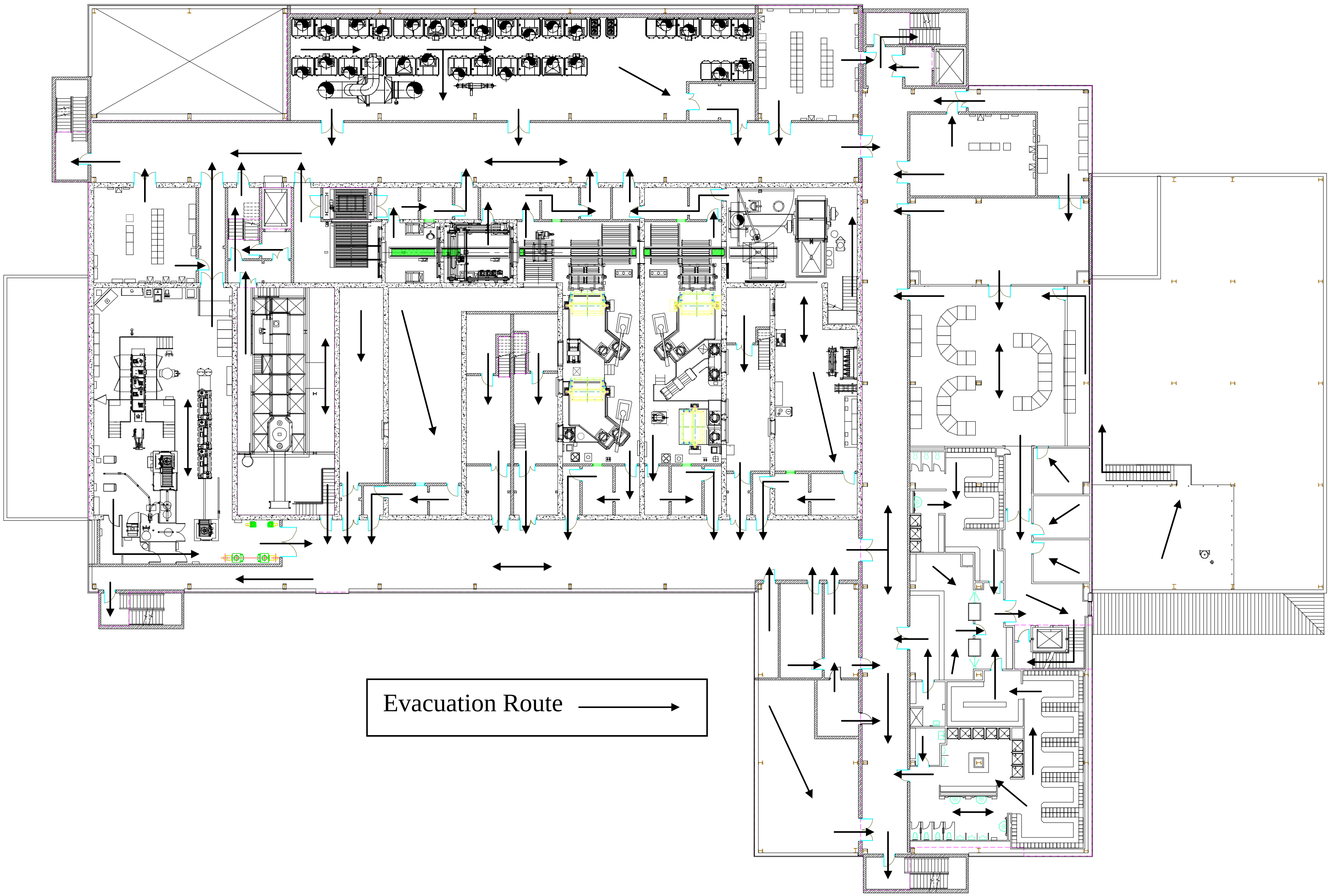

Exhibit G-7. WMF-676 Second Floor Evacuation Routes

Exhibit G-8. WMF-676 Penthouse/Roof Evacuation Routes

Exhibit G-9. WMF-636 Pad 2 Evacuation Routes

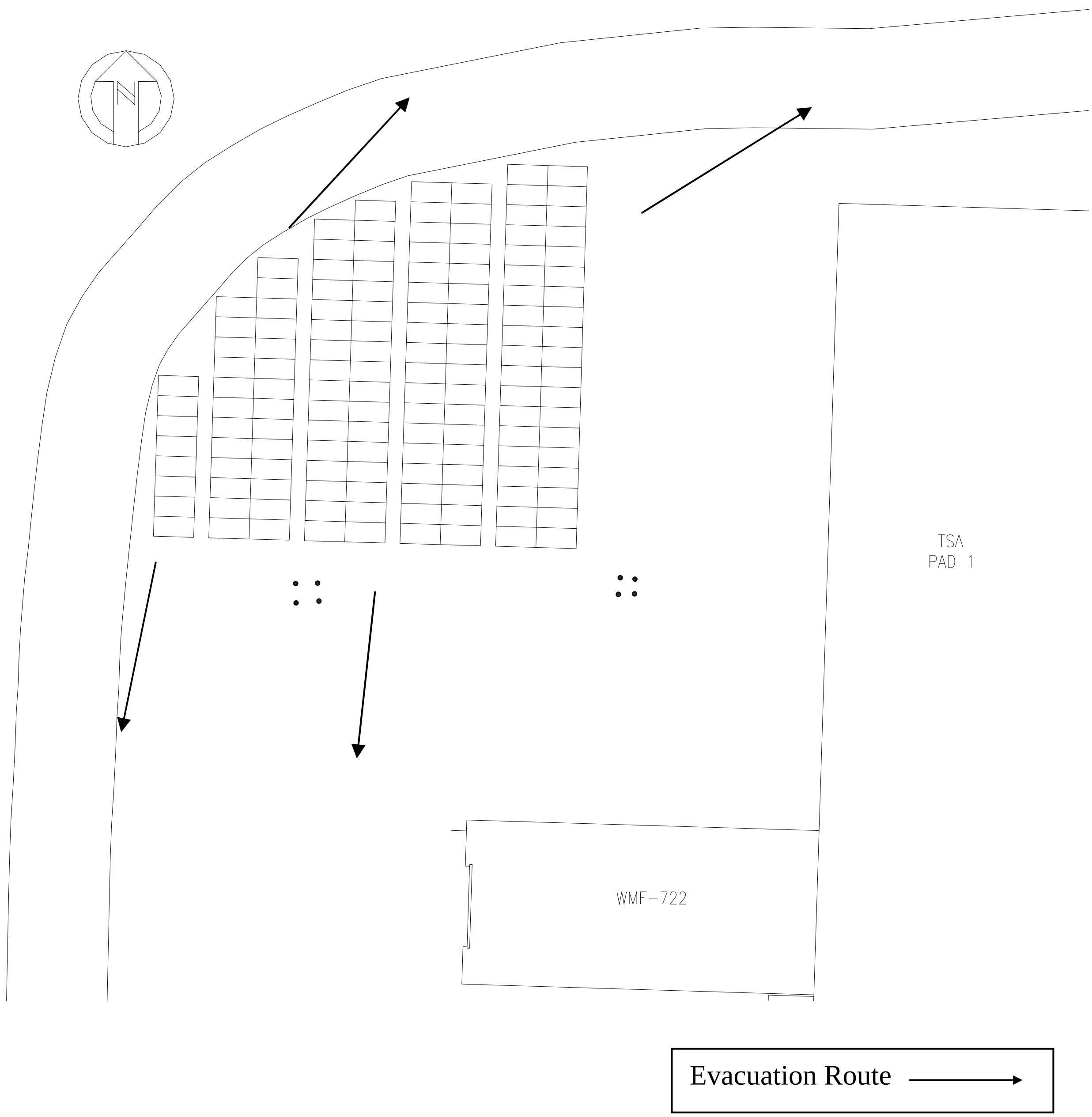

Exhibit G-10. AMWTP Outside Storage Area Evacuation Routes

G-8 Required Reports [IDAPA 58.01.05.008; 40 CFR 264.56(j)]

Emergency logs and records are considered part of the Operating Record and are maintained per IDAPA 58.01.05.008 (40 CFR 264.73). Information is used to provide the details necessary to submit a written report on the incident, if necessary, to the Director of the Idaho DEQ and the EPA Regional Administrator within 15 days of the event.

Such reports include, at a minimum, the following:

- Name, address, and telephone number of the MWMU owner or operator;
- Name, address, and telephone number of the MWMU;
- Date, time, and type of incident (e.g., fire, explosion);
- Name and quantity of material(s) involved;
- Extent of any injuries, if any;
- Assessment of any actual or potential hazards to human health or the environment; and
- Estimated quantity and disposition of material recovered from the incident.

TABLE OF CONTENTS

ATTACHMENT 8

CLOSURE PLAN

I. CLOSURE PLAN

I. Closure Requirements [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR Part 264, Subpart G and 270.14(B)(13)]

This Closure Plan, hereinafter referred to as the “Plan”, specifies the performance standards and describes the process for final closure of the MWMUs. Upon termination of operations, the owner/operator shall willfully close the MWMUs in accordance with the applicable HWMA/RCRA closure requirements promulgated at IDAPA 58.01.05.008 (40 CFR Part 264, Subpart G). The activities and closure performance standards described herein apply only to wastes and waste constituents regulated under HWMA/RCRA. In this Plan, the term “decontamination” refers to the removal of HWMA/RCRA-regulated wastes and waste constituents. Standards and methods for management of residual radiological contamination, which is not HWMA/RCRA-regulated that may be present at the MWMUs and disposition of radiological contaminated government-furnished equipment, shall follow the DOE-ID requirements governing the management and disposal of radiological-contaminated materials.

This Plan satisfies the requirements of IDAPA 58.01.05.008 [40 CFR 264.112(a)] that waste management units have a written closure plan. Of the additional requirements at IDAPA 58.01.05.008 [40 CFR 264.111(c) (i.e., 40 CFR 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, 264.351, 264.601 through 264.603 and 264.1102)], only those at IDAPA 58.01.05.008 (40 CFR 264.178 and 264.601) apply. Closure of the MWMUs in accordance with this Plan satisfies the requirements of IDAPA 58.01.05.008 (40 CFR 264.178).

Although closure under HWMA/RCRA is primarily concerned with the hazardous waste constituents in the MW managed at the MWMUs, closure is performed with full cognizance of the radiological component and the threat to human health and the environment engendered by that component. Closure will be performed to ensure the safety of personnel, as follows:

- Qualified AMWTP personnel supervise and perform closure activities in compliance with established safety procedures,
- Personnel are equipped with appropriate PPE and trained in applicable safety procedures, and

- The use of established radiological control procedures to ensure personnel and equipment are clean of radiological contamination before leaving any contaminated area.

While closure employs technologies to safeguard workers, treatment technologies that minimize the generation of aerosols and other particulates are preferentially selected.

Information specific to the closure of WMF-634 is presented in Attachment 8.A. The information pertaining to the closure of the Type II Modules, designated as WMF-628 through WMF-633, is presented in Attachment 8.B, the closure information pertaining to the Type I Module is presented in Attachment 8.C, the closure information pertaining to SWEPP is presented in Attachment 8.D, the closure information pertaining to WMF-636 Pad 2 is presented in Attachment 8.E, the closure information pertaining to the AMWTP Outside Storage Area is presented in Attachment. 8.F, and the closure information pertaining to WMF-676 is presented in Attachment 8.G.

TABLE OF CONTENTS

ATTACHMENT 8.A

WMF-634 CLOSURE PLAN

LIST OF TABLES

I-1 Closure Plan [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.112(b) and 270.14(b)(13)]

This section of the Closure Plan hereinafter referred to as the "Plan", describes the closure process, standards, and activities to be employed during the closure of WMF-634. The design and operation of WMF-634 and the types of MW managed at WMF-634 are described in detail in Attachments 1, 1.A, and 2.

I-1a Partial Closure Activities [IDAPA 58.01.05.008; 40 CFR 264.112(b)(1 - 6)]

No specific plans presently exist for partial closure of WMF-634. If partial closure is considered in the future, the procedures for verification sampling, decontamination, and confirmatory sampling presented in the following sections would be applicable to such an approach. Containment enclosures, as described in Attachment 1.A, may be located within the MWMU. If a containment enclosure is closed prior to the closure of WMF-634, then all activities (e.g., sampling and analysis results, decontamination/reuse of equipment, characterization, etc.) associated with the closure of the containment enclosure will be documented in the Operating Record.

