

Waste Data System User's Manual

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Waste Data System User's Manual

Revision 13

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CHANGE HISTORY SUMMARY

9	07/13/12	<ul style="list-style-type: none"> • Editorial revision to correct the “MgO Excess/Deficit” and “Excess Factor” equations in section 5.3.
10	01/31/13	<ul style="list-style-type: none"> • Editorial revision to incorporate MD 1.1-related changes and to replace Figures 6-B and 6-F with updated screenshots.
11	07/21/15	<ul style="list-style-type: none"> • Section 2.0: Editorial revision to remove reference to CNS 10-160B. • Section 6.2: Editorial revision to remove Business Reports user role which never has had access. • Section 6.12: Updated Figure 6-K – Safety and Emergency Response Dashboard to show removal of the Waste Shipment VOC Action Level Report. • Section 14.0: Editorial update to correct typographical error.
12	04/25/16	<ul style="list-style-type: none"> • Updated Acronyms and Abbreviations list. • Updated Definitions list. • Updated in section 4.3, Figure 4-A, <i>WDS Login Page</i>, to depict the current version. • Added a new Table in section 6.2, <i>WDS Roles and User Characteristics</i>. • Updated in section 6.4, Figure 6-C, <i>Waste Handling Operations Dashboard</i>, to show the link to the Site Derived Waste data input screen. • Updated in section A-8, Figure A-1, <i>Manual Emplacement Form</i>, to depict the current version that includes NCM without Location in the Emplacement Location section on the form. • Removed Appendix B, <i>List of Error Codes and Descriptions</i>. Online help and on-screen error messages have improved to the point where the information contained in this appendix is no longer useful.
13	07/11/16	<ul style="list-style-type: none"> • Updated Acronyms and Abbreviations list. • Updated Definitions list. • Update Table 1 to include summary description of the AK Dashboard. • Updated Figures 6-B, 6-H, and 6-I to reflect changes that were implemented to add reports to the Shipper/Generator, NMED and CBFO dashboards. • Added a new section to describe and depict the Acceptable Knowledge (AK) Dashboard.

ACRONYMS AND ABBREVIATIONS

AK	Acceptable Knowledge
CCEM	Chemical Compatibility Evaluation Memorandum
CBFO	Carlsbad Field Office
CH	contact-handled
CHTES	CH-TRAMPAC Evaluation Software
CPR	cellulose, plastic, rubber
CTMA	CH-TRUCON Maintenance Application
DA	Data Administrator
DB	database
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
DSA	Documented Safety Analysis
EPA	U.S. Environmental Protection Agency
ETS	Emplacement Tracking Software
FGE	fissile gram equivalent
g/cc	grams per cubic centimeter
HalfPACT	HalfPACT Waste Shipping Container
HWFP	Hazardous Waste Facility Permit
ICV	Inner Containment Vessel
ID	identification
IP	Internet Protocol
IV	inner-vessel
kg	kilogram
LDR	Land Disposal Restrictions
LWA	Land Withdrawal Act
m ³	cubic meters
MgO	magnesium oxide
MTRU	mixed transuranic
NCM	Non-Containerized Material
NIST	National Institute of Standards and Technology
NMED	New Mexico Environment Department
NRC	U.S. Nuclear Regulatory Commission
OC	outer container
OCA	Outer Containment Assembly
OJT	on-the-job-training

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OPCTCD	Overpack Payload Container Transportation Certification Document
PATCD	Payload Assembly Transportation Certification Document
PCB	polychlorinated biphenyl
PCTCD	Payload Container Transportation Certification Document
PTCD	Payload Transportation Certification Document
PDF	Portable Document File
PE-Ci	Pu-239 equivalent Curie
ppm	parts per million
QA	Quality Assurance
RCRA	Resource Conservation and Recovery Act
RGN	Reactivity Group Number
RH	remote-handled
RHTES	RH-TRAMPAC Evaluation Software
RTMA	RH-TRUCON Maintenance Application
SLB2	Standard Large Box 2
SWB	standard waste box
TAA	TRU alpha activity
TAAC	TRU alpha activity concentration
TBO	to-be-overpacked
TDOP	ten-drum overpack
TRAMPAC	Transuranic Waste Authorized Methods for Payload Control
TRU	Transuranic
TRUCON	TRUPACT-II Content Code
TRUPACT-II	Transuranic Package Transporter Model II
TRUPACT-III	Transuranic Package Transporter Model III
TSR	Technical Safety Requirements
T3MA	TRUPACT-III TRUCON Maintenance Application
URL	Uniform Resource Locator
VE	visual examination
VOC	volatile organic compound
WAC	Waste Acceptance Criteria
WAP	Waste Analysis Plan
WDS	Waste Data System
WIPP	Waste Isolation Pilot Plant
WIPPIVE	WIPP Instant Virtual Extranet
WITS	Waste Information Tracking System
WSPF	Waste Stream Profile Form
WWIS	WIPP Waste Information System

WASTE DATA SYSTEM DEFINITIONS

Acceptable Knowledge – Includes any documentation that describes or verifies site history, mission, and operations, in addition to waste-stream-specific information used to define the generating process, waste matrix, waste quantities, and contaminants (radiological and chemical).

