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Project Title/Work Order WHC-SD-WM-TS-102 "Acceptance Test Plan for the Waste Information and Control System"		EDT No. 161826 ECN No.

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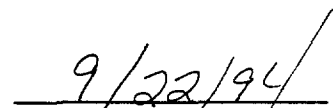
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**APPROVED FOR  
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6. Author

Name: D.F. FLYNN

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7. Abstract

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WHC-SD-WM-ATP-102  
Revision 0  
Page 1

**ACCEPTANCE TEST PLAN  
FOR THE  
WASTE INFORMATION AND CONTROL SYSTEM**

Revision 0

Prepared by:

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Automation and Simulation Engineering

September 1994

Prepared for:  
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**MASTER**

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*DF*

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**ACCEPTANCE TEST PLAN  
FOR THE  
WASTE INFORMATION AND CONTROL SYSTEM**

**1.0 INTRODUCTION**

The Westinghouse Hanford Company (WHC) Hazardous Material Control Group (HMC) of the 222-S Laboratory has requested the development of a system to help resolve many of the difficulties associated with tracking and data collection of containers and drums of waste. This system has been identified as Waste Information and Control System (WICS).

The request for developing and implementing WICS has been made to the Automation and Simulation Engineering Group (ASE).

**1.1 Purpose**

WICS shall partially automate the procedure for acquisition, tracking, and reporting of the container, drum, and waste data that is currently manually processed. The WICS project shall use handheld computer units (HCU) to collect laboratory data, a "local" database with an "user friendly interface" to import the laboratory data from the HCUs, and barcode technology with associated software and operational procedures. After the container, drum, and waste data has been collected and verified, it shall be used to provide informal reports containing data required to properly document waste disposal.

The WICS system shall be developed using handheld computer technology (hardware and software) developed previously by ASE, and standard available personal computer (PC) products, which shall substantially reduce development and implementation costs. It shall meet all current requirements and standards as to data security, integrity, change control and quality assurance.

**1.2 Scope**

This document, along with the Test Specifications (TS) document for WICS (Ref. 9), satisfies the requirement for acceptance testing as stated in the WICS Work Plan WHC-SD-WM-WP-269 (Ref. 6).

After the acceptance testing has been completed, an Acceptance Test Report (ATR) describing the results of testing shall be issued. The ATR is the original retitled ATP combined with the data and incident reports generated during the acceptance testing.

### 1.3 Overview

This Acceptance Test Plan (ATP) defines the test procedures for the WICS. The ATP references the Test Specifications (TS) document for WICS (Ref. 9). Criteria for testing has been gathered from the System Requirements Specification (SRS) for WICS (Ref. 7). The ATP has been prepared following the WHC-CM-3-10 "Software Practices" (Ref. 3) guidelines. The ATP shall serve as the testing document to ensure the specific requirements of the WICS are met with regard to assurance of the accuracy and quality of data taken with WICS. This ATP describes product functions to be tested.

### 1.4 Definitions

The following are abbreviations and definitions of terms used in this document:

AD	Approval Designator
ASE	Automation and Simulation Engineering Group
ATP	Acceptance Test Plan
ATR	Acceptance Test Report
CIN	Container Identification Number
DOE	Department of Energy
ECN	Engineering Change Notice
EDT	Engineering Data Transmittal
ETR	Extended Temperature Range
HCU	Handheld Computer Unit
HLAN	Hanford Local Area Network
HMC	Hazardous Material Control Group
HWP	Hazardous Waste Profile
OTP	Operability Test Procedure
OTR	Operability Test Report
QA	Quality Assurance
PC	Personal Computer
RCR	Review Comment Record
RWP	Radioactive Waste Profile
SAA	Satellite Accumulation Area
SC	Safety Class
SRS	System Requirements Specification
SWITS	Solid Waste Information Tracking System
TS	Test Specifications
WHC	Westinghouse Hanford Company
WICS	Waste Information and Control System
WS	WICS Workstation

Application -- The use of quality-affecting computer software, programs, models, or other computer items to perform engineering design analysis, calculations, scientific analysis, data acquisition or to operate hardware or facilities.

Approval Designator -- Defined in WHC-CM-3-5, section 12.7 (Ref. 2).

Computer Software -- A set of computer codes, procedures, rules, and associated documentation and data pertaining to the operation of computer systems. This includes user-provided instructions and data that implement preprogrammed algorithms in control systems; computer codes and data that shall reside in firmware, and when specified by the cognizant manager, user-provided instructions and data used by commercial software such as spread sheet and database packages.

Computer Software/System Requirements Specification -- The documentation of essential requirements (functions, performance, design constraints and attributes) of the computer software and its external interfaces.

Database -- A generic term referring to the storage of data by a computer in a certain data structure.

Data Collection System -- This encompasses the hardware, software, and procedure related to gathering, processing, storing, and archiving a specific type of data.

Engineering Practices -- Documented management methods (WHC-CM-6-1) which establish the manner and the order for the performance of common configuration management practices relating to engineering tasks.

Handheld Computer Unit -- A system which is a handheld portable computer with integrated barcode reader which supports keyboard or barcode data input, and provides upload/download support for computer data. A barcode reader with an integrated laser scanner capable of reading code 3-of-9 is an example of such a unit.

Location -- In WICS, a specific, identifiable place where containers, drums or other waste data are collected. The location is identified by a unique location number.

Project Cognizant Engineer -- Responsible engineer within the performing development organization that assumes Cognizant Engineer responsibility for development of the system as defined by WHC-CM-6-1, Standard Engineering Practices, EP-5.2.

Safety Class -- Defined in WHC-CM-1-3, MRP-5.46 (Ref. 1).

Software Practices -- Documented management methods (WHC-CM-3-10) which establish the manner and the order for the performance of common configuration management practices relating to software and systems engineering tasks.

System Cognizant Engineer -- Responsible engineer that assumes Cognizant Engineer responsibility for the system as defined by WHC-CM-6-1, Standard Engineering Practices, EP-5.2, for the facility and user.

Quality Record -- A completed document that furnishes evidence of the quality of items and/or activities affecting quality.

Waste Container -- A container which is used to store solid or liquid mixed waste. Waste containers are used within the laboratory to contain the waste. When a waste container is ready for disposal, it is sealed, weighed, and packed into a waste drum for final disposal.

Waste Drum -- The most common "outside" waste container. An outside waste container contains waste for final shipment and burial. Throughout this document, drum is used to refer to all types of outside waste containers.

Waste Package -- An assembly of compactible or non-compactible solid waste which is packed into a waste drum for final disposal.

## 2.0 TEST PLAN

### 2.1 Test Items

The following items are the individual components of the System Requirements Specification (Ref. 7), section 3.1 "FUNCTIONAL REQUIREMENTS". The ATP Test Procedures that correspond to these items are listed by number in the column to the far right.

<u>SRS for WICS SECTION</u>		<u>ATP TEST PROCEDURE NUMBER</u>
3.1	Functional Requirements	4.1.1 - 4.2.35
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3.2.4	Communication Interfaces	4.3.4

## 2.2 Features to Test/Not Test

This ATP is designed to test the functional requirements of the WICS and determine whether or not they have been satisfied. The functional requirements can be found in the System Requirements Specification for WICS (Ref. 7), Section 3.1 "FUNCTIONAL REQUIREMENTS". In addition to the functional requirements tests, other tests may also be performed.