I-1b Closure Performance Standard [IDAPA 58.01.05.008; 40 CFR 264.111 and 264.112(b)(1) and (2)]

The HWMA/RCRA-regulated MWMUs will be closed in a manner such that:

- The need for post-closure maintenance is eliminated by controlling or eliminating the potential for escape of MW, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the environment;
- Closure activities generate a minimum amount of mixed or hazardous waste;
- Closure activities generate a minimum amount of non-HWMA/RCRA-regulated solid and radioactive waste;
- Hazardous waste is removed and managed in accordance with the applicable requirements of IDAPA 58.01.05.006 through 58.01.05.012 (40 CFR Parts 262 through 270); and
- Closure of the HWMA/RCRA-regulated MWMUs complies with all applicable state and federal requirements.

Performance Standard Description

1. **Equipment to be Reused or Salvaged:** Upon closure, the performance standard achieved for reusable structures and equipment from the closed MWMU will be the clean closure standard as verified by sampling and analysis of swipe or decontamination rinsate samples, as appropriate. Decontamination will be considered successful based on confirmatory sampling and analysis when the analytical results verify that the hazardous waste constituent(s) of concern in the samples is less than ten times the practical quantitation level, as defined in the appropriate procedure of SW-846.

2. **Equipment to be Disposed:** The visible surfaces of equipment, structures, etc., that are to be disposed will be decontaminated by an alternative treatment technology pursuant to IDAPA 58.01.05.011 (40 CFR 268.45) to achieve the clean debris surface standard. '"Clean debris surface" means that the surface, when viewed without magnification, shall be free of all visible contaminated soil and hazardous waste except that residual staining from soil and waste consisting of light shadows, slight streaks, or minor discoloration, and soil and waste in cracks, crevices, and pits may be present provided that such staining and waste and soil in cracks, crevices, and pits shall be limited to no more than 5% of each square inch of surface area.' Equipment on which the contaminated surface is not readily visible (e.g., pipe) will be treated by an appropriate alternative treatment standard for hazardous debris (e.g., macroencapsulation) per IDAPA 58.01.05.011 (40 CFR 268.45), as based on Operating Records (including analytical data) for the waste treated by the equipment.

Newly-Generated HWMA/RCRA Wastes

HWMA/RCRA-regulated waste generated during closure will be classified as newly-generated waste, and will be managed as described in Section I-1d.

Safety Considerations

Although closure under HWMA/RCRA is primarily concerned with the hazardous waste constituents in MW, closure must be performed with full cognizance of the radiological component and the threat to human health and the environment engendered by that component. This Plan reflects the practical realities of performing work in an environment highly contaminated with TRU radionuclides. Closure will be performed to ensure the safety of personnel, as follows:

- Qualified personnel will supervise and perform closure activities in compliance with established safety procedures.
- Whenever practicable, closure activities will be performed remotely using manipulators, etc.
- Personnel will be equipped with appropriate PPE and be trained in comprehensive, applicable safety procedures.
- The use of established radiological control procedures to ensure personnel and equipment are radiologically decontaminated before leaving any radiologically contaminated area.

Although closure will employ technologies to safeguard workers (e.g., HEPA-filtered vacuum cleaners and portable containment), treatment technologies that minimize the generation of radioactive air-borne particles (dust) will be preferentially selected.

I-1c Maximum Waste Inventory [IDAPA 58.01.05.008; 40 CFR 264.112(b)(3)]

The estimated total maximum HWMA/RCRA-regulated waste inventory at WMF-634 is 4,661 m^3 (1,231,430 gal). HWMA/RCRA-regulated waste is stored in a variety of containers as described in Section D-1(a)(1) of Attachment 1.A. Details on the methods for removing, transporting, treating, storing or disposing of HWMA/RCRA-regulated waste are found in Section I-1d of this Plan. The AMWTP has the goal of disposing all waste at the WIPP or other off-Site disposal facility. Closure will not commence until all waste has been removed from WMF-634.

I-1d Disposal or Decontamination of Equipment, Structures, and Soils [IDAPA 58.01.05.008; 40 CFR 264.112(b)(4) and 264.114]

Because operational methods at the MWMUs place emphasis on the containment and timely response to spills, and because of the MWMUs design, releases to the environment are unlikely. Therefore, disposal of contaminated soils pursuant to this Plan is not anticipated. However, if soil contamination is found it shall be addressed under the direction of DOE-ID. The following subsections provide a description of the actions necessary to manage the disposal or cleaning/decontamination of equipment or structures contaminated with HWMA/RCRA –regulated waste or waste constituents. Before beginning closure activities, all waste will be removed from the MWMU. The types of hazardous waste, if present, managed during closure are expected to have the same HWNs found in Table C-1 of Attachment 2.

I-1d(1) Sampling and Analysis

All sampling and analysis performed for closure is performed in accordance with the quality standards established in a Closure QAPjP, which will be submitted with the closure notification 45 days before closure of the MWMU begins. The Closure QAPjP will detail sampling and analysis procedures in accordance with *SW-846*, the ASTM Annual Book of ASTM Standards, or other EPA-approved methods.

I-1d(2) Disposal of Equipment

Typically, contaminated ancillary equipment from a MWMU, which is to be disposed, is decontaminated in accordance with the required treatment standards, or other technologies available and approved for such use at the time of closure, for hazardous debris [IDAPA 58.01.05.011 (40 CFR 268.45)] to attain the clean debris surface standard.

An assessment of the Operating Record will be conducted to determine the extent of potential contamination. Per this assessment, contaminated equipment will be decontaminated for all HWMA/RCRA-regulated hazardous constituents of concern that are present. The specific technology or technologies will be selected at the time of closure and during closure based upon the hazardous constituents of concern present, and the effectiveness of the selected technology in attaining the closure performance standard. Equipment for which the contaminated surface is not readily visible (e.g., pipe) will be treated by an appropriate alternative treatment standard for hazardous debris (e.g., macroencapsulation) per IDAPA 58.01.05.011 (40 CFR 268.45, Table 1) requirements.

Disposal of decontaminated equipment shall be in accordance with the applicable HWMA/RCRA requirements.

I-1d(3) Equipment and Structures to be Reused

To be protective of human health and the environment, ancillary equipment and structures designated for reuse are decontaminated to meet the clean closure performance standard, as verified by sampling and analysis. An assessment of the Operating Record will be conducted to determine the extent of potential contamination. Contaminated equipment and structures are decontaminated to meet the clean closure standard as verified by confirmatory sampling and analysis as described in the Closure QAPjP. The following section provides additional details for closure.

I-1d(4) WMF-634 Closure Procedures

Ventilation systems are maintained during closure, as required, to provide contamination control. To control the spread of airborne and surface contamination, portable containment, such as tents or glove bags, may also be employed during closure.

Cleaning/Decontamination. The MWMUs are designed and constructed to prevent migration of MW constituents. Spills and leaks are cleaned up in a timely manner and documented appropriately. See Attachment 7 for additional information.

After operations cease and all remaining waste has been removed from the MWMU, surfaces used for storage of HWMA/RCRA-regulated waste containers shall be thoroughly cleaned. These surfaces are swept or vacuumed using vacuum cleaners equipped with HEPA filters, if required. Following cleaning, qualified personnel shall visually inspect the MWMU for stains or other signs of spills and/or leaks of waste constituents. Additionally, the Operating Record will be reviewed to determine if further cleaning and/or decontamination is required.

Any HWMA/RCRA-regulated waste residues generated during cleaning/decontamination are placed in approved containers and managed in accordance with the applicable HWMA/RCRA requirements.

Cleaning/Decontamination Verification. For ancillary equipment or structures to be reused, confirmatory sampling and analysis (as outlined in the Closure QAPjP) will follow cleaning/decontamination, until it is established that cleaning/decontamination procedures have removed hazardous constituents of concern to the clean closure standard. If verification testing detects hazardous constituents of concern above the clean closure standard, the contaminated equipment or structure is decontaminated again, followed by confirmatory sampling and analysis. Decontamination is achieved when analytical results verify that the clean closure standard has been met. Once it has been established that the standard has been satisfied, the equipment or structure can be considered free of HWMA/RCRA-regulated hazardous constituents and released for reuse.

Cracked or Unsealed Surfaces. Surfaces used for storage of HWMA/RCRA-regulated constituents are inspected on a regular basis to identify structural problems that could result in migration of MW constituents. See Attachment 4 for additional information. If inspections during closure identify that surfaces used for storage are cracked or unsealed, the following steps are employed to meet the closure performance standard:

- Review the Operating Record to determine if HWMA/RCRA-regulated hazardous constituents of concern may be present,
- Decontaminate/remediate as appropriate for the HWMA/RCRA-regulated hazardous constituents of concern using a technology appropriate for the hazardous constituents of concern, and
- Sample and analyze decontaminated surfaces in accordance with the Closure QAPjP until the clean closure standard is achieved.

Decontamination materials and equipment. Spent decontamination materials (e.g., swabs, wipes, PPE, sampling equipment, HEPA vacuum cleaner filters) are characterized per process knowledge or sampled and analyzed in accordance with the Closure QAPjP. Based on the analytical results, the spent decontamination materials are placed in an appropriate container. All HWMA/RCRA-regulated wastes shall be placed in a compatible container that is labeled with a barcode identifier and managed in accordance with the applicable HWMA/RCRA requirements.

Equipment used for closure cleanup/decontamination is managed using the same procedures and standards as described previously in this section.

Any decontamination liquids are contained within the work area, then collected and characterized by process knowledge or in accordance with the Closure QAPjP. Spill booms, spill control pillows, swabs, or other absorbent material(s) may be used to contain the decontamination liquids and to facilitate removal. Spent decontamination materials and other wastes may be treated by an AMWTP technology (see discussion below for the order of closure), or packaged for transport to another waste management unit. Following decontamination, the work area is sampled and analyzed, as required, in accordance with the Closure QAPjP.

I-1d(5) Order of Closure

To the extent practicable, closure activities associated with the closure of a MWMU are accomplished utilizing other HWMA/RCRA-permitted MWMUs at the AMWTP, including treatment or storage at other AMWTP waste management units. Decontamination activities are performed in a step-wise fashion to maximize the use of WMF-676 and thereby minimize the quantity of HWMA/RCRA-regulated decontamination wastes requiring subsequent management. The major steps in the closure of a MWMU include:

- Removal of waste inventory followed by treatment, to the extent practicable, at WMF-676;
- Cleaning/decontamination in accordance with this Plan;
- Inspection and verification in accordance with this Plan and the Closure QAPjP to assure that the clean closure and/or performance standards at IDAPA 58.01.05.008 (40 CFR 264.111) are satisfied;
- Management of HWMA/RCRA-regulated newly generated waste in accordance with this Plan and the Closure QAPjP; and
- Closure certification.

I-1e Amendment of Plan [IDAPA 58.01.05.008; 40 CFR 264.112(c)]

Amendments to this Plan will be in accordance with IDAPA 58.01.05.008 [40 CFR 264.112(c)]. A copy of the Plan and supporting documentation is maintained as part of the Operating Record. The Plan will be amended in the future:

- At the time of closure to address the schedule for closure, changes to regulatory standards for cleanup, sampling based on the Operating Record, decontamination methods/technologies to be employed, changes to how and where disposal of equipment and structures will take place, and other changes necessary to accomplish the closure performance standard specified at IDAPA 58.01.005.008 (40 CFR 264.111);
- If it becomes desirable or necessary to close the MWMU in advance of the schedule included in the Plan;

- Whenever changes in a MWMU's operating plans or design affects the Plan;
- If there is a change in the expected year of closure;
- If, when conducting closure activities, an unexpected event requires an amendment;
- If a change in HWMA/RCRA regulations require amending the Plan; or
- At the request of the Director.

The Permittee will submit a written notification that includes a copy of the amended Plan to the Director 60 days before a proposed change in the operation or design of the MWMU that affects the Plan; or no later than 60 days after an unexpected event occurs that affects the Plan; or no later than 30 days after an unexpected event occurs during closure.

I-1f Schedule and Notification of Closure [IDAPA 58.01.05.008; 40 CFR 264.112(b)(6) and (d)]

The AMWTP will complete its mission in approximately 2018. At that time, a decision will be made to either close the MWMU or continue its use. The following schedule assumes closure in 2019; if the decision is made to operate the MWMU beyond that date, this Plan will be amended as previously described. The Director will be notified at least 45 days before the planned start of closure activities. Refer to Table I-2 for a summary of the schedule calendar.

