Change Control Logs ensure that changes to this unit are performed in a methodical, controlled, coordinated, and transparent manner. Each unit addendum will have its own change control log with a modification history table. The “Modification Number” represents Ecology’s method for tracking the different versions of the permit. This log will serve as an up to date record of modifications and version history of the unit.

Modification History Table

<table>
<thead>
<tr>
<th>Modification Date</th>
<th>Modification Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/30/2012</td>
<td></td>
</tr>
</tbody>
</table>
ADDENDUM B
WASTE ANALYSIS PLAN
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# ADDENDUM B
## WASTE ANALYSIS PLAN

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Addendum B.iii
B. WASTE ANALYSIS PLAN

The purpose of this Waste Analysis Plan (WAP) is to document waste analysis activities associated with the 400 Area Waste Management Unit (WMU) to comply with WAC 173-303-300(1), (2), (4), and (5). WAC 173-303-300(3) and (6) are not applicable, as the 400 Area WMU will not receive waste from any offsite facilities. Mixed waste managed in the 400 Area WMU is limited to waste generated in the 400 Area. Descriptions required by WAC 173-303-300(5) are contained in the following sections.

B.1 Unit Description

The 400 Area WMU is a non-land based unit located in the 400 Area of the Hanford Facility and contains two container storage dangerous waste management units. The 400 Area WMU is operated in accordance with requirements in the Hanford Dangerous Waste permit established pursuant to the provision of WAC 173-303-630. The mission of the 400 Area WMU is to store mixed waste until it is treated. Treatment is not currently provided for mixed waste stored at the 400 Area WMU.

B.1.1 Description of Unit Processes and Activities

The 400 Area WMU includes the FSF (Building 403) and the ISA. The locations and boundaries of these two container storage units are documented in Figures C.1 and C.2 of Addendum C, and the topographic map in Addendum A. Addendum A, Part A Form identifies waste quantities and the process design capacity for the 400 Area WMU. Sodium (Na) and sodium potassium (NaK) contamination is associated with the Na and NaK used as coolant in the FFTF reactor. The 400 Area WMU will continue to receive Na and NaK-contaminated waste and debris from decommissioning of the Fast Flux Test Facility (FFTF). In addition, sodium-contaminated waste, generated in association with former FFTF operations and currently in storage at other Hanford Facility locations, could be transferred to the 400 Area WMU for consolidation with other 400 Area-generated waste. Transfers of mixed waste to the 400 Area WMU will be conducted under Permit Condition II.Q.

B.1.2 Identification and Classification of Waste

Waste types not specifically identified in this Waste Analysis Plan are prohibited from storage in the 400 Area WMU dangerous waste management units. The waste can only exhibit the characteristics of ignitability, reactivity, and/or corrosivity.

Waste is designated using manufacturers’ product information, Material Safety Data Sheets (MSDS), laboratory analysis provided by the generator, and/or reference material such as Registry of Toxic Effects of Chemical Substances (published by the National Institutes for Occupational Safety and Health). Addendum A, Part A Form, identifies dangerous waste numbers for waste types stored at the 400 Area WMU. These dangerous waste numbers and corresponding references are as follows:

<table>
<thead>
<tr>
<th>Dangerous Waste Number (Characteristic)</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>D001 (ignitable)</td>
<td>WAC 173-303-090(5)</td>
</tr>
<tr>
<td>D002 (corrosive liquid)</td>
<td>WAC 173-303-090(6)</td>
</tr>
<tr>
<td>D003 (reactive)</td>
<td>WAC 173-303-090(7)</td>
</tr>
<tr>
<td>WSC2 (corrosive solid)</td>
<td>WAC 173-303-090(6)/104</td>
</tr>
</tbody>
</table>

B.2 Confirmation Process

The confirmation process is the process by which the 400 Area WMU staff will confirm their knowledge about a waste before it is placed into storage to ensure the waste is managed properly. The confirmation process includes completing appropriate pre-transfer reviews and verification steps as described in this section.
B.2.1 Pre-Transfer Review

Pre-transfer review takes place before waste can be placed in the 400 Area WMU. The review focuses on whether the analysis information (e.g., waste profile documentation) is sufficient to determine that the waste can be safely stored and that the waste was generated at the 400 Area. The pre-transfer review will be documented on a waste profile and maintained in the Hanford Facility Operating Record, 400 Area WMU File. The analysis must include data obtained by testing the waste and/or 'knowledge' of the waste (i.e., sufficient information about a waste to substitute reliably for direct testing of the waste). 'Knowledge' consists of existing published or documented analysis data on the waste or data from waste generated in similar processes, including but not limited to the following:

- MSDSs on chemical products
- Analytical data on the waste or a waste from a similar process
- Interview information
- Logbooks
- Procurement records
- Qualified analytical data
- Procedures and/or methods
- Process flow charts
- Inventory sheets
- Vendor information

B.2.2 Verification of Waste

Verification is an assessment performed at waste receipt to substantiate that the waste stream received at the 400 Area WMU is the same as represented by the analysis information and/or supporting documentation. Verification includes a container receipt inspection. Documentation to be reviewed as part of verification activities may include the container inventory documentation, a container listing report, and the waste profile documentation. For all Treatment, Storage, and Disposal (TSD) locations within the 400 Area WMU, each container or group of containers is inspected before acceptance by waste operations personnel for damage, proper closure, marking, and proper accompanying documentation.

B.2.3 Waste Acceptance

Acceptance of waste into the 400 Area WMU occurs only after the confirmation process (pre-transfer review and verification) is complete. Conformance issues identified during the confirmation process are documented and managed in accordance with Section B.2.4. Conformance issues that must be corrected before waste acceptance include:

- Waste that does not match approved waste profile documentation
- Designation discrepancy
- Packaging discrepancy

B.2.4 Conformance Issue Resolution

A conformance issue is any discrepancy identified during the confirmation process with waste profile documentation, a waste package, or a waste shipment. Discrepancies can be identified during pre-transfer review of a waste stream or during the verification process. If a possible conformance issue is identified, the following actions are taken by the 400 Area WMU staff to resolve the issue:

- Compile all information concerning the possible conformance issue(s).
- Gather additional knowledge that may assist in the resolution of the concern(s).
- Determine and implement the appropriate course of action to resolve the issue.
B.3 Selecting Waste Analysis Parameters

Na and NaK is the material of interest to support safe storage of the waste (including contaminated piping, appurtenances, and debris) at the 400 Area WMU. Na and NaK consists of un-reacted elements (either Na or a mixture of Na and K, respectively) (i.e., no other chemical contamination) as it was contained in closed-loop cooling systems throughout FFTF reactor operation. In addition, the ignitable and reactive properties of sodium and potassium metal are well known and documented (MSDSs and FFTF operating history), and the Na and NaK waste to be stored in the 400 Area WMU storage units is consistent with these properties. Analytical data exist for the Na and NaK contained in the FFTF cooling system, therefore, no further sampling and analyses of the sodium waste are planned.

Based on known chemical properties of sodium and a mixture of sodium and potassium metal, small amounts of concentrated sodium hydroxide and potassium hydroxide and trace amounts of hydrogen may be generated if the sodium comes in contact with water vapor in the air during storage. Due to the potential formation of sodium or potassium hydroxide having a pH greater than 12.5, debris contaminated with Na or NaK metal is designated as a corrosive (D002 and WSC2, corrosive liquid and solid, respectively). In the event that liquid is identified in Na or NaK waste secondary containment, the liquid will be managed under the generator provisions of WAC 173-303-200 and is beyond the scope of this WAP.

B.4 Selecting Sampling Processes

Additional analytical data are not required to store safely the Na or NaK-contaminated waste at the 400 Area WMU. Therefore, no additional waste sampling is planned.

B.5 Selecting a Laboratory, Laboratory Testing, and Analytical Methods

Additional analytical data are not required to store safely the sodium-contaminated waste at the 400 Area WMU. Therefore, there is no need to select a laboratory, laboratory testing methods, or analytical methods.

B.6 Selecting Waste Re-Evaluation Frequencies

Additional analytical data are not required to store safely the Na or NaK-contaminated waste at the 400 Area WMU. Therefore, there is no need to select a waste re-evaluation frequency.

B.7 Special Procedural Requirements

Provisions of WAC 173-303-300(5)(f) are not applicable. Additional analytical data are not required to store safely the sodium-contaminated waste at the 400 Area WMU. Therefore, no special procedural requirements for sampling and analysis apply.

The 400 Area WMU will not conduct any land disposal restrictions (LDR) treatment of waste in storage. Therefore, the LDR requirements applicable to the 400 Area WMU are limited to the record keeping requirements in WAC 173-303-380(1)(o) and LDR reporting requirements under the Hanford Federal Facility Agreement and Consent Order. Mixed waste stored in the 400 Area WMU will be treated in accordance with Permit Condition II.S.

B.8 Recordkeeping

Confirmation process records, will be maintained in accordance with Permit Condition II.I.1. These records will be maintained in the Hanford Facility Operating Record, 400 Area WMU File from the time the waste is received until a period of ten years following certification of closure.