In general, this ATP shall parallel the System Design Description for WICS (Ref. 8). However, since acceptance testing is based on specific requirements, the design requirements are not individually tested in this ATP.

## 2.3 Deliverables

The following items shall be delivered by the tester upon completion of the acceptance testing for WICS.

- 1) An acceptance test log.
- 2) Any incident sheets completed by the tester.

## 2.4 Acceptance Criteria

All tests shall be performed according to section 4.0 "TEST PROCEDURES" without any unresolved exceptions. Test results shall be approved by the organizations listed in section 2.7 "RESPONSIBILITIES".

## 2.5 Testing Tasks



Criteria/Constraints

- The acceptance testing shall occur prior to the operability testing.

Hardware Setup

- The required hardware setup shall be in place for the performance of the ATP.
- The HCU shall have a fully charged battery prior to each day of testing.

Software Setup

- All required software shall be installed per appropriate installation procedures.

HCU Software

- The HCU data files for transfer to the PC shall be "empty" at the start of testing.

WICS Database

- The WICS databases shall be loaded with only the initial master data sets so that only known data is in the database.
- The WICS database and application software shall have been previously configured for the WICS WS ATP test station.
- At completion of the ATP, all files shall be emptied because the data input during this test is only test data and has no value outside the test. The master data sets shall be emptied and reloaded with the original data.

**2.6 Environmental Needs**

The equipment needed to perform acceptance testing is as follows:

- a) WICS configured Personal Computer (PC) workstation (e.g. MO-263 Room 8).
- b) A handheld data computer unit (Symbol LDT 3805) for electronic field inventory data gathering.
- c) An HCU communications cradle, also called a cradle, for electronic field data transfer and battery charging.

- d) A serial link RS232-C cable connecting the cradle and the PC.
- e) Paper for laserjet printer.
- f) General office supplies for testing support.

2.7 Responsibilities

Organizations involved with WICS Acceptance Testing are those listed in the Work Plan WHC-SD-WM-WP-269 (Ref. 6). They are as follows:

- 1) Operations/./Hazardous Materials Control (OPS/HMC).
- 2) Emergency, Safety, and Quality Services/Quality Assurance organization (ESQ/QA).
- 3) Waste, Analytical, and Environmental Services/./Automation and Simulation Engineering (WAE/ASE).

These organization's Acceptance Test responsibilities are found in the following matrix.

Table 1. Organizational Responsibilities Matrix.

DESCRIPTION	OPS/./HMC	ESQ/./QA	WAE/./ASE	PROJECT COG ENG
1. Acceptance Test Plan	2,3,4	3,4	2,3,4	1,2,3,4
2. Acceptance Test	2		2	1,2
3. Acceptance Test Report	2,3,4	3,4	2,3,4	1,2,3,4

- 1 = Initiates
- 2 = Provides Input
- 3 = Reviews
- 4 = Approves
- 5 = Post Review

## 2.8 Staffing and Training

Testing personnel shall be from within Automation and Simulation Engineering (ASE) and Hazardous Materials Control (HMC). Testers shall be independent (not involved with the implementation of the sub-component being tested).

The tester shall have some familiarity with the Windows environment. This includes the ability to successfully use windows, boxes, menu bars, etc. However, this ATP is designed so testers shall need minimal training of the WICS application.

The tester shall be qualified to make competent judgements about the physical appearance of WICS reports. These judgements are in regard to the variance of actual WICS reports as compared to the example formats in other WICS documentation.

During acceptance testing, any questions that arise regarding the use of the WICS system shall be answered as needed by the development team.

## 2.9 Risks and Contingencies

The following assumptions affect the testing of the WICS system:

- It is assumed that the test performer shall be given at least four different identification numbers with appropriate passwords for testing different levels of access privileges for both the HCU and the WS.
- It is assumed that all WICS documentation is current with respect to this ATP document and the Test Specifications (TS) for WICS (Ref. 9).

### 3.0 TEST DESIGN

#### 3.1 Approach

The acceptance testing of WICS shall be based on two test documents. This document, the Acceptance Test Plan (ATP) for WICS, describes the testing approach and lists the individual test procedures. Each test procedure shall be composed of several individual test cases. The test cases are listed in the Test Specifications (TS) for WICS (Ref. 9).

The acceptance testing of the functional requirements for WICS is to be to the best extent possible without unnecessary reduplicating of tests. All functional requirements for WICS are to be tested.

This ATP is written to give the tester flexibility in selecting test data. Any data that is to be saved by the system shall be documented by the tester into the test log. The purpose of journalizing test data is to ensure the system is maintaining and reporting correct data. Any data inputs that create a system error shall also be documented by the tester. This shall provide information to help the developmental team track the error and perform the necessary corrections.

#### 3.2 Pass/Fail Criteria

##### 3.2.1 Data Criteria

All data criteria can be found in section 3.6.1 "Data" of the SRS for WICS (Ref. 7). This section of the SRS lists criteria for all specific data fields.

##### 3.2.2 Report Format Criteria

All report format criteria can be found in section 3.1 "FUNCTIONAL REQUIREMENTS" of the SRS for WICS (Ref. 7). This section of the SRS lists the formats of all reports for WICS. These formats are to be used for comparison of structure only and do not represent any actual data.

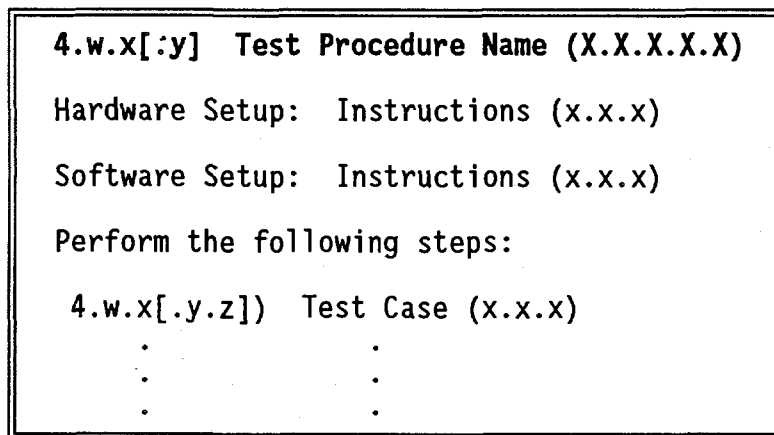
It is acceptable for the tester to allow some variance in the physical format of the actual WICS reports as compared to the formats found in the SRS. However, all data fields in the actual WICS reports shall be the same as the data fields found in the SRS formats, unless otherwise noted.

#### 4.0 TEST PROCEDURES

The tester is to perform the following test procedures. Each separate procedure tests a certain aspect of the WICS application.

The format of the test procedures is illustrated in Figure 1.

**Figure 1. Format of Test Procedures**



- 1) The number 4.w.x[.y] represents the section number of this document. The number in brackets represents a lower level test and is not applicable in every situation.
- 2) If applicable, the number in parenthesis (X.X.X.X.X) represents the section number of the SRS for WICS (Ref. 7).
- 3) The "Hardware Setup" provides instructions for hardware preparation before performing a specific test. The number in parenthesis, (x.x.x), represents the section number of the Test Specification (TS) document for WICS. The TS document contains all information regarding input specifications, criteria, and expected results.
- 4) The "Software Setup" provides instructions for software preparation before performing a specific test. This is similar to the "Hardware Setup" number in parenthesis which represents the TS document section number.
- 5) The test cases shall be performed in the sequence listed. All documentation is to be done in Section 5.1 "Test Procedure Results".