Table I-1. Closure Performance Standards

Closure Performance Standard	Attainment Strategy
The owner or operator must close the facility in a manner that: a) Minimizes the need for further maintenance.	Prior to closure, all HWMA/RCRA-regulated waste and waste constituents of concern will be removed from the MWMU. No waste will be accepted in the MWMU once closure has commenced.
b) Controls, minimizes, or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous constituents, leachates, contaminated runoffs, or hazardous waste decomposition products to groundwater, surface water, or the atmosphere.	MWMU will be clean closed, which entails the removal of HWMA/RCRA-regulated wastes, waste constituents, and waste decomposition products, as well as the elimination of any source material that could generate contaminated leachates or runoff. In addition, pursuant to IDAPA 58.01.05.008 [40 CFR 264.110(b)] the HWMA/RCRA post-closure requirements at IDAPA 58.01.05.008 (40 CFR 264.116 through 40 CFR 264.120, and 40 CFR Part 264, Subpart H) are not applicable to the closure of a MWMU.
c) Complies with the closure requirements of IDAPA 58.01.05.008 (40 CFR Part 264, Subpart G), including but not limited to, the requirements of IDAPA 58.01.05.008 (40 CFR 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, 264.351, and 264.1102).	The Plan describes the processes used to close a MWMU in accordance the IDAPA 58.01.05.008 (40 CFR Part 264, Subpart G) closure requirements. Of the additional requirements, only those at IDAPA 58.01.05.008 (40 CFR 264.178) apply. Closure of a MWMU in accordance with this Plan satisfies the requirements at IDAPA 58.01.05.008 (40 CFR 264.178).

Table I-2. Closure Schedule

Activity	Day
Notify the Director	45 days before closure initiation
Initiate closure activities	Day 0
Complete equipment decontamination	Day 100
Complete decontamination of affected surfaces	Day 140
Decontaminate tools, complete waste assessments, remove closure waste	Day 160
Verify closure performance standard has been met	Day 180
Inspect and certify closure	Day 180
Complete all closure activities	Day 180
Submit closure certification to the Director	By 60 days after closure

I-2 Extensions for Closure Time [IDAPA 58.01.05.008; 40 CFR 264.113(a) and (b)]

The schedule presented in Section I-1f and Table I-2 indicates closure of a MWMU occurring within the 180 days specified at IDAPA 58.01.05.008 (40 CFR 264.113). No extension is requested at this time. However, it is recognized that this schedule may be ambitious, and that an extension may be required. That determination will be made closer to the time of closure based on the operating history of a MWMU; or during closure based on how rapidly closure activities are being accomplished. If an extension becomes necessary in the future, it will be presented in the amended Plan (if based on operating history) or a request will be submitted at least 30 days before day 180 (if the need for an extension is identified during closure).

I-3 Certification of Closure [IDAPA 58.01.05.008; 40 CFR 264.115]

An independent Idaho-registered professional engineer will be present during critical closure activities and will certify that the closure has been performed in accordance with this Plan; thereby, satisfying the requirements at IDAPA 58.01.05.008 (40 CFR 264.111). The certification will be submitted for approval to the Director within 60 days of completion of closure. Upon Director approval, closure will be considered complete.

I-4 Post-Closure Requirements [IDAPA 58.01.05.008; 40 CFR Part 264, Subpart G]

Pursuant to IDAPA 58.01.05.008 [40 CFR 264.110(b)] the HWMA/RCRA post-closure requirements at IDAPA 58.01.05.008 (40 CFR 264.116 through 40 CFR 264.120) are not applicable.

I-5 Closure Financial Requirements [IDAPA 58.01.05.008; 40 CFR Part 264, Subpart H]

I-5a Closure Cost Estimates [IDAPA 58.01.05.008; 40 CFR 264.142]

DOE-ID, the owner of WMF-634, as a federal government agency, is exempt from the closure cost estimate requirement, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-5b Financial Assurance for Closure [IDAPA 58.01.05.008; 40 CFR 264.143]

DOE-ID, the owner of WMF-634, as a federal government agency, is exempt from providing a financial assurance mechanism for closure, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-5c Liability Requirements [IDAPA 58.01.05.008; 40 CFR 264.147 and 264.148]

DOE-ID, the owner of WMF-634, as a federal government agency, is exempt from the liability requirements for closure, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-5d Use of State Required Financial Mechanisms [IDAPA 58.01.05.008; 40 CFR 264.149]

DOE-ID, the owner of WMF-634, as a federal government agency, is exempt from the state required financial mechanism requirements for closure, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-5e State Assumption of Responsibility [IDAPA 58.01.05.008; 40 CFR 264.150]

DOE-ID, the owner of WMF-634, as a federal government agency, is exempt from the state assumption of responsibility requirements for closure, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-6 Post-Closure Financial Requirements [IDAPA 58.01.05.008; 40 CFR Part 264, Subpart H]

Pursuant to IDAPA 58.01.05.008 [40 CFR 264.140(b)], the HWMA/RCRA post-closure financial requirements at IDAPA 58.01.05.008 (40 CFR 264.144 and 264.145) are not applicable to WMF-634.

TABLE OF CONTENTS

ATTACHMENT 8.B

TYPE II MODULES CLOSURE PLAN

I-1 Closure Plan [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.112(b) and 270.14(b)(13)]

This section of the Closure Plan, hereinafter referred to as the “Plan,” describes the closure process, standards, and activities to be employed during the closure of the Type II Modules designated as WMF-628 through WMF-633. The design and operation of the Type II Modules and the types of MW managed at the Type II Modules are described in detail in Attachments 1, 1.B, 1.E, and 2.

I-1a Partial Closure Activities [IDAPA 58.01.05.008; 40 CFR 264.112(b)(1 - 6)]

No specific plans presently exist for partial closure of the Type II Modules. If partial closure were to be considered in the future, the procedures for verification sampling, decontamination, and confirmatory sampling presented in the following sections would be applicable to such an approach.

I-1b Closure Performance Standard [IDAPA 58.01.05.008; 40 CFR 264.111 and 264.112(b)(1) and 264.112(b)(2)]

For information pertaining to Closure Performance Standard, see Section I-1b of Attachment 8.A.

I-1c Maximum Waste Inventory [IDAPA 58.01.05.008; 40 CFR 264.112(b)(3)]

The estimated total maximum HWMA/RCRA-regulated waste inventory at each Type II Module (WMF-629 through WMF-633) is 8,176 m^3 (2,159,985 gal) and the maximum waste inventory in WMF-628 is 4,192 m^3 (1,107,290 gal). HWMA/RCRA-regulated waste is stored in a variety of containers as described in Section D-1(a)(1) of Attachment 1.B. Details on the methods for removing, transporting, treating, storing or disposing of HWMA/RCRA-regulated waste are found in Section I-1c of Attachment 8.A. The AMWTP has the goal of disposing all waste at the WIPP or other off-Site disposal facility. Closure will not commence until all waste has been removed from the Type II Modules.

I-1d Disposal or Decontamination of Equipment, Structures, and Soils [IDAPA 58.01.05.008; 40 CFR 264.112(b)(4) and 264.114]

For information pertaining to disposal or decontamination of equipment, structures, and soils, see Section I-1d of Attachment 8.A.

I-1e Amendment of Plan [IDAPA 58.01.05.008; 40 CFR 264.112(c)]

For information pertaining to amendment of plan, see Section I-1e of Attachment 8.A.

I-1f Schedule and Notification of Closure [IDAPA 58.01.05.008; 40 CFR 264.112(b)(6) and (d)]

For information pertaining to schedule and notification of closure, see Section I-1f of Attachment 8.A.

I-2 Extensions for Closure Time [IDAPA 58.01.05.008; 40 CFR 264.113(a) and (b)]

For information pertaining to extensions for closure time, see Section I-2 of Attachment 8.A.

I-3 Certification of Closure [IDAPA 58.01.05.008; 40 CFR 264.115]

For information pertaining to certification of closure, see Section I-3 of Attachment 8.A.

I-4 Post-Closure Requirements [IDAPA 58.01.05.008; 40 CFR Part 264, Subpart G]

Pursuant to IDAPA 58.01.05.008 [40 CFR 264.110(b)] the HWMA/RCRA post-closure requirements at IDAPA 58.01.05.008 (40 CFR 264.116 through 40 CFR 264.120) are not applicable.

I-5 Closure Financial Requirements [IDAPA 58.01.05.008; 40 CFR Part 264, Subpart H]

I-5a Closure Cost Estimates [IDAPA 58.01.05.008; 40 CFR 264.142]

DOE-ID, the owner of the Type II Modules designated as WMF-628 through WMF-633, as a federal government agency, is exempt from the closure cost estimate requirement, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-5b Financial Assurance for Closure [IDAPA 58.01.05.008; 40 CFR 264.143]

DOE-ID, the owner of the Type II Modules designated as WMF-628 through WMF-633, as a federal government agency, is exempt from providing a financial assurance mechanism for closure, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-5c Liability Requirements [IDAPA 58.01.05.008; 40 CFR 264.147 and 264.148]

DOE-ID, the owner of the Type II Modules designated as WMF-628 through WMF-633, as a federal government agency, is exempt from the liability requirements for closure, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-5d Use of State Required Financial Mechanisms [IDAPA 58.01.05.008; 40 CFR 264.149]

DOE-ID, the owner of the Type II Modules designated as WMF-628 through WMF-633, as a federal government agency, is exempt from the state required financial mechanism requirements for closure, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-5e State Assumption of Responsibility [IDAPA 58.01.05.008; 40 CFR 264.150]

DOE-ID, the owner of the Type II Modules designated as WMF-628 through WMF-633, as a federal government agency, is exempt from the state assumption of responsibility requirements for closure, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-6 Post-Closure Financial Requirements [IDAPA 58.01.05.008; 40 CFR Part 264, Subpart H]

Pursuant to IDAPA 58.01.05.008 [40 CFR 264.140(b)], the HWMA/RCRA post-closure financial requirements at IDAPA 58.01.05.008 (40 CFR 264.144 and 264.145) are not applicable.

TABLE OF CONTENTS

ATTACHMENT 8.C

TYPE I MODULE CLOSURE PLAN

I-1 Closure Plan [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.112(b) and 270.14(b)(13)]

This section of the Closure Plan, hereinafter referred to as the "Plan," describes the closure process, standards, and activities to be employed during the closure of the Type I Module. The design and operation of the Type I Module and the types of MW managed at the Type I Module are described in detail in Attachments 1, 1.C, and 2.

I-1a Partial Closure Activities [IDAPA 58.01.05.008; 40 CFR 264.112(b)(1 - 6)]

No specific plans presently exist for partial closure of the Type I Module. If partial closure were to be considered in the future, the procedures for verification sampling, decontamination, and confirmatory sampling presented in the following sections would be applicable to such an approach.

I-1b Closure Performance Standard [IDAPA 58.01.05.008; 40 CFR 264.111 and 264.112(b)(1) and (2)]

For information pertaining to Closure Performance Standard, see Section I-1b of Attachment 8.A.

I-1c Maximum Waste Inventory [IDAPA 58.01.05.008; 40 CFR 264.112(b)(3)]

The estimated total maximum HWMA/RCRA-regulated waste inventory at the Type I Module is 2,529 m^3 (667,979 gal). HWMA/RCRA-regulated waste is stored in a variety of containers as described in Section D-1(a)(1) of Attachment 1.C. Details on the methods for removing, transporting, treating, storing or disposing of HWMA/RCRA-regulated waste are found in Section I-1c of Attachment 8.A. The AMWTP has the goal of disposing all waste at the WIPP or other off-Site disposal facility. Closure will not commence until all waste has been removed from WMF-635.

I-1d Disposal or Decontamination of Equipment, Structures, and Soils [IDAPA 58.01.05.008; 40 CFR 264.112(b)(4) and 264.114]

For information pertaining to disposal or decontamination of equipment, structures, and soils, see Section I-1d of Attachment 8.A.

I-1e Amendment of Plan [IDAPA 58.01.05.008; 40 CFR 264.112(c)]

For information pertaining to amendment of plan, see Section I-1e of Attachment 8.A.

I-1f Schedule and Notification of Closure [IDAPA 58.01.05.008; 40 CFR 264.112(b)(6) and (d)]

For information pertaining to schedule and notification of closure, see Section I-1f of Attachment 8.A.

I-2 Extensions for Closure Time [IDAPA 58.01.05.008; 40 CFR 264.113(a) and (b)]

For information pertaining to extensions for closure time, see Section I-2 of Attachment 8.A.

I-3 Certification of Closure [IDAPA 58.01.05.008; 40 CFR 264.115]

For information pertaining to certification of closure, see Section I-3 of Attachment 8.A.

I-4 Post-Closure Requirements [IDAPA 58.01.05.008; 40 CFR Part 264, Subpart G]

Pursuant to IDAPA 58.01.05.008 [40 CFR 264.110(b)] the HWMA/RCRA post-closure requirements at IDAPA 58.01.05.008 (40 CFR 264.116 through 40 CFR 264.120) are not applicable.