Assembly – A group of waste containers, such as seven 55-gallon drums or pipe overpacks (seven-pack), three 100-gallon drums, one standard waste box (SWB), one standard large box 2 (SLB2), or one ten-drum overpack (TDOP) that are packed for placement in a transportation package.

Canister – The remote-handled transuranic (RH-TRU) waste canister, which is authorized for transport within the RH TRU 72-B shipping package.

Certified Waste – Waste that has been confirmed under a formal program to comply with acceptance criteria under an approved waste certification program.

Characterization – Sampling, monitoring, and analysis to identify and quantify the constituents of a waste material, such as review of acceptable knowledge, nondestructive examination, visual examination, nondestructive assay, headspace gas sampling and analysis, or chemical analysis of the volatile or semi-volatile organic compounds or metals.

Chemical Compatibility Evaluation Memorandum – The AK Expert performs chemical compatibility evaluations and prepares the Chemical Compatibility Evaluation Memorandum (CCEM). The chemical compatibility evaluation is based on the method described in EPA-600/2-80-076, *A Method for Determining the Compatibility of Hazardous Wastes* (EPA Method).

Content Code – Code that describes the generator or physical location of the waste, the physical and chemical form of the waste, and differences in packaging configurations used to demonstrate compliance with the applicable Transuranic Waste Authorized Method for Payload Control (TRAMPAC).

Database – The electronic storage of data in a way that allows data manipulation and retrieval. Databases may include tables, fields, and records.

Exit Code – Values returned by the application to assist the user in discovering the source of an evaluation failure and to inform the user more specifically of the available shipment options in case of a "conditional" evaluation status.

Field – A single fact or data item. A field is the smallest unit of named data that has meaning in a database. In a database table, the fields are commonly referred to as columns.

Inter-Site Shipment – A shipment of certified TRU waste containers that meets U.S. Department of Transportation (DOT) and other applicable requirements of the

Certificate of Compliance for the shipping package used by the shipper. Inter-site shipments are those that originate at a TRU waste generator site and are being sent to a site for formal characterization, certification, and shipment to WIPP.

Layers of Confinement – Any boundary that restricts, but does not prohibit, the release of hydrogen gas across the boundary. Examples of confinement layers are plastic bags (smaller inner bags or larger container bags) with the allowable closure methods described in appendix 3.8 of the contact-handled (CH)-TRU Payload Appendices and metal containers fitted with filter vents.

Magnesium oxide (MgO) Target Factor – The targeted amount of excess MgO, over and above the cellulose, plastic, rubber (CPR) components of the waste, that has been emplaced in a WIPP disposal room.

Overpack Container – A payload container (85-gallon drum, SWB, TDOP) used to package one or more filtered waste containers, prior to placement of the configuration in a Type B shipping container. The overpacked containers must meet a subset of the regulatory requirements outlined by the CH TRAMPAC, Waste Acceptance Criteria (WAC), and Waste Analysis Plan (WAP).

Payload – (a) Two assemblies (e.g., two 55-gallon drum seven packs or two SWBs) or one TDOP placed in a TRUPACT-II for shipment; (b) one RH 72-B canister placed in a RH72-B Cask for shipment; or (c) one SLB2 placed in a TRUPACT-III for shipment.

Package – (1) A packaging plus its contents; (2) packaging together with its radioactive contents as presented for transport.

Packaging – The assembly of components necessary to ensure compliance with the packaging requirements of 10 CFR Part 71.

Record – A collection of related data that is treated as a unit. Records are collections of fields. One record contains data that pertain to a single thing (e.g., container). In a database table, the records are commonly referred to as rows.

RH-TRU Waste – Transuranic waste with an external radiation dose rate greater than or equal to 200 millirem/hr and less than or equal to 1,000 rem/hr at the waste container's surface.

RH 72-B Canister – Container that is transported in the RH 72-B Cask.

RH 72-B Cask – An U.S. Nuclear Regulatory Commission (NRC)-certified Type B transportation packaging used for transportation of RH-TRU waste.

Shipment – A group of up to three reusable Type B shipping containers that will be shipped on one truck.

Shipment Confirmation – Performance of waste confirmation on a representative subpopulation of each waste stream shipment after certification and prior to shipment as

described in the Hazardous Waste Facility Permit (HWFP). The Permittees will use radiography, review of radiography audio/video recordings, and visual examination (VE), or review of VE records (e.g., VE data sheets or packaging logs) to examine at least 7% of each waste stream in each shipment to confirm that the waste contains no ignitable, corrosive, or reactive waste, that the summary category group and waste matrix code are correct, and that all hazardous waste numbers are acceptable at WIPP. Waste confirmation will be performed by the Permittees prior to shipment of waste from the generator/storage site to WIPP.

Waste Stream Profile Form (WSPF) – Form required to be submitted to and approved by the Permittees prior to shipment and disposal of waste containers in a given waste stream or waste stream lot.