#### 4.1 Functional Requirements Tests -- HCU

The following test procedures are specific to the HCU.

##### 4.1.1 HCU Log-on (3.1.2.4)

Hardware Setup: Perform HCU Test Setup (2.8.1)

Software Setup: Perform HCU System Startup (2.8.2)

Perform the following steps:

- 4.1.1.1) HCU Log-On Screen (3.1.1)
- 4.1.1.2) Invalid Employee ID (3.3.2)
- 4.1.1.3) Valid Employee ID (3.3.3)
- 4.1.1.4) Invalid Password (3.3.2)
- 4.1.1.5) Valid Password (3.3.3)
- 4.1.1.6) Confirm Date and Time (3.1.6)
- 4.1.1.7) HCU Main Menu (3.1.2)
- 4.1.1.8) Exit the HCU (3.1.5)

Record results and all data input to the acceptance test log.

##### 4.1.2 Container-Label (3.1.2.1.1)

Hardware Setup: Perform HCU Test Setup (2.8.1)

Software Setup: Perform HCU System Startup (2.8.2)  
Perform HCU Log-On (2.8.3)

Perform the following steps:

- 4.1.2.1) Container-Label Option (3.3.1)
- 4.1.2.2) Valid Container Barcode ID Number (3.3.3)
- 4.1.2.3) Valid Log Book ID Number (3.3.3)
- 4.1.2.4) Valid Location Code Number (3.3.3)
- 4.1.2.5) Valid Container Type Code (3.3.3)
- 4.1.2.6) Save Data (3.3.4)
- 4.1.2.7) Invalid Container Barcode ID Number (3.3.2)
- 4.1.2.8) Invalid Log Book ID Number (3.3.2)
- 4.1.2.9) Invalid Location Code Number (3.3.2)
- 4.1.2.10) Invalid Container Type Code (3.3.2)
- 4.1.2.11) Reject Save (3.3.5)
- 4.1.2.12) Exit the HCU (3.1.5)

Record results and all data input to the acceptance test log.

#### 4.1.3 Container-Sample (3.1.2.1.2)

Hardware Setup: Perform HCU Test Setup (2.8.1)

Software Setup: Perform HCU System Startup (2.8.2)  
Perform HCU Log-On (2.8.3)

Perform the following steps:

- 4.1.3.1) Container-Sample Option (3.3.1)
- 4.1.3.2) Valid Container Barcode ID Number (3.3.3)
- 4.1.3.3) Valid Sample Number (3.3.3)
- 4.1.3.4) Save Data (3.3.4)
- 4.1.3.5) Invalid Container Barcode ID Number (3.3.2)
- 4.1.3.6) Invalid Sample Number (3.3.2)
- 4.1.3.7) Reject Save (3.3.5)
- 4.1.3.8) Exit the HCU (3.1.5)

Record results and all data input to the acceptance test log.

#### 4.1.4 Container-Weigh (3.1.2.1.3)

Hardware Setup: Perform HCU Test Setup (2.8.1)

Software Setup: Perform HCU System Startup (2.8.2)  
Perform HCU Log-On Setup (2.8.3)

Perform the following steps:

- 4.1.4.1) Container-Weigh Option (3.3.1)
- 4.1.4.2) Valid Container Barcode ID Number (3.3.3)
- 4.1.4.3) Valid Container Weight (3.3.3)
- 4.1.4.4) Save Data (3.3.4)
- 4.1.4.5) Invalid Container Barcode ID Number (3.3.2)
- 4.1.4.6) Invalid Container Weight (3.3.2)
- 4.1.4.7) Reject Save (3.3.5)
- 4.1.4.8) Exit the HCU (3.1.5)

Record results and all data input to the acceptance test log.

#### 4.1.5 Drum-Prepare (3.1.2.2.1)

Hardware Setup: Perform HCU Test Setup (2.8.1)

Software Setup: Perform HCU System Startup (2.8.2)  
Perform HCU Log-On Setup (2.8.3)

Perform the following steps:

- 4.1.5.1) Drum-Prepare Option (3.3.1)
- 4.1.5.2) Valid Drum CIN (3.3.3)
- 4.1.5.3) Valid Drum Type Code (3.3.3)
- 4.1.5.4) Confirm "Drum Inspected?" (3.1.3)
- 4.1.5.5) Confirm "R/HWP Reviewed?" (3.1.3)
- 4.1.5.6) Valid Liner Type Code (3.3.3)
- 4.1.5.7) Valid Liner Quantity (3.3.3)
- 4.1.5.8) Valid Absorbent Type Code (3.3.3)
- 4.1.5.9) Valid Absorbent Weight (3.3.3)
- 4.1.5.10) Confirm "Stickers Attached?" (3.1.3)
- 4.1.5.11) Save Data (3.3.4)
- 4.1.5.12) Invalid Drum CIN (3.3.2)
- 4.1.5.13) Invalid Drum Type Code (3.3.2)
- 4.1.5.14) Reject "Drum Inspected?" (3.1.4)
- 4.1.5.15) Reject "R/HWP reviewed?" (3.1.4)
- 4.1.5.16) Invalid Liner Type Code (3.3.2)
- 4.1.5.17) Invalid Liner Quantity (3.3.2)
- 4.1.5.18) Invalid Absorbent Type Code (3.3.2)
- 4.1.5.19) Invalid Absorbent Weight (3.3.2)
- 4.1.5.20) Reject "Stickers Attached?" (3.1.4)
- 4.1.5.21) Reject Save (3.3.5)
- 4.1.5.22) Exit the HCU (3.1.5)

Record results and all data input to the acceptance test log.

#### 4.1.6 Drum-Pack (3.1.2.2.2)

This section tests the "Drum-Pack" procedure. It is divided into two subsections based on the waste type. The first section tests the "Pack Liquid or Solid Mixed Waste" capability. The second section tests the "Pack Compactible or Non-Compactible Solid Waste" capability.



**4.1.6.1 Pack Liquid or Solid Mixed Waste (3.1.2.2.3)**

Hardware Setup: Perform HCU Test Setup (2.8.1)

Software Setup: Perform HCU System Startup (2.8.2)  
Perform HCU Log-On Setup (2.8.3)

Perform the following steps:

- 4.1.6.1.1) Drum-Pack Option (3.3.1)
- 4.1.6.1.2) Valid Drum CIN (3.3.3)
- 4.1.6.1.3) Valid Location Code Number (3.3.3)
- 4.1.6.1.4) Valid Waste Type (3.3.3)
- 4.1.6.1.5) Valid Packing Pad Type Code (3.3.3)
- 4.1.6.1.6) Valid Packing Pad Quantity (3.3.3)
- 4.1.6.1.7) Confirm "Mixed Waste or Treat as Mixed Waste" (3.1.3)
- 4.1.6.1.8) Save Data (3.3.4)
- 4.1.6.1.9) Valid Container Barcode ID Number (3.3.3)
- 4.1.6.1.10) Invalid Drum CIN (3.3.2)
- 4.1.6.1.11) Invalid Location Code (3.3.2)
- 4.1.6.1.12) Invalid Waste Type (3.3.2)
- 4.1.6.1.13) Invalid Container Barcode ID Number (3.3.2)
- 4.1.6.1.14) Invalid Packing Pad Type Code (3.3.2)
- 4.1.6.1.15) Invalid Packing Pad Quantity (3.3.2)
- 4.1.6.1.16) Reject Save (3.3.5)
- 4.1.6.1.17) Exit the HCU (3.1.5)

Record results and all data input to the acceptance test log.