I-5 Closure Financial Requirements [IDAPA 58.01.05.008; 40 CFR Part 264, Subpart H]

I-5a Closure Cost Estimates [IDAPA 58.01.05.008; 40 CFR 264.142]

DOE-ID, the owner of the Type I Module, as a federal government agency, is exempt from the closure cost estimate requirement, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-5b Financial Assurance for Closure [IDAPA 58.01.05.008; 40 CFR 264.143]

DOE-ID, the owner of the Type I Module, as a federal government agency, is exempt from providing a financial assurance mechanism for closure, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-5c Liability Requirements [IDAPA 58.01.05.008; 40 CFR 264.147 and 264.148]

DOE-ID, the owner of the Type I Module, as a federal government agency, is exempt from the liability requirements for closure, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-5d Use of State Required Financial Mechanisms [IDAPA 58.01.05.008; 40 CFR 264.149]

DOE-ID, the owner of the Type I Module, as a federal government agency, is exempt from the state required financial mechanism requirements for closure, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-5e State Assumption of Responsibility [IDAPA 58.01.05.008; 40 CFR 264.150]

DOE-ID, the owner of the Type I Module, as a federal government agency, is exempt from the state assumption of responsibility requirements for closure, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-6 Post-Closure Financial Requirements [IDAPA 58.01.05.008; 40 CFR Part 264, Subpart H]

Pursuant to IDAPA 58.01.05.008 [40 CFR 264.140(b)], the HWMA/RCRA post-closure financial requirements at IDAPA 58.01.05.008 (40 CFR 264.144 and 264.145) are not applicable.

TABLE OF CONTENTS

ATTACHMENT 8.D

SWEPP CLOSURE PLAN

I-1 Closure Plan [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.112(b) 270.14(b)(13)]

This section of the Closure Plan, hereinafter referred to as the “Plan,” describes the closure process, standards, and activities to be employed during the closure of SWEPP. The design and operation of SWEPP and the types of MW managed at SWEPP are described in detail in Attachments 1, 1.D, and 2.

I-1a Partial Closure Activities [IDAPA 58.01.05.008; 40 CFR 264.112(b)(1 - 6)]

No specific plans presently exist for partial closure of SWEPP. If partial closure were to be considered in the future, the procedures for verification sampling, decontamination, and confirmatory sampling presented in the following sections would be applicable to such an approach.

I-1b Closure Performance Standard [IDAPA 58.01.05.008; 40 CFR 264.111 and 264.112(b)(1) and (2)]

For information pertaining to Closure Performance Standard, see Section I-1b of Attachment 8.A.

I-1c Maximum Waste Inventory [IDAPA 58.01.05.008; 40 CFR 264.112(b)(3)]

The estimated total maximum HWMA/RCRA-regulated waste inventory at SWEPP is 108 m^3 (28,380 gal). HWMA/RCRA-regulated waste is stored in a variety of containers as described in Section D-1(a)(1) of Attachment 1.D. Details on the methods for removing, transporting, treating, storing or disposing of HWMA/RCRA-regulated waste are found in Section I-1c of Attachment 8.A. The AMWTP has the goal of disposing all waste at the WIPP or other off-Site disposal facility. Closure will not commence until all waste has been removed from WMF-610.

I-1d Disposal or Decontamination of Equipment, Structures, and Soils [IDAPA 58.01.05.008; 40 CFR 264.112(b)(4) and 264.114]

For information pertaining to disposal or decontamination of equipment, structures, and soils, see Section I-1d of Attachment 8.A.

I-1e Amendment of Plan [IDAPA 58.01.05.008; 40 CFR 264.112(c)]

For information pertaining to amendment of plan, see Section I-1e of Attachment 8.A.

I-1f Schedule and Notification of Closure [IDAPA 58.01.05.008; 40 CFR 264.112(b)(6) and (d)]

For information pertaining to schedule and notification of closure, see Section I-1f of Attachment 8.A.

I-2 Extensions for Closure Time [IDAPA 58.01.05.008; 40 CFR 264.113(a) and (b)]

For information pertaining to extensions for closure time, see Section I-2 of Attachment 8.A.

I-3 Certification of Closure [IDAPA 58.01.05.008; 40 CFR 264.115]

For information pertaining to certification of closure, see Section I-3 of Attachment 8.A.

I-4 Post-Closure Requirements [IDAPA 58.01.05.008; 40 CFR Part 264, Subpart G]

Pursuant to IDAPA 58.01.05.008 [40 CFR 264.110(b)] the HWMA/RCRA post-closure requirements at IDAPA 58.01.05.008 (40 CFR 264.116 through 40 CFR 264.120) are not applicable.

I-5 Closure Financial Requirements [IDAPA 58.01.05.008; 40 CFR Part 264, Subpart H]

I-5a Closure Cost Estimates [IDAPA 58.01.05.008; 40 CFR 264.142]

DOE-ID, the owner of SWEPP, as a federal government agency, is exempt from the closure cost estimate requirement, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-5b Financial Assurance for Closure [IDAPA 58.01.05.008; 40 CFR 264.143]

DOE-ID, the owner of SWEPP, as a federal government agency, is exempt from providing a financial assurance mechanism for closure, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-5c Liability Requirements [IDAPA 58.01.05.008; 40 CFR 264.147 and 264.148]

DOE-ID, the owner of SWEPP, as a federal government agency, is exempt from the liability requirements for closure, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-5d Use of State Required Financial Mechanisms [IDAPA 58.01.05.008; 40 CFR 264.149]

DOE-ID, the owner of SWEPP, as a federal government agency, is exempt from the state required financial mechanism requirements for closure, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-5e State Assumption of Responsibility [IDAPA 58.01.05.008; 40 CFR 264.150]

DOE-ID, the owner of SWEPP, as a federal government agency, is exempt from the state assumption of responsibility requirements for closure, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-6 Post-Closure Financial Requirements [IDAPA 58.01.05.008; 40 CFR Part 264, Subpart H]

Pursuant to IDAPA 58.01.05.008 [40 CFR 264.140(b)], the HWMA/RCRA post-closure financial requirements at IDAPA 58.01.05.008 (40 CFR 264.144 and 264.145) are not applicable.

TABLE OF CONTENTS

ATTACHMENT 8.E

WMF-636 PAD 2 CLOSURE PLAN

I-1 Closure Plan [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.112(b) 270.14(b)(13)]

As described in Attachment 1.F, the entire area under the building structure over the WMF-636 Pad 2 area is permitted for container storage. The surface structure located under the building structure consists of the original Pad 2 asphalt pad (built in the late 1960's), a concrete pad (poured in 2004), a newly poured asphalt pad (poured in 2007), and soil. The soil areas are not used for container storage. Initially, the original asphalt pad was regulated under the HWMA/RCRA Interim Status container management regulations found at IDAPA 58.01.05.009 (40 CFR 265), and the building structure was not considered to be part of the container storage unit. Later, the original asphalt pad was removed as an interim status and fully permitted in accordance with IDAPA 58.01.05.008 (40 CFR 264) along with the building structure and the surfaces located under the building structure around the original asphalt pad.

During operations under interim status, there were five known spills or historical releases that were found either on the original asphalt pad or in the overburden and side burden soil surrounding the original cell storage configuration. See Attachment 1.F for additional information on the original cell storage configuration of Pad 2. Of the five spills/releases, four of the spills/releases were cleaned up to the levels specified in the State of Idaho DEQ approved "Soil Sampling and Disposition Plan for the Transuranic Storage Area Retrieval Enclosure," (SSDP-01, current revision). All waste generated during the cleaning of the spill/release were dispositioned as required under the HWMA/RCRA regulations. The last spill/release was fixed to the asphalt pad using standard AMWTP radiological methods and a metal plate was installed over the contaminated area. No known spills or releases have occurred where MW constituents have migrated to the soil located under the original asphalt pad or the soil areas surrounding the original asphalt pad.

This section of the Closure Plan, hereinafter referred to as the "Plan," describes the closure process, standards, and activities to be employed during the closure of the WMF-636 Pad 2 container storage unit. The design and operation of WMF-636 Pad 2 and the types of MW managed at WMF-636 Pad 2 are described in detail in Attachments 1, 1.F, and 2.

I-1a Partial Closure Activities [IDAPA 58.01.05.008; 40 CFR 264.112(b)(1 - 6)]

No specific plans presently exist for partial closure of WMF-636 Pad 2. If partial closure were to be considered in the future, the procedures for verification sampling, decontamination, and confirmatory sampling presented in the following sections would be applicable to such an approach.

I-1b Closure Performance Standard [IDAPA 58.01.05.008; 40 CFR 264.111 and 264.112(b)(1) and (2)]

For information pertaining to Closure Performance Standard, see Section I-1b of Attachment 8.A.

I-1c Maximum Waste Inventory [IDAPA 58.01.05.008; 40 CFR 264.112(b)(3)]

The estimated total maximum HWMA/RCRA-regulated waste inventory at WMF-636 Pad 2 is 24,038 m^3 (6,350,140 gal). HWMA/RCRA-regulated waste is stored in a variety of containers as described in Section D-1(a)(1) of Attachment 1.F. Details on the methods for removing, transporting, treating, storing or disposing of HWMA/RCRA-regulated waste are found in Section I-1c of Attachment 8.A. The AMWTP has the goal of disposing all waste at the WIPP or other off-Site disposal facility. Closure will not commence until all waste has been removed from WMF-636 Pad 2.

I-1d Disposal or Decontamination of Equipment, Structures, and Soils [IDAPA 58.01.05.008; 40 CFR 264.112(b)(4) and 264.114]

Because operational methods at WMF-636 Pad 2 place emphasis on the containment and timely response to spills, and because of the design of WMF-636 Pad 2, uncontrolled releases to the environment are unlikely. Therefore, disposal of contaminated soils other than any remaining side burden or overburden left from original WMF-636 Pad 2 retrieval activities pursuant to this Plan is not anticipated. However, if soil contamination is found it shall be addressed as outlined below. The following subsections provide a description of the actions necessary to manage the disposal or cleaning/decontamination of equipment or structures contaminated with HWMA/RCRA – regulated waste or waste constituents. Before beginning closure activities, all waste will be removed from WMF-636 Pad 2. The types of hazardous waste, if present, managed during closure are expected to have the same HWNs found in Table C-1 of Attachment 2.

I-1d(1) Sampling and Analysis

For information pertaining to sampling and analysis, see Section I-1d(1) of Attachment 8.A.

I-1d(2) Disposal of Equipment

For information pertaining to disposal of equipment, see Section I-1d(2) of Attachment 8.A.

I-1d(3) Equipment and Structures to be Reused

For information pertaining to equipment and structures to be reused, see Section I-1d(3) of Attachment 8.A.

I-1d(4) WMF-636 Pad 2 Closure Procedures

To control the spread of airborne and surface contamination, portable containment, such as tents or glove bags, may also be employed during closure.

Closure of Fire Water Collection Tank. As discussed in Attachment 1.F, a 20,000 gal double-walled tank used for the collection of fire water is located underground outside of the TSA-RE building. This fire water collection tank is not intended to collect any run-off or spills/leaks of MW from WMF-636 Pad 2 operations. Rather the tank is provided to collect fire water in accordance with NFPA requirements. Therefore, closure of the fire water collection tank under the HWMA/RCRA requirements is not anticipated at this time. In the event that a spill/leak of MW enters the fire water collection tank or a fire occurs that involves MW which results in MW contaminated fire water entering the fire water collection tank, then the Closure Plan will be amended per Section I-1e. Upon closure of WMF-636 Pad 2, the Operating Record will be reviewed to ensure that no MW leaks/spills have occurred which could result in MW contamination of the fire water collection tank.

Container Storage Area Asphalt/Concrete Pad and Soil Removal. After operations cease and all remaining waste has been removed from WMF-636 Pad 2, all asphalt and concrete pads will be deemed MW. The asphalt/concrete pads will be removed with a minimal amount of soil that underlies these areas. All asphalt and concrete pads and soil removed with the pads will be disposed of in accordance with HWMA/RCRA requirements. Upon removal of the asphalt/concrete pads, the soils located underneath the pads and the soils surrounding the pads (only soils located within WMF-636 Pad 2 area) will be representatively sampled and analyzed for the presence of MW constituents. All sampling and analysis data gathered during closure of WMF-636 Pad 2 will be provided to the DEQ and EPA in accordance with CERCLA and the "Idaho National Engineering Laboratory ("INEL") Federal Facility Agreement and Consent Order, December 9, 1991."

The following subsections provide a description of the actions necessary to manage the disposal or cleaning/decontamination of equipment or structures contaminated with HWMA/RCRA–regulated waste or waste constituents. Before beginning closure activities, all waste will be removed from WMF-636 Pad 2. The types of hazardous waste, if present, managed during closure are expected to have the same HWNs found in Table C-1 of Attachment 2.