4.1.6.2 Pack Compactible or Non-Compactible Solid Waste (3.1.2.2.4)

Hardware Setup: Perform HCU Test Setup (2.8.1)

Software Setup: Perform HCU System Startup (2.8.2)  
Perform HCU Log-On Setup (2.8.3)

Perform the following steps:

- 4.1.6.2.1) Drum-Pack Option (3.3.1)
- 4.1.6.2.2) Valid Drum CIN (3.3.3)
- 4.1.6.2.3) Valid Location Code Number (3.3.3)
- 4.1.6.2.4) Valid Waste Type (3.3.3)
- 4.1.6.2.5) Valid Packing Pad Type Code (3.3.3)
- 4.1.6.2.6) Valid Packing Pad Quantity (3.3.3)
- 4.1.6.2.7) Reject "Mixed Waste or Treat as Mixed Waste" (3.1.2)
- 4.1.6.2.8) Valid Waste Package Volume (3.3.3)
- 4.1.6.2.9) Valid Waste Package Weight (3.3.3)
- 4.1.6.2.10) Valid Volume Percentages (3.3.3)
- 4.1.6.2.11) Valid Miscellaneous Description (3.3.3)
- 4.1.6.2.12) Valid Miscellaneous Density (3.3.3)
- 4.1.6.2.13) One Additional Valid Package (3.3.3)
- 4.1.6.2.14) Save Data (3.3.4)
- 4.1.6.2.15) Invalid Drum CIN (3.3.2)
- 4.1.6.2.16) Invalid Location Code (3.3.2)
- 4.1.6.2.17) Invalid Waste Type (3.3.2)
- 4.1.6.2.18) Invalid Packing Pad Type Code (3.3.2)
- 4.1.6.2.19) Invalid Packing Pad Quantity (3.3.2)
- 4.1.6.2.20) Invalid Waste Package Volume (3.3.2)
- 4.1.6.2.21) Invalid Waste Package Weight (3.3.2)
- 4.1.6.2.22) Invalid Volume Percentages (3.3.2)
- 4.1.6.2.23) Invalid Miscellaneous Description (3.3.2)
- 4.1.6.2.24) Invalid Miscellaneous Density (3.3.2)
- 4.1.6.2.25) Reject Additional Packages (3.1.4)
- 4.1.6.2.26) Reject Save (3.3.5)
- 4.1.6.2.27) Exit the HCU (3.1.5)

Record results and all data input to the acceptance test log.

**4.1.7 Drum-Close/Weigh (3.1.2.2.5)**

Hardware Setup: Perform HCU Test Setup (2.8.1)

Software Setup: Perform HCU System Startup (2.8.2)  
Perform HCU Log-On Setup (2.8.3)

Perform the following steps:

- 4.1.7.1) Drum-Close/Weigh Option (3.3.1)
- 4.1.7.2) Valid Drum CIN (3.3.3)
- 4.1.7.3) Confirm "Liner Closed?" (3.1.3)
- 4.1.7.4) Confirm "L/R Bolt Tightened?" (3.1.3)
- 4.1.7.5) Valid Drum Weight (3.3.3)
- 4.1.7.6) Confirm "Drum Labeled with Weight?" (3.1.3)
- 4.1.7.7) Valid RAM Tag Dose Rate (3.3.3)
- 4.1.7.8) Save Data (3.3.4)
- 4.1.7.9) Invalid Drum CIN (3.3.2)
- 4.1.7.10) Reject "Liner Closed?" (3.1.4)
- 4.1.7.11) Reject "L/R Bolt Tightened?" (3.1.4)
- 4.1.7.12) Invalid Drum Weight (3.3.2)
- 4.1.7.13) Reject "Drum Labeled with Weight?" (3.1.4)
- 4.1.7.14) Invalid RAM Tag Dose Rate (3.3.2)
- 4.1.7.15) Reject Save (3.3.5)
- 4.1.7.16) Exit the HCU (3.1.5)

Record results and all data input to the acceptance test log.

**4.1.8 Drum-Prepare to Ship (3.1.2.2.6)**

Hardware Setup: Perform HCU Test Setup (2.8.1)

Software Setup: Perform HCU System Startup (2.8.2)  
Perform HCU Log-On Setup (2.8.3)

Perform the following steps:

- 4.1.8.1) Drum-Prepare to Ship Option (3.3.1)
- 4.1.8.2) Valid Drum CIN (3.3.3)
- 4.1.8.3) Confirm "L/R Bolt Torqued?" (3.1.3)
- 4.1.8.4) Valid Torque Wrench Number (3.3.3)
- 4.1.8.5) Confirm "Drum Labeled per RWP/HWP?" (3.1.3)
- 4.1.8.6) Save Data (3.3.4)
- 4.1.8.7) Invalid Drum CIN (3.3.2)
- 4.1.8.8) Reject "L/R Bolt Torqued?" (3.1.4)
- 4.1.8.9) Invalid Torque Wrench Number (3.3.2)
- 4.1.8.10) Reject "Drum Labeled per RWP/HWP?" (3.1.4)
- 4.1.8.11) Reject Save (3.3.5)
- 4.1.8.12) Exit the HCU (3.1.5)

Record results and all data input to the acceptance test log.

#### 4.1.9 Transfer-Send (3.1.2.3)

Hardware Setup: Perform HCU Test Setup (2.8.1)

Software Setup: Perform HCU System Startup (2.8.2)  
Perform HCU Log-On Setup (2.8.3)

Perform the following steps:

- 4.1.9.1) HCU Secure in Cradle (3.3.6)
- 4.1.9.2) WS HCU-Receive Option (3.3.1)
- 4.1.9.3) Transfer-Send Option (3.3.1)
- 4.1.9.4) Transfer Successful (3.3.8)
- 4.1.9.5) Remove HCU From Cradle (3.3.7)
- 4.1.9.6) Transfer-Send Option (3.3.1)
- 4.1.9.7) Transfer Unsuccessful (3.3.9)
- 4.1.9.8) Exit the WS (3.2.18)
- 4.1.9.9) Transfer-Send Option (3.3.1)
- 4.1.9.10) Transfer Unsuccessful (3.3.9)
- 4.1.9.11) Exit the HCU (3.1.5)

Record results and all data input to the acceptance test log.

#### 4.1.10 Transfer-Receive (3.1.2.3)

Hardware Setup: Perform HCU Test Setup (2.8.1)

Software Setup: Perform HCU System Startup (2.8.2)  
Perform HCU Log-On Setup (2.8.3)

Perform the following steps:

- 4.1.10.1) HCU Secure in Cradle (3.3.6)
- 4.1.10.2) WS HCU-Send Option (3.3.1)
- 4.1.10.3) Transfer-Receive Option (3.3.1)
- 4.1.10.4) Transfer Successful (3.3.8)
- 4.1.10.5) Remove HCU From Cradle (3.3.7)
- 4.1.10.6) Transfer-Receive Option (3.3.1)
- 4.1.10.7) Transfer Unsuccessful (3.3.9)
- 4.1.10.8) Exit the WS (3.2.18)
- 4.1.10.9) Transfer-Receive Option (3.3.1)
- 4.1.10.10) Transfer Unsuccessful (3.3.9)
- 4.1.10.11) Exit the HCU (3.1.5)

Record results and all data input to the acceptance test log.