Cleaning/Decontamination. WMF-636 Pad 2 is designed and operated to prevent migration of MW constituents into the environment. Spills and leaks are cleaned up in a timely manner and documented appropriately. See Attachment 7 for additional information.

Any HWMA/RCRA-regulated waste residues generated during cleaning/decontamination are placed in approved containers and managed in accordance with the applicable HWMA/RCRA requirements.

Cleaning/Decontamination Verification. For ancillary equipment or structures to be reused, confirmatory sampling and analysis (as outlined in the Closure QAPjP) will follow cleaning/decontamination, until it is established that cleaning/decontamination procedures have removed hazardous constituents of concern to the clean closure standard. If verification testing detects hazardous constituents of concern above the clean closure standard, the contaminated equipment or structure is decontaminated again, followed by confirmatory sampling and analysis. Decontamination is achieved when analytical results verify that the clean closure standard has been met. Once it has been established that the standard has been satisfied, the equipment or structure can be considered free of HWMA/RCRA-regulated hazardous constituents and released for reuse.

Decontamination materials and equipment. Spent decontamination materials (e.g., swabs, wipes, PPE, sampling equipment, HEPA vacuum cleaner filters) are characterized per process knowledge or sampled and analyzed in accordance with the Closure QAPjP. Based on the analytical results, the spent decontamination materials are placed in an appropriate container. All HWMA/RCRA-regulated wastes shall be placed in a compatible container that is labeled with a barcode identifier and managed in accordance with the applicable HWMA/RCRA requirements.

Equipment used for closure cleanup/decontamination is managed using the same procedures and standards as described previously in this section.

Any decontamination liquids are contained within the work area, then collected and characterized by process knowledge or in accordance with the Closure QAPjP. Spill booms, spill control pillows, swabs, or other absorbent material(s) may be used to contain the decontamination liquids and to facilitate removal. Spent decontamination materials and other wastes may be treated by an AMWTP technology (see discussion below for the order of closure), or packaged for transport to another waste management unit. Following decontamination, the work area is sampled and analyzed, as required, in accordance with the Closure QAPjP.

I-1d(5) Order of Closure

To the extent practicable, closure activities associated with the closure of a MWMU are accomplished utilizing other HWMA/RCRA-permitted MWMUs at the AMWTP, including treatment or storage at other AMWTP waste management units. Decontamination activities are performed in a step-wise fashion to maximize the use of WMF-676 and thereby minimize the quantity of HWMA/RCRA-regulated decontamination wastes requiring subsequent management. The major steps in the closure of a MWMU include:

- Removal of waste inventory followed by treatment, to the extent practicable, at WMF-676;
- Cleaning/decontamination in accordance with this Plan;
- Inspection and verification in accordance with this Plan and the Closure QAPjP to assure that the appropriate closure criteria (e.g., CERCLA, HWMA/RCRA) are satisfied;
- Management of HWMA/RCRA-regulated newly generated waste in accordance with this Plan and the Closure QAPjP; and
- Closure certification.

I-1e Amendment of Plan [IDAPA 58.01.05.008; 40 CFR 264.112(c)]

For information pertaining to amendment of plan, see Section I-1e of Attachment 8.A.

I-1f Schedule and Notification of Closure [IDAPA 58.01.05.008; 40 CFR 264.112(b)(6) and (d)]

For information pertaining to schedule and notification of closure, see Section I-1f of Attachment 8.A.

I-2 Extensions for Closure Time [IDAPA 58.01.05.008; 40 CFR 264.113(a) and (b)]

For information pertaining to extensions for closure time, see Section I-2 of Attachment 8.A.

I-3 Certification of Closure [IDAPA 58.01.05.008; 40 CFR 264.115]

For information pertaining to certification of closure, see Section I-3 of Attachment 8.A.

I-4 Post-Closure Requirements [IDAPA 58.01.05.008; 40 CFR Part 264, Subpart G]

Pursuant to IDAPA 58.01.05.008 [40 CFR 264.110(b)] the HWMA/RCRA post-closure requirements at IDAPA 58.01.05.008 (40 CFR 264.116 through 40 CFR 264.120) are not applicable.

I-5 Closure Financial Requirements [IDAPA 58.01.05.008; 40 CFR Part 264, Subpart H]

I-5a Closure Cost Estimates [IDAPA 58.01.05.008; 40 CFR 264.142]

DOE-ID, the owner of WMF-636 Pad 2, as a federal government agency, is exempt from the closure cost estimate requirement, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-5b Financial Assurance for Closure [IDAPA 58.01.05.008; 40 CFR 264.143]

DOE-ID, the owner of WMF-636 Pad 2, as a federal government agency, is exempt from providing a financial assurance mechanism for closure, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-5c Liability Requirements [IDAPA 58.01.05.008; 40 CFR 264.147 and 264.148]

DOE-ID, the owner of WMF-636 Pad 2, as a federal government agency, is exempt from the liability requirements for closure, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-5d Use of State Required Financial Mechanisms [IDAPA 58.01.05.008; 40 CFR 264.149]

DOE-ID, the owner of WMF-636 Pad 2, as a federal government agency, is exempt from the state required financial mechanism requirements for closure, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-5e State Assumption of Responsibility [IDAPA 58.01.05.008; 40 CFR 264.150]

DOE-ID, the owner of WMF-636 Pad 2, as a federal government agency, is exempt from the state assumption of responsibility requirements for closure, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-6 Post-Closure Financial Requirements [IDAPA 58.01.05.008; 40 CFR Part 264, Subpart H]

Pursuant to IDAPA 58.01.05.008 [40 CFR 264.140(b)], the HWMA/RCRA post-closure financial requirements at IDAPA 58.01.05.008 (40 CFR 264.144 and 264.145) are not applicable.

TABLE OF CONTENTS

ATTACHMENT 8.F

AMWTP OUTSIDE STORAGE AREA CLOSURE PLAN

I-1 Closure Plan [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.112(b) 270.14(b)(13)]

This section of the Closure Plan, hereinafter referred to as the "Plan," describes the closure process, standards, and activities to be employed during the closure of the AMWTP Outside Storage Area. The design and operation of the AMWTP Outside Storage Area and the types of MW managed at the AMWTP Outside Storage Area are described in detail in Attachments 1, 1.G, and 2.

I-1a Partial Closure Activities [IDAPA 58.01.05.008; 40 CFR 264.112(b)(1 - 6)]

No specific plans presently exist for partial closure of the AMWTP Outside Storage Area. If partial closure were to be considered in the future, the procedures for verification sampling, decontamination, and confirmatory sampling presented in the following sections would be applicable to such an approach.

I-1b Closure Performance Standard [IDAPA 58.01.05.008; 40 CFR 264.111 and 264.112(b)(1) and (2)]

The AMWTP Outside Storage Area will be closed in a manner such that:

- The need for post-closure maintenance is eliminated by controlling or eliminating the potential for escape of MW, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the environment;
- Closure activities generate a minimum amount of mixed or hazardous waste;
- Closure activities generate a minimum amount of non-HWMA/RCRA-regulated solid and radioactive waste;
- Hazardous waste is removed and managed in accordance with the applicable requirements of IDAPA 58.01.05.006 through 58.01.05.012 (40 CFR Parts 262 through 270); and
- Closure complies with all applicable state and federal requirements.

Performance Standard Description

As the AMWTP Outside Storage Area is only used for the storage of containers with no free liquids, unless the container is loaded in a TRUPACT, it is not anticipated that any MW constituents will be released to the environment. Containers located within a TRUPACT may contain up to 1% by volume of free liquid. Upon closure, the performance standard achieved for the AMWTP Outside Storage Area will be the clean closure standard as verified by visual examination, assessment of the Operating Record, and sampling and analysis activities, as appropriate.

Newly-Generated HWMA/RCRA Wastes

HWMA/RCRA-regulated waste generated during closure will be classified as newly-generated waste, and will be managed as described in Section I-1d.

Safety Considerations

Although closure under HWMA/RCRA is primarily concerned with the hazardous waste constituents in MW, closure must be performed with full cognizance of the radiological component and the threat to human health and the environment engendered by that component. This Plan reflects the practical realities of performing work in an environment highly contaminated with TRU radionuclides. Closure will be performed to ensure the safety of personnel, as follows:

- Qualified personnel will supervise and perform closure activities in compliance with established safety procedures.
- Personnel will be equipped with appropriate PPE and be trained in comprehensive, applicable safety procedures.
- The use of established radiological control procedures to ensure personnel and equipment are radiologically decontaminated before leaving any radiologically contaminated area.

I-1c Maximum Waste Inventory [IDAPA 58.01.05.008; 40 CFR 264.112(b)(3)]

The estimated total maximum HWMA/RCRA-regulated waste inventory at the AMWTP Outside Storage Area is 1,533 m^3 (404,995 gal). HWMA/RCRA-regulated waste is stored in a variety of containers as described in Section D-1(a)(1) of Attachment 1.A. The AMWTP has the goal of disposing all waste at the WIPP or other off-Site disposal facility. Closure will not commence until all waste has been removed from the AMWTP Outside Storage Area.

I-1d Disposal or Decontamination of Equipment, Structures, and Soils [IDAPA 58.01.05.008; 40 CFR 264.112(b)(4) and 264.114]

Because operational methods at the AMWTP Outside Storage place emphasis on the containment when free liquids are stored (i.e., up to 1% by volume in a TRUPACT) and timely response to spills, releases to the environment are unlikely. Therefore, disposal of contaminated soils pursuant to this Plan is not anticipated. However, if soil contamination is found it shall be addressed as outlined below. The following subsections also provide a description of the actions necessary to manage the disposal or cleaning/decontamination of equipment or structures contaminated with HWMA/RCRA – regulated waste or waste constituents. Before beginning closure activities, all waste will be removed from the AMWTP Outside Storage Area. The types of hazardous waste, if present, managed during closure are expected to have the same HWNs found in Table C-1 of Attachment 2.

I-1d(1) Sampling and Analysis

All sampling and analysis performed for closure is performed in accordance with the quality standards established in a Closure QAPjP, which will be submitted with the closure notification 45 days before closure of the MWMU begins. The Closure QAPjP will detail sampling and analysis procedures in accordance with *SW-846*, the ASTM Annual Book of ASTM Standards, or other EPA-approved methods.

I-1d(2) Disposal of Equipment

The AMWTP Outside Storage Area does not utilize ancillary equipment for the storage of containers. In the event the ancillary equipment is required, then amendments to this Plan will be performed in accordance with Section I-1e.

I-1d(3) Equipment and Structures to be Reused

The AMWTP Outside Storage Area does not utilize ancillary equipment or structures for the storage of containers. In the event the ancillary equipment or structures are required, then amendments to this Plan will be performed in accordance with Section I-1e.

I-1d(4) AMWTP Outside Storage Area Closure Procedures

Container Storage Area Asphalt Removal. After operations cease and all remaining waste has been removed from the AMWTP Outside Storage Area, all asphalt areas of the AMWTP Outside Storage Area will be removed, characterized, and disposed of in accordance with HWMA/RCRA regulations. A minimal amount of soil that underlies the asphalt may be removed during the removal of the asphalt. Upon removal of the asphalt, the soil located underneath the asphalt will be sampled and analyzed in accordance with the Closure QAPjP to determine any additional actions that may be required in order to close the AMWTP Outside Storage Area under the HWMA/RCRA requirements. The types of hazardous waste, if present, managed during closure are expected to have the same HWNs found in Table C-1 of Attachment 2.

Decontamination materials and equipment. Spent decontamination materials (e.g., swabs, wipes, PPE, sampling equipment, HEPA vacuum cleaner filters) and equipment are characterized per process knowledge or sampled and analyzed in accordance with the Closure QAPjP. Based on the analytical results, the spent decontamination materials and equipment are placed in an appropriate container. All HWMA/RCRA-regulated wastes shall be placed in a compatible container that is labeled with a barcode identifier and managed in accordance with the applicable HWMA/RCRA requirements.

Any decontamination liquids are contained within the work area, then collected and characterized by process knowledge or in accordance with the Closure QAPjP. Spill booms, spill control pillows, swabs, or other absorbent material(s) may be used to contain the decontamination liquids and to facilitate removal. Spent decontamination materials and other wastes may be treated by an AMWTP technology (see discussion below for the order of closure), or packaged for transport to another waste management unit. Following decontamination, the work area is sampled and analyzed, as required, in accordance with the Closure QAPjP.

I-1d(5) Order of Closure

To the extent practicable, closure activities associated with the closure of a MWMU are accomplished utilizing other HWMA/RCRA-permitted MWMUs at the AMWTP, including treatment or storage at other AMWTP waste management units. Decontamination activities are performed in a step-wise fashion to maximize the use of WMF-676 and thereby minimize the quantity of HWMA/RCRA-regulated decontamination wastes requiring subsequent management. The major steps in the closure of the AMWTP Outside Storage Area include:

- Removal of waste inventory;
- Cleaning/decontamination in accordance with this Plan;
- Inspection and verification in accordance with this Plan and the Closure QAPjP to assure that the clean closure and/or performance standards at IDAPA 58.01.05.008 (40 CFR 264.111) are satisfied;
- Management of HWMA/RCRA-regulated newly generated waste in accordance with this Plan and the Closure QAPjP; and
- Closure certification.

I-1e Amendment of Plan [IDAPA 58.01.05.008; 40 CFR 264.112(c)]

For information pertaining to amendment of plan, see Section I-1e of Attachment 8.A.

I-1f Schedule and Notification of Closure [IDAPA 58.01.05.008; 40 CFR 264.112(b)(6) and (d)]

For information pertaining to schedule and notification of closure, see Section I-1f of Attachment 8.A.

I-2 Extensions for Closure Time [IDAPA 58.01.05.008; 40 CFR 264.113(a) and (b)]

For information pertaining to extensions for closure time, see Section I-2 of Attachment 8.A.

I-3 Certification of Closure [IDAPA 58.01.05.008; 40 CFR 264.115]

For information pertaining to certification of closure, see Section I-3 of Attachment 8.A.

I-4 Post-Closure Requirements [IDAPA 58.01.05.008; 40 CFR Part 264, Subpart G]

Pursuant to IDAPA 58.01.05.008 [40 CFR 264.110(b)] the HWMA/RCRA post-closure requirements at IDAPA 58.01.05.008 (40 CFR 264.116 through 40 CFR 264.120) are not applicable.

I-5 Closure Financial Requirements [IDAPA 58.01.05.008; 40 CFR Part 264, Subpart H]

I-5a Closure Cost Estimates [IDAPA 58.01.05.008; 40 CFR 264.142]

DOE-ID, the owner of the AMWTP Outside Storage Area, as a federal government agency, is exempt from the closure cost estimate requirement, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-5b Financial Assurance for Closure [IDAPA 58.01.05.008; 40 CFR 264.143]

DOE-ID, the owner of the AMWTP Outside Storage Area, as a federal government agency, is exempt from providing a financial assurance mechanism for closure, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-5c Liability Requirements [IDAPA 58.01.05.008; 40 CFR 264.147 and 264.148]

DOE-ID, the owner of the AMWTP Outside Storage Area, as a federal government agency, is exempt from the liability requirements for closure, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-5d Use of State Required Financial Mechanisms [IDAPA 58.01.05.008; 40 CFR 264.149]

DOE-ID, the owner of the AMWTP Outside Storage Area, as a federal government agency, is exempt from the state required financial mechanism requirements for closure, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-5e State Assumption of Responsibility [IDAPA 58.01.05.008; 40 CFR 264.150]

DOE-ID, the owner of the AMWTP Outside Storage Area, as a federal government agency, is exempt from the state assumption of responsibility requirements for closure, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-6 Post-Closure Financial Requirements [IDAPA 58.01.05.008; 40 CFR Part 264, Subpart H]

Pursuant to IDAPA 58.01.05.008 [40 CFR 264.140(b)], the HWMA/RCRA post-closure financial requirements at IDAPA 58.01.05.008 (40 CFR 264.144 and 264.145) are not applicable.

TABLE OF CONTENTS

ATTACHMENT 8.G

WMF-676 CLOSURE PLAN

I-1 Closure Plan [IDAPA 58.01.05.008 and 58.01.05.012; 40 CFR 264.112(b) 270.14(b)(13)]

This section of the Closure Plan, hereinafter referred to as the “Plan,” describes the closure process, standards, and activities to be employed during the closure of WMF-676. The design and operation of WMF-676 and the types of MW managed at WMF-676 are described in detail in Attachments 1, 1.H, 1.H.i, 1.H.ii, 1.H.iii, 1.H.iv, and 2.

I-1a Partial Closure Activities [IDAPA 58.01.05.008; 40 CFR 264.112(b)(1 - 6)]

No specific plans presently exist for partial closure of WMF-676. If partial closure were to be considered in the future, the procedures for verification sampling, decontamination, and confirmatory sampling presented in the following sections would be applicable to such an approach.

I-1b Closure Performance Standard [IDAPA 58.01.05.008; 40 CFR 264.111 and 264.112(b)(1) and (2)]

For information pertaining to Closure Performance Standard, see Section I-1b of Attachment 8.A.

I-1c Maximum Waste Inventory [IDAPA 58.01.05.008; 40 CFR 264.112(b)(3)]

The estimated total maximum HWMA/RCRA-regulated waste inventory at WMF-676 is 345.5 m^3 (91,268 gal). HWMA/RCRA-regulated waste is stored in a variety of containers as described in Section D-1(a)(1) of Attachment 1.H. Details on the methods for removing, transporting, treating, storing or disposing of HWMA/RCRA-regulated waste are found in Section I-1c of Attachment 8.A. The AMWTP has the goal of disposing all waste at the WIPP or other off-Site disposal facility. Closure will not commence until all waste has been removed from WMF-676.

I-1d Disposal or Decontamination of Equipment, Structures, and Soils [IDAPA 58.01.05.008; 40 CFR 264.112(b)(4) and 264.114]

For information pertaining to disposal or decontamination of equipment, structures, and soils, see Section I-1d of Attachment 8.A.

I-1e Amendment of Plan [IDAPA 58.01.05.008; 40 CFR 264.112(c)]

For information pertaining to amendment of plan, see Section I-1e of Attachment 8.A.

I-1f Schedule and Notification of Closure [IDAPA 58.01.05.008; 40 CFR 264.112(b)(6) and (d)]

For information pertaining to schedule and notification of closure, see Section I-1f of Attachment 8.A.

I-2 Extensions for Closure Time [IDAPA 58.01.05.008; 40 CFR 264.113(a) and (b)]

For information pertaining to extensions for closure time, see Section I-2 of Attachment 8.A.

I-3 Certification of Closure [IDAPA 58.01.05.008; 40 CFR 264.115]

For information pertaining to certification of closure, see Section I-3 of Attachment 8.A.

I-4 Post-Closure Requirements [IDAPA 58.01.05.008; 40 CFR Part 264, Subpart G]

Pursuant to IDAPA 58.01.05.008 [40 CFR 264.110(b)] the HWMA/RCRA post-closure requirements at IDAPA 58.01.05.008 (40 CFR 264.116 through 40 CFR 264.120) are not applicable.

I-5 Closure Financial Requirements [IDAPA 58.01.05.008; 40 CFR Part 264, Subpart H]

I-5a Closure Cost Estimates [IDAPA 58.01.05.008; 40 CFR 264.142]

DOE-ID, the owner of WMF-676, as a federal government agency, is exempt from the closure cost estimate requirement, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-5b Financial Assurance for Closure [IDAPA 58.01.05.008; 40 CFR 264.143]

DOE-ID, the owner of WMF-676, as a federal government agency, is exempt from providing a financial assurance mechanism for closure, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-5c Liability Requirements [IDAPA 58.01.05.008; 40 CFR 264.147 and 264.148]

DOE-ID, the owner of WMF-676, as a federal government agency, is exempt from the liability requirements for closure, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-5d Use of State Required Financial Mechanisms [IDAPA 58.01.05.008; 40 CFR 264.149]

DOE-ID, the owner of WMF-676, as a federal government agency, is exempt from the state required financial mechanism requirements for closure, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-5e State Assumption of Responsibility [IDAPA 58.01.05.008; 40 CFR 264.150]

DOE-ID, the owner of WMF-676, as a federal government agency, is exempt from the state assumption of responsibility requirements for closure, in accordance with IDAPA 58.01.05.008 [40 CFR 264.140(c)].

I-6 Post-Closure Financial Requirements [IDAPA 58.01.05.008; 40 CFR Part 264, Subpart H]

Pursuant to IDAPA 58.01.05.008 [40 CFR 264.140(b)], the HWMA/RCRA post-closure financial requirements at IDAPA 58.01.05.008 (40 CFR 264.144 and 264.145) are not applicable.

AMWTP-PMR-10, Approved June 26, 2014
Summary of Changes to the Advanced Mixed Waste Treatment Project
HWMA/RCRA Permit

In accordance with the Permit Condition I.D.6 of the AMWTP HWMA/RCRA Permit, clean copies of the revised pages, dated June 26, 2014, are included in this document. The table below indicates, section-by-section, the replacement of existing Permit pages with the applicable revised Permit pages, including attachments and appendices.

Permit Section	New Page/Drawing	Replaces
N/A	Cover/Spine for Volume I with June 26, 2014 revision date.	Cover/Spine for Volume I with March 31, 2014 revision date.
Volume I		
Approval Letter	DEQ approval letter dated June 26, 2014.	N/A; add to front of tabbed section.
Table of Contents	Pages 2 through 3 with June 26, 2014 Revision date.	Pages 2 through 3 with August 11, 2011 Revision date.
List of Attachments	Pages 4 through 6 with June 26, 2014 Revision date.	Pages 4 through 6 with August 11, 2011 Revision date.
List of Tables	Page 7 with June 26, 2014 Revision date.	Page 7 with August 11, 2011 Revision date.
List of Appendices	Pages 8 through 12 with June 26, 2014 Revision date.	Pages 8 through 12 with August 11, 2011, November 25, 2013, and March 14, 2014 Revision dates.
Definitions	Pages 13 through 18 with June 26, 2014 Revision date.	Pages 13 through 18 with September 8, 2001 Revision date.
Acronyms and Abbreviations	Pages 19 through 24 with June 26, 2014 Revision date.	Pages 19 through 24 with November 25, 2013 Revision date.
Module I	Pages 25 through 34 with June 26, 2014 Revision date.	Pages 25 through 34 with August 11, 2011 Revision date.
Module II	Pages 35 through 49 with June 26, 2014 Revision date.	Pages 35 through 49 with August 11, 2011 and February 13, 2013 Revision dates.
Module III	Pages 50 through 67 with June 26, 2014 Revision date.	Pages 50 through 67 with August 11, 2011, February 13, 2013 and November 25, 2013 Revision dates.
Module IV	Pages 68 through 75 with June 26, 2014 Revision date.	Pages 68 through 74 with August 11, 2011 and February 13, 2013 Revision dates.
Module V	Pages 76 through 81 with June 26, 2014 Revision date.	Pages 75 through 80 with August 11, 2011 and February 13, 2013 Revision dates.
Module VI	Page 82 with June 26, 2014 Revision date.	Page 81 with August 11, 2011 Revision date.

Permit Section	New Page/Drawing	Replaces
Tables	Page 83 with June 26, 2014 Revision date.	Page 82 with August 11, 2011 Revision date.
References	Page 84 with June 26, 2014 Revision date.	Page 83 with August 11, 2011 Revision date.
Volume II		
Attachment 9	Pages 1-2 with June 26, 2014 revision date.	N/A; add to front of tabbed section.
Volume V		
Certification Statements	ITG and DOE certifications for AMWTP-PMR-10, Rev. 0, dated 05/01/14 and 05/08/14.	N/A; add to front of tabbed section.

AMWTP-PMR-09, Approved March 31, 2014
Summary of Changes to the Advanced Mixed Waste Treatment Project
HWMA/RCRA Permit

In accordance with the Permit Condition I.D.6 of the AMWTP HWMA/RCRA Permit, clean copies of the revised pages, dated March 31, 2014, are included in this document. The table below indicates, section-by-section, the replacement of existing Permit pages with the applicable revised Permit pages, including attachments and appendices.

Permit Section	New Page/Drawing	Replaces
N/A	Covers/Spines with March 31, 2014 revision date.	Covers/Spines with November 25, 2013 revision date.
Volume I		
Approval Letter	DEQ approval letter dated March 31, 2013.	N/A; add to front of tabbed section.
List of Appendices	Page 10 with March 31, 2014 revision date.	Page 10 with August 11, 2011 revision date.
Volume II		
Attachment 1.H.i	Pages i, ii, 9 through 14, 14a and 29 were revised with March 31, 2014 revision date.	Pages i and 10 through 13 with August 11, 2011 revision date, and Pages 9, 14 and 14a with February 13, 2013 revision date. Also, Page 29 is a new page.
Attachment 4	Pages 36 and 37 with March 31, 2014 revision date.	Pages 36 and 37 with August 11, 2011 revision date.
Attachment 6	Pages 3 through 8 with March 31, 2014 revision date.	Page 3 with February 09, 2010 revision date, Page 4 with February 13, 2013 revision date, and Pages 5 through 8 with June 15, 2009 revision date.
Attachment 7	Pages 5, 11 through 14, and 18 with March 31, 2014 revision date.	Pages 5, 11 through 14 and 18 with February 09, 2010 revision date.
Attachment 9	Page 1 with March 31, 2014 revision date.	N/A; add to front of tabbed section.
Volume III		
List of Appendices	List of Appendices sheet with March 31, 2014 revision date.	List of Appendices with June 15, 2009 revision date.
Volume V		
Appendix XV	Cover sheet with March 31, 2014 and adding new Drawing No. BNF6599-3 and Exhibit XV-1, Rev.00	Cover sheet with August 11, 2011.
Certification Statements	ITG and DOE certifications for AMWTP-PMR-09, Rev. 0, dated 01/15/14 and 01/15/14.	N/A; add to front of tabbed section.