## 4.2 Functional Requirements Tests -- WS

The following test procedures are specific to the WS.

### 4.2.1 WS Log-on (3.1.3.4)

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)

Perform the following steps:

- 4.2.1.1) WS Log-On Screen (3.2.1)
- 4.2.1.2) Invalid Employee ID (3.3.2)
- 4.2.1.3) Valid Employee ID (Read-Only Privileges) (3.3.3)
- 4.2.1.4) Invalid Password (3.3.2)
- 4.2.1.5) Valid Password (Read-Only Privileges) (3.3.3)
- 4.2.1.6) WS Main Menu (3.2.2)
- 4.2.1.7) Container-Log Book Option (3.3.1)
- 4.2.1.8) Mobility Available (3.2.3)
- 4.2.1.9) Print Record (3.2.11)
- 4.2.1.10) Fail to Add a Record (3.2.5)
- 4.2.1.11) Fail to Modify a Record (3.2.6)
- 4.2.1.12) Fail to Delete a Record (3.2.7)
- 4.2.1.13) Exit the WS (3.2.18)
- 4.2.1.14) WS Log-On (General Privileges) (2.8.6)
- 4.2.1.15) Add Record (3.2.8)
- 4.2.1.16) Modify Record (3.2.9)
- 4.2.1.17) Fail to Delete a Record (3.2.7)
- 4.2.1.18) Exit the WS (3.2.18)
- 4.2.1.19) WS Log-On (Limited Privileges) (2.8.6)
- 4.2.1.20) Delete Record (3.2.10)
- 4.2.1.21) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.

#### 4.2.2 Container-Log Book (3.1.3.1.1)

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.2.1) Container-Log Book (3.3.1)
- 4.2.2.2) Mobility Available (3.2.3)
- 4.2.2.3) Verify Waste Container Data Record (3.2.4)
- 4.2.2.4) Verify Solid or Liquid Mixed Waste Stream Data Record (3.2.4)
- 4.2.2.5) Verify Waste Sample Data Record (3.2.4)
- 4.2.2.6) Verify Location Data Record (3.2.4)
- 4.2.2.7) Verify Chemical Component Data Record (3.2.4)
- 4.2.2.8) Verify Container Type Data Record (3.2.4)
- 4.2.2.9) Add a Record (3.2.8)
- 4.2.2.10) Modify a Record (3.2.9)
- 4.2.2.11) Delete a Record (3.2.10)
- 4.2.2.12) Print a Record (3.2.11)
- 4.2.2.13) Invalid Entries for All Fields (3.3.2)
- 4.2.2.14) Test Required Fields (3.1.12)
- 4.2.2.15) Exit the WS (3.1.18)

Record results and all data input to the acceptance test log.

#### 4.2.3 Container-Sample (3.1.3.1.2)

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.3.1) Container-Sample (3.3.1)
- 4.2.3.2) Mobility Available (3.2.3)
- 4.2.3.3) Verify Waste Container Data Record (3.2.4)
- 4.2.3.4) Verify Waste Sample Data Record (3.2.4)
- 4.2.3.5) Add a Record (3.2.8)
- 4.2.3.6) Modify a Record (3.2.9)
- 4.2.3.7) Delete a Record (3.2.10)
- 4.2.3.8) Print a Record (3.2.11)
- 4.2.3.9) Invalid Entries for All Fields (3.3.2)
- 4.2.3.10) Test Required Fields (3.2.12)
- 4.2.3.11) Exit the WS (3.1.18)

Record results and all data input to the acceptance test log.

**4.2.4 Drum-Log Book (3.1.3.1.3)**

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.4.1) Drum-Log Book (3.3.1)
- 4.2.4.2) Mobility Available (3.2.3)
- 4.2.4.3) Verify Waste Drum Data Record (3.2.4)
- 4.2.4.4) Verify Preparation Checklist Data Record (3.2.4)
- 4.2.4.5) Verify Packaging Checklist Data Record (3.2.4)
- 4.2.4.6) Verify Drum Type Data Record (3.2.4)
- 4.2.4.7) Add a Record (3.2.8)
- 4.2.4.8) Modify a Record (3.2.9)
- 4.2.4.9) Delete a Record (3.2.10)
- 4.2.4.10) Print a Record (3.2.11)
- 4.2.4.11) Invalid Entries for All Fields (3.3.2)
- 4.2.4.12) Test Required Fields (3.2.12)
- 4.2.4.13) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.



#### 4.2.5 Drum Checklist (3.1.3.1.4)

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.5.1) Drum-Checklist (3.3.1)
- 4.2.5.2) Mobility Available (3.2.3)
- 4.2.5.3) Verify Preparation Checklist Data Record (3.2.4)
- 4.2.5.4) Verify Closing Checklist Data Record (3.2.4)
- 4.2.5.5) Verify Shipping Preparation Checklist Data Record (3.2.4)
- 4.2.5.6) Verify Waste Drum Data Record (3.2.4)
- 4.2.5.7) Verify Liner Type Data Record (3.2.4)
- 4.2.5.8) Verify Absorbent Type Data Record (3.2.4)
- 4.2.5.9) Verify Location Data Record (3.2.4)
- 4.2.5.10) Add a Record (3.2.8)
- 4.2.5.11) Modify a Record (3.2.9)
- 4.2.5.12) Delete a Record (3.2.10)
- 4.2.5.13) Print a Record (3.2.11)
- 4.2.5.14) Invalid Entries for All Fields (3.3.2)
- 4.2.5.15) Test Required Fields (3.2.12)
- 4.2.5.16) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.

4.2.6 Drum Inventory (3.1.3.1.5)

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.6.1) Drum-Inventory (3.3.1)
- 4.2.6.2) Mobility Available (3.2.3)
- 4.2.6.3) Verify Solid or Liquid Mixed Waste Inventory Record (3.2.4)
- 4.2.6.4) Verify Compactible/Non-Compactible Data Record (3.2.4)
- 4.2.6.5) Verify Waste Drum Data Record (3.2.4)
- 4.2.6.6) Verify Liner Type Data Record (3.2.4)
- 4.2.6.7) Verify Absorbent Type Data Record (3.2.4)
- 4.2.6.8) Verify Packing Pad Type Data Record (3.2.4)
- 4.2.6.9) Verify Drum Type Data Record (3.2.4)
- 4.2.6.10) Add a record Solid or Liquid Mixed Waste Inventory (3.2.8)
- 4.2.6.11) Add a record to Compactible/Non-Compactible Solid Waste Inventory (3.2.8)
- 4.2.6.12) Modify a record in step 15. (3.2.9)
- 4.2.6.13) Modify a record in step 16. (3.2.9)
- 4.2.6.14) Delete a record in Solid or Liquid Mixed Waste Inventory (3.2.10)
- 4.2.6.15) Delete a record in Compactible/Non-Compactible Solid Waste Inventory (3.2.10)
- 4.2.6.16) Print a record in step 15. (3.2.11)
- 4.2.6.17) Print a record in step 16. (3.2.11)
- 4.2.6.18) Invalid Entries for All Fields (3.3.2)
- 4.2.6.19) Test Required Fields (3.2.12)
- 4.2.6.20) Exit the WS(3.2.18)

Record results and all data input to the acceptance test log.

#### 4.2.7 Users (3.1.3.1.6)

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.7.1) Master Data-Users (3.3.1)
- 4.2.7.2) Mobility Available (3.2.3)
- 4.2.7.3) Verify WICS Log-On Data Record (3.2.4)
- 4.2.7.4) Add a Record (3.2.8)
- 4.2.7.5) Modify a Record (3.2.9)
- 4.2.7.6) Delete a Record (3.2.10)
- 4.2.7.7) Print a Record (3.2.11)
- 4.2.7.8) Invalid Entries for All Fields (3.3.2)
- 4.2.7.9) Test Required Fields (3.2.12)
- 4.2.7.10) Exit the WS (3.2.18)
- 4.2.7.11) WS Log-On with Limited Privileges (2.8.6)
- 4.2.7.12) Master Data-Users (Fail) (3.3.1)
- 4.2.7.13) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.

#### 4.2.8 Location (3.1.3.1.6)

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.8.1) Master Data-Location (3.3.1)
- 4.2.8.2) Mobility Available (3.2.3)
- 4.2.8.3) Verify Location Data Record (3.2.4)
- 4.2.8.4) Add a Record (3.2.8)
- 4.2.8.5) Modify a Record (3.2.9)
- 4.2.8.6) Delete a Record (3.2.10)
- 4.2.8.7) Print a Record (3.2.11)
- 4.2.8.8) Invalid Entries for All Fields (3.3.2)
- 4.2.8.9) Test Required Fields (3.2.12)
- 4.2.8.10) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.

#### 4.2.9 Container Type (3.1.3.1.6)

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.9.1) Master Data-Container Type (3.3.1)
- 4.2.9.2) Mobility Available (3.2.3)
- 4.2.9.3) Verify Container Type Data Record (3.2.4)
- 4.2.9.4) Add a Record (3.2.8)
- 4.2.9.5) Modify a Record (3.2.9)
- 4.2.9.6) Delete a Record (3.2.10)
- 4.2.9.7) Print a Record (3.2.11)
- 4.2.9.8) Invalid Entries for All Fields (3.3.2)
- 4.2.9.9) Test Required Fields (3.2.12)
- 4.2.9.10) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.

#### 4.2.10 Drum Type (3.1.3.1.6)

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.10.1) Master Data-Drum Type (3.3.1)
- 4.2.10.2) Mobility Available (3.2.3)
- 4.2.10.3) Verify Drum Type Data Record (3.2.4)
- 4.2.10.4) Add a Record (3.2.8)
- 4.2.10.5) Modify a Record (3.2.9)
- 4.2.10.6) Delete a Record (3.2.10)
- 4.2.10.7) Print a Record (3.2.11)
- 4.2.10.8) Invalid Entries for All Fields (3.3.2)
- 4.2.10.9) Test Required Fields (3.2.12)
- 4.2.10.10) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.

#### 4.2.11 Waste Type (3.1.3.1.6)

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.11.1) Master Data-Waste Type (3.3.1)
- 4.2.11.2) Mobility Available (3.2.3)
- 4.2.11.3) Verify Waste Type Data Record (3.2.4)
- 4.2.11.4) Add a Record (3.2.8)
- 4.2.11.5) Modify a Record (3.2.9)
- 4.2.11.6) Delete a Record (3.2.10)
- 4.2.11.7) Print a Record (3.2.11)
- 4.2.11.8) Invalid Entries for All Fields (3.3.2)
- 4.2.11.9) Test Required Fields (3.2.12)
- 4.2.11.10) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.

#### 4.2.12 Hazard Class (3.1.3.1.6)

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.12.1) Master Data-Hazard Class (3.3.1)
- 4.2.12.2) Mobility Available (3.2.3)
- 4.2.12.3) Verify Hazard Class Data Record (3.2.4)
- 4.2.12.4) Add a Record (3.2.8)
- 4.2.12.5) Modify a Record (3.2.9)
- 4.2.12.6) Delete a Record (3.2.10)
- 4.2.12.7) Print a Record (3.2.11)
- 4.2.12.8) Invalid Entries for All Fields (3.3.2)
- 4.2.12.9) Test Required Fields (3.2.12)
- 4.2.12.10) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.

#### 4.2.13 Waste Status (3.1.3.1.6)

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.13.1) Master Data-Waste Status (3.3.1)
- 4.2.13.2) Mobility Available (3.2.3)
- 4.2.13.3) Verify Waste Status Data Record (3.2.4)
- 4.2.13.4) Add a Record (3.2.8)
- 4.2.13.5) Modify a Record (3.2.9)
- 4.2.13.6) Delete a Record (3.2.10)
- 4.2.13.7) Print a Record (3.2.11)
- 4.2.13.8) Invalid Entries for All Fields (3.3.2)
- 4.2.13.9) Test Required Fields (3.2.12)
- 4.2.13.10) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.

#### 4.2.14 Special Analysis (3.1.3.1.6)

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.14.1) Master Data-Special Analysis (3.3.1)
- 4.2.14.2) Mobility Available (3.2.3)
- 4.2.14.3) Verify Special Analysis Type Data Record (3.2.4)
- 4.2.14.4) Add a Record (3.2.8)
- 4.2.14.5) Modify a Record (3.2.9)
- 4.2.14.6) Delete a Record (3.2.10)
- 4.2.14.7) Print a Record (3.2.11)
- 4.2.14.8) Invalid Entries for All Fields (3.3.2)
- 4.2.14.9) Test Required Fields (3.2.12)
- 4.2.14.10) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.

**4.2.15 Container Status (3.1.3.1.6)**

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.15.1) Master Data-Container Status (3.3.1)
- 4.2.15.2) Mobility Available (3.2.3)
- 4.2.15.3) Verify Container Status Data Record (3.2.4)
- 4.2.15.4) Add a Record (3.2.8)
- 4.2.15.5) Modify a Record (3.2.9)
- 4.2.15.6) Delete a Record (3.2.10)
- 4.2.15.7) Print a Record (3.2.11)
- 4.2.15.8) Invalid Entries for All Fields (3.3.2)
- 4.2.15.9) Test Required Fields (3.2.12)
- 4.2.15.10) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.

**4.2.16 Liner (3.1.3.1.6)**

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.16.1) Master Data-Liner (3.3.1)
- 4.2.16.2) Mobility Available (3.2.3)
- 4.2.16.3) Verify Liner Type Data Record (3.2.4)
- 4.2.16.4) Add a Record (3.2.8)
- 4.2.16.5) Modify a Record (3.2.9)
- 4.2.16.6) Delete a Record (3.2.10)
- 4.2.16.7) Print a Record (3.2.11)
- 4.2.16.8) Invalid Entries for All Fields (3.3.2)
- 4.2.16.9) Test Required Fields (3.2.12)
- 4.2.16.10) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.

**4.2.17 Absorbent (3.1.3.1.6)**

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.17.1) Master Data-Absorbent (3.3.1)
- 4.2.17.2) Mobility Available (3.2.3)
- 4.2.17.3) Verify Absorbent Type Data Record (3.2.4)
- 4.2.17.4) Add a Record (3.2.8)
- 4.2.17.5) Modify a Record (3.2.9)
- 4.2.17.6) Delete a Record (3.2.10)
- 4.2.17.7) Print a Record (3.2.11)
- 4.2.17.8) Invalid Entries for All Fields (3.3.2)
- 4.2.17.9) Test Required Fields (3.2.12)
- 4.2.17.10) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.