AMWTP-PMR-08, Approved November 25, 2013
Summary of Changes to the Advanced Mixed Waste Treatment Project
HWMA/RCRA Permit

In accordance with the Permit Condition I.D.6 of the AMWTP HWMA/RCRA Permit, clean copies of the revised pages, dated November 25, 2013, are included in this document. The table below indicates, section-by-section, the replacement of existing Permit pages with the applicable revised Permit pages, including attachments and appendices.

Permit Section	New Page/Drawing	Replaces
N/A	Covers/Spines with November 25, 2013 revision date.	Covers/Spines with February 13, 2013 revision date.
Volume I		
Approval Letter	DEQ approval letter dated November 25, 2013.	N/A; add to front of tabbed section.
List of Appendices	Pages 8 and 9 with November 25, 2013 revision date.	Pages 8 and 9 with August 11, 2011 revision date.
Acronyms and Abbreviations	Pages 19 through 24 with November 25, 2013 revision date.	Pages 19 through 24 with September 08, 2011 revision date.
Module III	Pages 57-through 61 with November 25, 2013 revision date.	Pages 57, 58, 59 and 61 with February 13, 2013 revision date. Page 60 with August 11, 2011 revision date.
Volume II		
Attachment 1.A	Pages 22 and 23 were revised with November 25, 2013 revision date. Due to pagination entire section is being replaced.	Entire section with February 13, 2013.
Attachment 2	Pages 8 through 20 were revised with November 25, 2013 revision date. Due to pagination entire section is being replaced.	Entire section.
Attachment 4	Pages 9, 10, 14, 15, 18, 19, 22, 23, 26, 27, 33, and 34 with February 13, 2013 revision date.	Pages 9, 14, 18, 22, 26, 33, and 34 with June, 15, 2009 revision date and pages 10, 15, 19, 23, and 27 with February 13, 2013 revision date.
Attachment 7	Page 4 with February 13, 2013 revision date.	Page 4 with August 11, 2011 revision date.
Attachment 9	Pages 1 and 2 with November 25, 2013 revision date.	N/A; add to front of tabbed section.

Permit Section	New Page/Drawing	Replaces
Volume III		
Appendix II	Cover sheet with November 25, 2013 revision date and RWMC/AMWTP Topographic Map with 09/30/13 revision date.	Cover sheet with February 13, 2013 revision date and RWMC/AMWTP Topographic Map with 02/02/11 revision date.
Volume IV		
Appendix VI	Cover sheet with November 25, 2013 revision date and Drawing No. 51-10009, Rev. 07, Type II Module WMF-628 General Arrangement.	Cover sheet with February 13, 2013 revision date and Drawing No. 51-10009, Rev. 06, Type II Module WMF-628 General Arrangement.
	Drawing No. 54-10442, Rev. 17, WMF-628 Type II Module Permit Electrical One-Line Diagram.	Drawing No. 54-10442, Rev. 16, WMF-628 Type II Module Permit Electrical One-Line Diagram.
Volume V		
Certification Statements	ITG and DOE certifications for AMWTP-PMR-08, Rev. 0, dated 11/07/13 and 11/13/13, respectively.	N/A; add to front of tabbed section.

AMWTP-PMR-07, Approved February 13, 2013
Summary of Changes to the Advanced Mixed Waste Treatment Project HWMA/RCRA Permit

In accordance with the Permit Condition I.D.6 of the AMWTP HWMA/RCRA Permit, clean copies of the revised pages, dated February 13, 2013, are included in this document. The table below indicates, section-by-section, the replacement of existing Permit pages with the applicable revised Permit pages, including attachments and appendices.

Permit Section	New Page/Drawing	Replaces
N/A	Covers/Spines with February 13, 2013 revision date.	Covers/Spines with September 8, 2011 revision date.
Volume I		
Approval Letters	DEQ approval letters dated February 13, 2013 (final approval), and January 04, 2013 (temporary authorization).	N/A; add to front of tabbed section.
List of Appendices	Pages 8 and 9 with February 13, 2013 revision date.	Pages 8 and 9 with August 11, 2011 revision date.
Definitions	Pages 14 through 18 with February 13, 2013 revision date.	Pages 14 through 18 with September 08, 2011 revision date.
Module II	Pages 37, 43, and 45 with February 13, 2013 revision date.	Pages 37, 43, and 45 with August 11, 2011 revision date
Module III	Pages 57-59, 61, and 63 with February 13, 2013 revision date.	Pages 57-59, 61, and 63 with August 11, 2011 revision date.
Module IV	Pages 70, 71, 73, and 74 with February 13, 2013 revision date.	Pages 70, 71, 73, and 74 with August 11, 2011 revision date.
Module V	Pages 79 and 80 with February 13, 2013 revision date.	Pages 79 and 80 with August 11, 2011 revision date.
Volume II		
Attachment 1	Pages 6 and 6a with February 13, 2013 revision date.	Page 6 with August 11, 2011 revision date.
Attachment 1: Part A	Entire section with February 2013 revision date.	Entire Section with September 2011 revision date.
Attachment 1.A	Entire section with February 13, 2013 revision date.	Entire section with June 15, 2009 revision date.
Attachment 1.B	Page 1 with February 13, 2013 revision date.	Page 1 with June 15, 2009 revision date.
Attachment 1.C	Page 1 with February 13, 2013 revision date.	Page 1 with June 15, 2009 revision date.
Attachment 1.D	Page 1 with February 13, 2013 revision date.	Page 1 with June 15, 2009 revision date.
Attachment 1.E	Page 1 with February 13, 2013 revision date.	Page 1 with June 15, 2009 revision date.
Attachment 1.F	Page 1 with February 13, 2013 revision date.	Page 1 with June 15, 2009 revision date.

Permit Section	New Page/Drawing	Replaces
Attachment 1.G	Pages 1 and 1a with February 13, 2013 revision date.	Page 1 with August 11, 2011 revision date.
Attachment 1.H.i	Pages 5, 9, 14, 14a, 16, and 16a with February 13, 2013 revision date.	Pages 5, 9, 14, and 16 with August 11, 2001 revision date.
Attachment 2	Pages 3, 5, 6, 8-18 with February 13, 2013 revision date.	Pages 3, 5, 6, and 8-18 with August 11, 2011 revision date.
Attachment 4	Pages 10, 15, 19, 23, 27, and 31 with February 13, 2013 revision date.	Pages 10, 15, 19, 23, 27, and 31 with June, 15, 2009 revision date.
Attachment 6	Pages 4 and 15 with February 13, 2013 revision date	Pages 4 and 15 with June 15, 2009 revision date.
Attachment 7	Page 4 with February 13, 2013 revision date.	Page 4 with August 11, 2011 revision date.
Attachment 9	Pages 1 and 2 with February 13, 2013 revision date.	N/A; add to front of tabbed section.
Volume III		
Appendix III	Cover sheet with February 13, 2013 revision date and Drawing No. 56-9500, Rev. 09, Site Utilities North.	Cover sheet with August 11, 2011 revision date and Drawing No. 56-9500, Rev. 08, Site Utilities North.
Volume IV		
Appendix V	Cover sheet with February 13, 2013 revision date and Drawing No. 51-9906, Rev. 05, SWEPP (WMF-610) General Arrangement.	Cover sheet with August 11, 2011 revision date and Drawing No. 51-9906, Rev. 05, SWEPP (WMF-610) General Arrangement.
Appendix VI	Cover sheet with February 13, 2013 revision date and Drawing No. 54-10442, Rev. 16, WMF-628 Type II Module Permit Electrical One-Line Diagram.	Cover sheet with August 11, 2011 revision date and Drawing No. 54-10442, Rev. 15, WMF-628 Type II Module Permit Electrical One-Line Diagram.
Appendix VII	Cover sheet with February 13, 2013 revision date; Drawing No. 54-9787, Rev. 13, WMF-636 Electrical One-Line Diagram Normal Power; and Drawing No. 54-9788, Rev. 07, WMF-636 Electrical One-Line Diagram Stand-By Power	Cover sheet with August 11, 2011 revision date; Drawing No. 54-9787, Rev. 12, WMF-636 Electrical One-Line Diagram Normal Power; and Drawing No. 54-9788, Rev. 05, WMF-636 Electrical One-Line Diagram Stand-By Power
Volume V		
Certification Statements	ITG and DOE certifications for AMWTP-PMR-07, Rev. 0, dated 12/17/2012.	N/A; add to front of tabbed section.

Summary of Page Revisions included in September 8, 2011 Revised Permit for the Advanced Mixed Waste Treatment Project HWMA/RCRA Permit

In accordance with the Class 1 Permit Modification Request Requiring Prior Written Approval (PMR-06, Rev. 0) for the AMWTP HWMA/RCRA Permit, clean copies of the revised pages dated September 8, 2011 are included in this document.

The table below lists, section-by-section, replacement of revised Permit pages, attachments, and appendices.

Permit Section	New Page/Drawing	Replaces
NA	Covers/Spines with September 8, 2011 revision date.	Covers/Spines with August 11, 2011 revision date.
Volume I		
Approval Letters	DEQ approval letter dated September 8, 2011.	NA. Add to front of tabbed section.
Definitions	Entire section with September 8, 2011 revision date.	Entire section.
Acronyms and Abbreviations	Entire section with September 8, 2011 revision date.	Entire section.
Volume II		
Attachment 1	Page 1 with September 8, 2011 revision date.	Page 1 with August 11, 2011 revision date.
Attachment 1: Part A	Entire section with September 2011 revision date.	Entire Section with August 2011 revision date.
Attachment 9	Pg. 1 with September 8, 2011 revision date.	NA. Add to front of tabbed section.
Volume V		
Certification Statements	ITG and DOE certifications dated 8-30-2011 & 8-31-2011 for PMR-06.	NA. Add to front of tabbed section.

Summary of Page Revisions included in August 11, 2011 Revised Permit for the Advanced Mixed Waste Treatment Project HWMA/RCRA Permit

In accordance with the Class 2 Permit Modification Request Including a Request for Temporary Authorization (PMR-05, Rev. 0) to the AMWTP HWMA/RCRA Permit, clean copies of the revised pages dated August 11, 2011 are included in this document.

The table below lists, section-by-section, replacement of revised Permit pages, attachments, and appendices.

Permit Section	New Page/Drawing	Replaces
NA	Covers/Spines with August 11, 2011 revision date.	Covers/Spines with June 24, 2010 revision date.
	Volume I	
Approval Letters	DEQ approval letters dated June 16, 2011 & August 11, 2011.	NA. Add to front of tabbed section.
Table of Contents	Entire Section with August 11, 2011 revision date.	Entire Section.
List of Attachments	Entire Section with August 11, 2011 revision date.	Entire Section.
List of Appendices	Entire Section with August 11, 2011 revision date.	Entire Section.
Definitions	Entire Section with August 11, 2011 revision date.	Entire Section.
Acronyms and Abbreviations	Entire Section with August 11, 2011 revision date.	Entire Section.
Module I	Entire Section with August 11, 2011 revision date.	Entire Section.
Module II	Entire Section with August 11, 2011 revision date.	Entire Section.
Module III	Entire Section with August 11, 2011 revision date.	Entire Section.
Module IV	Entire Section with August 11, 2011 revision date.	Entire Section.
Module V	Entire Section with August 11, 2011 revision date.	Entire Section.
Module VI	Pg 81 of 83 with August 11, 2011 revision date.	Pg 80 of 82 with June 15, 2009 revision date. (Retain MFC Partial Permit pgs 51-88 of 91)
References	Pg 83 of 83 with August 11, 2011 revision date.	Pg 82 of 82 with June 15, 2009 revision date.
	Volume II	
Attachment 1	Entire section with August 11, 2011 revision date.	Entire section with June 15, 2009 revision date.
Attachment 1: Part A	Entire section with August 11, 2011 revision date.	Entire Section with June 24, 2010 revision date.