**4.2.18 Packing Pad (3.1.3.1.6)**

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.18.1) Master Data-Packing Pad (3.3.1)
- 4.2.18.2) Mobility Available (3.2.3)
- 4.2.18.3) Verify Packing Pad Type Data Record (3.2.4)
- 4.2.18.4) Add a Record (3.2.8)
- 4.2.18.5) Modify a Record (3.2.9)
- 4.2.18.6) Delete a Record (3.2.10)
- 4.2.18.7) Print a Record (3.2.11)
- 4.2.18.8) Invalid Entries for All Fields (3.3.2)
- 4.2.18.9) Test Required Fields (3.2.12)
- 4.2.18.10) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.



**4.2.19 Component Density (3.1.3.1.6)**

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.19.1) Master Data-Component Density (3.3.1)
- 4.2.19.2) Mobility Available (3.2.3)
- 4.2.19.3) Verify Waste Package Component Density Data Record (3.2.4)
- 4.2.19.4) Modify a Record (3.2.9)
- 4.2.19.5) Print a Record (3.2.11)
- 4.2.19.6) Invalid Entries for All Fields (3.3.2)
- 4.2.19.7) Test Required Fields (3.2.12)
- 4.2.19.8) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.

**4.2.20 Waste Stream Data (3.1.3.1.6)**

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.20.1) Master Data-Waste Stream Data (3.3.1)
- 4.2.20.2) Mobility Available (3.2.3)
- 4.2.20.3) Verify Waste Stream Data Record (3.2.4)
- 4.2.20.4) Modify a Record (3.2.9)
- 4.2.20.5) Print a Record (3.2.11)
- 4.2.20.6) Invalid Entries for All Fields (3.3.2)
- 4.2.20.7) Test Required Fields (3.2.12)
- 4.2.20.8) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.

**4.2.21 Setup/Config (3.1.3.1.6)**

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.21.1) Master Data-Setup/Config (3.3.1)
- 4.2.21.2) Mobility Available (3.2.3)
- 4.2.21.3) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.

**4.2.22 HCU-Send (3.1.3.2)**

Hardware Setup: Perform WS Test Setup (2.8.4)  
Perform HCU Test Setup (2.8.1)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On Setup (2.8.6)  
Perform HCU System Startup (2.8.2)  
Perform HCU Log-On Setup (2.8.3)

Perform the following steps:

- 4.2.22.1) HCU Secure in Cradle (3.3.6)
- 4.2.22.2) HCU-Send (3.3.1)
- 4.2.22.3) On the HCU, Transfer-Receive Option (3.3.1)
- 4.2.22.4) Transfer Successful (3.3.8)
- 4.2.22.5) Remove HCU From Cradle (3.3.7)
- 4.2.22.6) HCU-Send (3.3.1)
- 4.2.22.7) Transfer Unsuccessful (3.3.9)
- 4.2.22.8) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.

**4.2.23 HCU-Receive (3.1.3.2)**

Hardware Setup: Perform WS Test Setup (2.8.4)  
Perform HCU Test Setup (2.8.1)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On Setup (2.8.6)  
Perform HCU System Startup (2.8.2)  
Perform HCU Log-On Setup (2.8.3)

Perform the following steps:

- 4.2.23.1) HCU Secure in Cradle (3.3.6)
- 4.2.23.2) HCU-Receive (3.3.1)
- 4.2.23.3) On the HCU, Transfer-Send Option (3.3.1)
- 4.2.23.4) Transfer Successful (3.3.8)
- 4.2.23.5) Remove HCU From Cradle (3.3.7)
- 4.2.23.6) HCU-Receive (3.3.1)
- 4.2.23.7) Transfer Unsuccessful (3.3.9)
- 4.2.23.8) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.

**4.2.24 Disposal Request Reports (3.1.3.3.1)**

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.24.1) Reports-Request (3.3.1)
- 4.2.24.2) Send Report to Printer (3.2.15)
- 4.2.24.3) Send Report to File (3.2.13)
- 4.2.24.4) Send Report to Screen (3.2.14)
- 4.2.24.5) Invalid Port (3.2.16)
- 4.2.24.6) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.

**4.2.25 Container Log Book Report (3.1.3.3.3)**

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.25.1) Reports-Other-Container Log (3.3.1)
- 4.2.25.2) Send Report to Printer (3.2.15)
- 4.2.25.3) Send Report to File (3.2.13)
- 4.2.25.4) Send Report to Screen (3.2.14)
- 4.2.25.5) Invalid Port (3.2.16)
- 4.2.25.6) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.

**4.2.26 Drum Log Book Report (3.1.3.3.3)**

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.26.1) Reports-Other-Drum Log (3.3.1)
- 4.2.26.2) Send Report to Printer (3.2.15)
- 4.2.26.3) Send Report to File (3.2.13)
- 4.2.26.4) Send Report to Screen (3.2.14)
- 4.2.26.5) Invalid Port (3.2.16)
- 4.2.26.6) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.

**4.2.27 Master Data Report (3.1.3.3.3)**

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.27.1) Reports-Other-Master Data (3.3.1)
- 4.2.27.2) Send Report to Printer (3.2.15)
- 4.2.27.3) Send Report to File (3.2.13)
- 4.2.27.4) Send Report to Screen (3.2.14)
- 4.2.27.5) Invalid Port (3.2.16)
- 4.2.27.6) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.

**4.2.28 Waste Sample Report (3.1.3.3.3)**

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.28.1) Reports-Other-Waste Sample Data (3.3.1)
- 4.2.28.2) Send Report to Printer (3.2.15)
- 4.2.28.3) Send Report to File (3.2.13)
- 4.2.28.4) Send Report to Screen (3.2.14)
- 4.2.28.5) Invalid Port (3.2.16)
- 4.2.28.6) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.

**4.2.29 Packaging Checklist Report (3.1.3.3.3)**

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.29.1) Reports-Other-Packaging Checklist (3.3.1)
- 4.2.29.2) Send Report to Printer (3.2.15)
- 4.2.29.3) Send Report to File (3.2.13)
- 4.2.29.4) Send Report to Screen (3.2.14)
- 4.2.29.5) Invalid Port (3.2.16)
- 4.2.29.6) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.

**4.2.30 Lab Packed Inventory Report (3.1.3.3.3)**

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.30.1) Reports-Other-Lab Packed Inventory (3.3.1)
- 4.2.30.2) Send Report to Printer (3.2.15)
- 4.2.30.3) Send Report to File (3.2.13)
- 4.2.30.4) Send Report to Screen (3.2.14)
- 4.2.30.5) Invalid Port (3.2.16)
- 4.2.30.6) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.

**4.2.31 Waste Inventory Report (3.1.3.3.3)**

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.31.1) Reports-Other-Waste Inventory (3.3.1)
- 4.2.31.2) Send Report to Printer (3.2.15)
- 4.2.31.3) Send Report to File (3.2.13)
- 4.2.31.4) Send Report to Screen (3.2.14)
- 4.2.31.5) Invalid Port (3.2.16)
- 4.2.31.6) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.

**4.2.32 Disposal Record Report (3.1.3.3.3)**

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.32.1) Reports-Other-Disposal Record (3.3.1)
- 4.2.32.2) Send Report to Printer (3.2.15)
- 4.2.32.3) Send Report to File (3.2.13)
- 4.2.32.4) Send Report to Screen (3.2.14)
- 4.2.32.5) Invalid Port (3.2.16)
- 4.2.32.6) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.

**4.2.33 Waste Manifest Report (3.1.3.3.3)**

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.33.1) Reports-Other-Manifest (3.3.1)
- 4.2.33.2) Send Report to Printer (3.2.15)
- 4.2.33.3) Send Report to File (3.2.13)
- 4.2.33.4) Send Report to Screen (3.2.14)
- 4.2.33.5) Invalid Port (3.2.16)
- 4.2.33.6) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.

**4.2.34 Request for Special Analysis Report (3.1.3.3.3)**

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.34.1) Reports-Other-Special Analysis (3.3.1)
- 4.2.34.2) Send Report to Printer (3.2.15)
- 4.2.34.3) Send Report to File (3.2.13)
- 4.2.34.4) Send Report to Screen (3.2.14)
- 4.2.34.5) Invalid Port (3.2.16)
- 4.2.34.6) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.



#### **4.2.35 About**

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.35.1) Help-About (3.3.1)
- 4.2.35.2) About Information Box (3.2.17)
- 4.2.35.3) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.

#### **4.2.36 System Change Request**

Hardware Setup: Perform WS Test Setup (2.8.4)

Software Setup: Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.2.36.1) Help-System Change Request (3.3.1)
- 4.2.36.2) System Change Request Information Box (3.2.19)
- 4.2.36.3) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.

### 4.3 External Interface Requirements Tests

#### 4.3.1 User Interfaces (3.2.1)

Hardware Setup: Perform HCU Test Setup (2.8.1)  
Perform WS Test Setup (2.8.4)

Software Setup: Perform HCU System Startup (2.8.2)  
Perform HCU Log-On (2.8.3)  
Perform WS System Startup (2.8.5)  
Perform WS Log-On (2.8.6)

Perform the following steps:

- 4.3.1.1) User Menus(3.4.1)
- 4.3.1.2) User Prompts (3.4.2)
- 4.3.1.3) Exit the HCU (3.1.5)
- 4.3.1.4) Exit the WS (3.2.18)

Record results and all data input to the acceptance test log.

#### 4.3.2 Hardware Interfaces (3.2.2)

Hardware Setup: None.

Software Setup: None.

Perform the following steps:

- 4.3.2.1) Hardware Description (3.4.3)
- 4.3.2.2) PC Specifications (3.4.4)
- 4.3.2.3) HCU Specifications (3.4.5)

Record results and all data input to the acceptance test log.

#### 4.3.3 Software Interfaces (3:2.3)

Hardware Setup: None.

Software Setup: None.

Perform the following steps:

- 4.3.3.1) WS Software Description (3.4.6)
- 4.3.3.2) HCU Software Description (3.4.7)

Record results and all data input to the acceptance test log.

**4.3.4 Communication Interfaces (3.2.4)**

Hardware Setup: None.

Software Setup: None.

Perform the following steps:

4.3.4.1) Communication Interface (3.4.8)

Record results and all data input to the acceptance test log.

## 5.0 TEST LOG AND TEST INCIDENT REPORT

All HCU test and WS test information shall be recorded on the acceptance test log sheets provided in section 5.1. Copies of the acceptance test log sheet are to be made as necessary by the tester.

Any test failures shall be documented on an acceptance test incident sheet provided in section 5.2. The sheet shall be filled out in detail, with the incident number recorded on the appropriate acceptance test log sheet.

### 5.1 Test Procedure Results

The following pages consist of the acceptance test log sheets. All steps shall be performed and initialed by the tester.

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WHC-SD-WM-ATP-102  
Revision 0  
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ACCEPTANCE TEST LOG SHEET

TITLE OF TEST: WICS Acceptance Test				
DOCUMENT NUMBER: WHC-SD-WM-ATP-102				
Tester: /				(Signature/Printed)
Witness: /				(Signature/Printed)
Date of Test:				
Test Procedure:				
Test Case	P/F*	Initials	Data Inputs	Comments

\* P = pass, F = fail.

## 5.2 Incident Description

Any failing test cases or incidents in the ATP shall be logged on the "Acceptance Test Incident" sheet found on the following page. Copies of this sheet are to be made as necessary to complete the ATP. Incidents to the test are to be dispositioned by the development staff. These dispositions shall be agreed to by that incident's test performer and that disposition's development staff participants.

ACCEPTANCE TEST INCIDENT SHEET

TITLE OF TEST: WICS Acceptance Test	
DOCUMENT NUMBER: WHC-SD-WM-ATP-102	
Tester: /	(Signature/Printed)
Witness: /	(Signature/Printed)
Date of Test:	
Test Procedure:	
Test Case:	
Description of Incident:	
Impact on Previous or Following Tests:	
<input type="checkbox"/> Fix Before Implementation <input type="checkbox"/> Fix After Implementation <input type="checkbox"/> Change in Scope	
Action Taken:	
<i>The following gray-shaded area shall be completed after retesting.</i>	
<input type="checkbox"/> Action Approved - Pass Test	
<input type="checkbox"/> Action Disapproved - Fail Test	
Tester: /	(Signature/Printed)
Witness: /	(Signature/Printed)
Date of Test:	

## 6.0 REFERENCES

1. WHC-CM-1-3, Management Requirements and Procedures.  
MRP 5.46, Rev. 4, "Safety Classification of Systems, Components,  
and Structures," August 28, 1991.
2. WHC-CM-3-5, Document Control and Records Management Manual.  
Section 12.7, Rev. 0, "Approval of Environmental, Safety, and  
Quality Affecting Documents", February 1, 1994.
3. WHC-CM-3-10, Software Practices.  
SP-3.3, Rev. 0, "Testing," January 31, 1993.  
SP-6.1, Rev. 0, "Document Control," January 31, 1993.  
SP-6.2, Rev. 0, "Software Control," January 31, 1993.  
SP-6.3, Rev. 0, "Change Request and Problem Report," January 31,  
1993.  
Appendix J, Rev. 0, "System Test Documentation," January 31, 1993.
4. WHC-CM-4-2, Quality Assurance Manual.  
QR-3.0, Rev. 5, "Design Control," September 30, 1993.  
QR-19.0, Rev. 1, "Software Quality Assurance Requirements,"  
September 30, 1993.
5. WHC-CM-6-1, Standard Engineering Practices.  
EP-2.2, Rev. 7, "Engineering Document Change Control", August 5,  
1994.  
EP-4.1, Rev. 5, "Design Verification Requirements", May 27, 1994.
6. WHC-SD-WM-WP-269, Work Plan for Waste Information and Control System,  
Rev. 0, R.R. Harris, April 12, 1994.
7. WHC-SD-WM-RD-049, System Requirements Specification for Waste  
Information and Control System, Rev. 0, K.O. Nelson, TBD.
8. WHC-SD-WM-SDD-048, System Design Description for Waste Information and  
Control System, Rev. A, K.O. Nelson, TBD.
9. WHC-SD-WM-TS-005, Test Specifications for Waste Information and  
Control System, Rev. A, D.F. Flynn, TBD.