Permit Section	New Page/Drawing	Replaces
Attachment 1.C	Pg 14 with August 11, 2011 revision date.	Pg 14 with June 15, 2009 revision date.
Attachment 1.E	Pg 7 with August 11, 2011 revision date.	Pg 7 with June 15, 2009 revision date.
Attachment 1.F	Pgs 1-1a with August 11, 2011 revision date.	Pg 1 with June 24, 2010 revision date.
Attachment 1.G	Pg 1 with August 11, 2011 revision date.	Pg 1 with June 15, 2009 revision date.
Attachment 1.H	Pgs 11-11a, 15, 18-20 with August 11, 2011 revision date.	Pgs 11, 15, 18-20 with June 15, 2009 revision date.
Attachment 1.H.i	Entire section with August 11, 2011 revision date.	Entire Section with June 15, 2009 revision date.
Attachment 1.H.ii	Entire section with August 11, 2011 revision date.	Entire Section with June 15, 2009 revision date.
Attachment 1.H.iv	Pgs 4-4a with August 11, 2011 revision date.	Pg 4 with June 15, 2009 revision date.
Attachment 2	Entire section with August 11, 2011 revision date.	Entire section.
Attachment 4	Pgs 7, 36-37 with August 11, 2011 revision date.	Pgs 7, 36-37 with June 15, 2009 revision date.
Attachment 6	Pgs 16-16a with August 11, 2011 revision date.	Pgs 16 with June 15, 2009 revision date.
Attachment 7	Pg 4 with August 11, 2011 revision date.	Pg 4 with June 24, 2010 revision date.
Attachment 9	Pgs. 1-3 with August 11, 2011 revision date.	NA. Add to front of tabbed section.
Volume III		
Appendix I	Cover sheet with August 11, 2011 revision date, Exhibit I-1, Rev. 03; Exhibit I-2, Rev. 02	Cover sheet with June 15, 2009 revision date, Exhibit I-1, Rev. 2; Exhibit I-2, Rev. 01
Appendix II	Cover sheet with August 11, 2011 revision date, Dwg 53-10374, Rev 04; Exhibit II-1, Rev 07; RWMC/AMWTP Topo Map, dated 02/02/11; Dwg. 54-9926, Rev 06; Dwg 56-1901, Rev 15.	Cover sheet Feb. 09, 2010 revision date, Dwg 53-10374, Rev 03; Exhibit II-1, Rev 06; RWMC/AMWTP Topo Map, dated 12/16/09; Dwg. 54-9926, Rev 05; Dwg 56-1901, Rev 13.
Appendix III	Cover sheet with August 11, 2011 revision date, Dwg 56-1900, Rev 08.	Cover sheet with June 15, 2009 revision date, Dwg 56-1900, Rev 07.
Volume IV		
Appendix IV	Cover sheet with August 11, 2011 revision date; Dwg 51-9912, Rev 07; Dwg 54-9721, Rev 14; Dwg 54-9722, Rev 06.	Cover sheet with Feb. 09, 2010 revision date; Dwg 51-9912, Rev 06; Dwg 54-9721, Rev 12; Dwg 54-9722, Rev 03; remove Dwg 54-10380, Rev 05.

Permit Section	New Page/Drawing	Replaces
Appendix V	Cover sheet with August 11, 2011 revision date; Dwg 54-9759, Rev 13.	Cover sheet with Feb. 09, 2010 revision date; Dwg 54-9759, Rev 12.
Appendix VI	Cover sheet with August 11, 2011 revision date; Dwg 54-10442, Rev 15.	Cover sheet with Feb. 09, 2010 revision date; Dwg 54-10442, Rev 14.
Appendix VII	Cover sheet with August 11, 2011 revision date; Dwg 52-0241, Rev 15; Dwg 54-9787, Rev 12; Dwg 54-9788, Rev 05.	Cover sheet with June 15, 2009 revision date; Dwg 52-0241, Rev 14; Dwg 54-9787, Rev 11; Dwg 54-9788, Rev 04.
Appendix IX	Cover sheet with August 11, 2011 revision date; Dwg 53-0201, Rev 09; Dwg 53-0207, Rev 12; Dwg 51-0301, Rev 10.	Cover sheet with June 15, 2009 revision date; Dwg 53-0201, Rev 07; Dwg 53-0207, Rev 11; Dwg 51-0301, Rev 08.
Volume V		
Appendix XI	Cover sheet with August 11, 2011 revision date; EDF-0270, Rev. 03; EDF-0271, Rev. 02; EDF-0272, Rev. 02;	Cover sheet with June 15, 2009 revision date; EDF-0270, Rev. 01; EDF-0271, Rev. 00.
Appendix XV	Cover sheet with August 11, 2011 revision date; Dwg 53-0209, Rev 09.	Cover sheet with Feb. 09, 2010 revision date; Dwg 53-0209, Rev 08.
Appendix XVII	Cover sheet with August 11, 2011 revision date; Z-390-200 Import/Export Glovebox	Cover sheet with June 15, 2009 revision date.
Certification Statements	BBWI and DOE certification dated 6-8-2011 for PMR-05.	NA. Add to front of tabbed section.

Summary of Page Revisions included in June 24, 2010 Revised Permit for the Final Advanced Mixed Waste Treatment Project HWMA/RCRA Permit

In accordance with the Class 1 Permit Modification Request requiring Prior Written Approval (PMR-04, Rev. 0) to the AMWTP HWMA/RCRA Permit, clean copies of the revised pages dated June 24, 2010 are included in this document.

The table below lists, section-by-section, replacement of revised Permit pages, attachments, and appendices.

Permit Section	New Page/Drawing	Replaces
NA	Covers/Spines with June 24, 2010 revision date.	Covers/Spines with February 09 2010 revision date.
Volume I		
Approval Letters	DEQ approval letter dated June 24, 2010.	NA. Add to front of tabbed section.
Module II	Pgs 36 and 38 with June 24, 2010 revision date.	Pg 36 with February 9, 2010 revision date and Pg 38 with June 15, 2009 revision date.
Volume II		
Attachment 1.A	Pg 22 with June 24, 2010 revision date.	Pg 22 with June 15, 2009 revision date.
Attachment 1.F	Pg 1 with June 24, 2010 revision date.	Pg 1 with February 09, 2010 revision date.
Attachment 2	Pgs 2, 6 and 7 with June 24, 2010 revision date.	Pgs 2, 6 and 7 with February 09, 2010 revision date.
Attachment 7	Pg 4 with June 24, 2010 revision date.	Pg 4 with February 09, 2010 revision date.
Attachment 9	Attachment 9 with June 24, 2010 revision date.	NA. Add to the front of the tabbed section.
Volume V		
Certification Statements	BBWI and DOE certification pages for PMR-04.	NA. Add to front of tabbed section.

Summary of Page Revisions included in February 09, 2010 Revised Permit for the Final Advanced Mixed Waste Treatment Project HWMA/RCRA Permit

In accordance with the Class 1 Permit Modification Request requiring Prior Written Approval (PMR-02, Rev. 0) to the AMWTP HWMA/RCRA Permit, clean copies of the revised pages dated February 09, 2010 are included in this document.

The table below lists, section-by-section, replacement of revised Permit pages, attachments, and appendices.

Permit Section	New Page/Drawing	Replaces
NA	Covers/Spines with February 09 2010 revision date.	Covers/Spines with June 15, 2009 revision date.
Volume I		
Approval Letters	DEQ approval letter dated February 9, 2010.	NA. Add to front of tabbed section.
Table of Contents	Pgs 2 and 3 with February 9, 2010 revision date.	Pgs 2 and 3 with June 15, 2009 revision date.
List of Attachments	Pgs 4 through 6 with February 9, 2010 revision date.	Pgs 4 through 6 with June 15, 2009 revision date.
List of Tables	Pg 7 with February 9, 2010 revision date.	Pg 7 with June 15, 2009 revision date.
List of Appendices	Pgs 8 through 12 with February 9, 2010 revision date.	Pgs 8 through 12 with June 15, 2009 revision date.
Acronyms and Abbreviations	Pgs 19 through 24 with February 9, 2010 revision date.	Pgs 19 through 24 with June 15, 2009 revision date.
Module II	Pgs 36, and 42 through 49 with February 9, 2010 revision date.	Pgs 36, and 42 through 49 with June 15, 2009 revision date.
Module IV	Pg 72 with February 9, 2010 revision date.	Pgs 72 with June 15, 2009 revision date.
Module V	Pgs 74 through 76 with February 9, 2010 revision date.	Pgs 74 through 76 with June 15, 2009 revision date.
Volume II		
Attachment 1.A	Pgs 6, 6a, 9, and 9a with February 9, 2010 revision date.	Pgs 6 and 9 with June 15, 2009 revision date.
Attachment 1.F	Pgs 1 through 4 with February 9, 2010 revision date.	Pgs 1 through 4 with June 15, 2009 revision date.
Attachment 1.H.i	Pgs 13 and 13a with February 9, 2010 revision date.	Pg 13 with June 15, 2009 revision date.
Attachment 2	Entire section with February 9, 2010 revision date.	Entire section with June 15, 2009 revision date.
Attachment 6	Pg 3 with February 9, 2010 revision date.	Pgs 3 with June 15, 2009 revision date.
Attachment7	Entire section with February 9, 2010 revision date.	Entire section with June 15, 2009 revision date.
Attachment 9	Attachment 9 with February 9, 2010 revision date.	NA. Add to the front of the tabbed section.

Permit Section	New Page/Drawing	Replaces
Volume III		
Appendix II	Appendix II cover page with February 9, 2010 revision date and drawings provided.	Appendix II cover page with June 15, 2009 revision date and drawings provided.
Volume IV		
Appendix IV	Appendix IV cover page with February 9, 2010 revision date and drawings provided.	Appendix IV cover page with June 15, 2009 revision date and drawings provided.
Appendix V	Appendix V cover page with February 9, 2010 revision date and drawings provided.	Appendix V cover page with June 15, 2009 revision date and drawings provided.
Appendix VI	Appendix VI cover page with February 9, 2010 revision date and drawings provided.	Appendix VI cover page with June 15, 2009 revision date and drawings provided.
Appendix VIII	Appendix VIII cover page with February 9, 2010 revision date and drawings provided.	Appendix VIII cover page with June 15, 2009 revision date and drawings provided.
Volume V		
Appendix XV	Appendix XV cover page with February 9, 2010 revision date and drawings provided.	Appendix XV cover page with June 15, 2009 revision date and drawings provided.
Certification Statements	BBWI and DOE certification pages for PMR-02.	NA. Add to front of tabbed section.

Summary of Page Revisions included in June 15, 2009 Revised Permit for the Final Advanced Mixed Waste Treatment Project HWMA/RCRA Permit

In accordance with the Class 3 Permit Modification Request including a Request for Temporary Authorization (PMR-01, Rev. 01) to the AMWTP HWMA/RCRA Permit, clean copies of the revised pages dated June 15, 2009 are included in this document.

The table below lists, section-by-section, replacement of revised Permit pages, attachments, and appendices.

Permit Section	New Page/Drawing	Replaces
NA	Covers/Spines with June 15 2009 revision date.	Covers/Spines with June 04, 2008 revision date.
Volume I		
"Approval Letters" thru "References"	Volume I with June 15, 2009 revision date.	Entire contents of Volume I. (remove all contents and recycle or discard).
Volume II		
"Attachment 1" through "Attachment 2"	Attachment 1 through Attachment 2 with June 15, 2009 revision date.	Attachment 1 through Attachment 2 with June 04, 2008 revision date.
"Attachment 4"	Attachment 4 with June 15, 2009 revision date.	Attachment 4 with June 04, 2008 revision date.
"Attachment 6" through "Attachment 8"	Attachment 6 through Attachment 8 with June 15, 2009 revision date.	Attachment 6 through Attachment 8 with June 04, 2008 revision date.
"Attachment 8.E" and "Attachment 8.F"	Attachment 8.E and Attachment 8.F with June 15, 2009 revision date.	NA. New Attachments. Add behind Attachment 8.D.
"Attachment 9"	Attachment 9 with June 15, 2009 revision date.	NA. Add to the front of the tabbed section.
Volume III		
"List of Appendices" through "Appendix III"	Entire Volume III with June 15, 2009 revision date.	Entire contents of Volume III (remove all contents and recycle or discard).
Volume IV		
"Appendix IV" through "Appendix VIII"	Volume IV with June 15, 2009 revision date.	Entire contents of Volume IV (remove all contents and recycle or discard).
Volume V		
"Appendix IX" through "Certification Statements"	Volume V with June 15, 2009 revision date.	Entire contents of Volume V (remove all contents and recycle or discard).