WIPP Waste Information System (WWIS) – A computerized data management system used by WIPP to gather, store, and process information pertaining to CH and RH TRU waste destined for, or disposed of, at WIPP. The WWIS database is a subsystem of the WDS.

1.0 OVERVIEW

The Waste Data System (WDS) is a web-based software system used by the Waste Isolation Pilot Plant (WIPP) to gather, store, and process information pertaining to contact-handled (CH) and remote-handled (RH) transuranic (TRU) waste. The WDS incorporates data entry, data administration and reporting functionality for waste shipments between the U.S. Department of Energy (DOE) generator sites and DOE sites where waste processing and repackaging are performed. The WDS is used to create and store documentation about waste containers, shipments, and emplacement information at WIPP. The WDS is fully compliant with and implements the data requirements summarized in DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant (WAC)*, and other specified authorization basis documents. The WAC serves as the DOE's primary directive for ensuring that CH and RH-TRU waste is managed and disposed of in a manner that protects human health and safety and the environment. The WDS includes all of the elements that were implemented in the WIPP Waste Information System (WWIS) to meet regulatory requirements for the operation of WIPP. The WWIS is a subsystem of the WDS.

The WDS allows users to upload container data, plan and create payloads using uploaded containers, and plan and create shipments using approved payloads. The WDS takes advantage of previously developed applications through direct integration and interfacing.

2.0 SUMMARY OF APPLICABLE AUTHORIZATION BASIS REQUIREMENTS AND PERMITS

The WIPP WAC summarizes the requirements applicable to the transportation, storage, and disposal of CH and RH-TRU waste at WIPP. The WIPP authorization basis for the disposal of CH and RH-TRU waste includes the DOE National Security and Military Applications of Nuclear Energy Authorization Act of 1980 and the WIPP Land Withdrawal Act (LWA). The WAC summarizes the requirements and associated criteria imposed by these acts and the Resource Conservation and Recovery Act (RCRA) on the TRU waste destined for disposal at WIPP.

The DOE TRU waste sites must certify CH and RH-TRU waste payload containers to the WAC. The flow-down of applicable requirements to the WAC and integrated into the WDS are traceable to several higher-tier documents, including, but not limited to:

- Waste Isolation Pilot Plant Documented Safety Analysis (DSA)
- Transuranic Package Transporter-Model II (TRUPACT-II), Transuranic Package Transporter-Model III (TRUPACT-III), and HalfPACT Certificates of Compliance for the transportation of CH wastes, and RH-TRU 72-B Certificates of Compliance for transportation of RH wastes
- WIPP LWA

- WIPP Hazardous Waste Facility Permit (HWFP)
- The U.S. Environmental Protection Agency (EPA) Compliance Recertification Decision and approval for polychlorinated biphenyls (PCBs) disposal

- The EPA letter of approval of the DOE's RH-TRU Waste Characterization Program

The WAC requires that sites transmit required characterization, certification, and shipping data to WIPP using the database. The electronic database is equipped with edit/limit checks to ensure that the data representing the waste payload containers are in compliance with the WAC. The WAC requires the sites to transmit the required waste characterization, certification, and shipping data via the database before shipping TRU waste payload containers from a WIPP-accepted waste stream to WIPP. The WDS implements the authorization basis requirements by edit/limit checks that are included as a software module.

2.1 Edit/Limit Checks

This section describes the edit/limit checks that are incorporated into the WDS software design. Additional information about edit/limit checks is available to users via screen-level and context-level online help.

2.1.1 WIPP HWFP – Waste Analysis Plan

The WDS container characterization edit/limit check evaluations are retrievable as a unit from the WDS middle-tier, and include the container characterization Waste Analysis Plan (WAP) evaluation and the container characterization data integrity evaluation. The WDS Data Dictionary is maintained by WITS personnel and is updated for each WDS Release.

2.1.2 WIPP WAC

The WDS container certification WAC evaluation includes the applicable WAC edit/limit checks based on the container handling code. For both CH and RH containers, the container certification WAC evaluation includes the CH container edit/limit checks and the RH container edit/limit checks.

2.1.3 Transuranic Waste Authorized Methods for Payload Control

The CH-TRUPACT-II Content Code (TRUCON) Maintenance Application (CTMA), RH-TRUCON Maintenance Application (RTMA), and TRUPACT-III TRUCON Maintenance Application (T3MA) are specialized reference data applications used to manage TRUCON Code and Shipping Category data. The data provide references for performing the associated Transuranic Waste Authorized Methods for Payload Control (TRAMPAC) evaluations.

2.1.4 WIPP DSA

The WIPP DSA provides a summary of limits to be imposed on CH and RH containers in accordance with the Nuclear Criticality Safety Evaluation. The WDS conducts edit/limit checks on CH and RH containers according to the values described in chapter 6 of the WIPP DSA, *Prevention of Inadvertent Criticality*.

The WIPP DSA, Rev. 5 now includes requirements from the WIPP WAC that apply to initial conditions in the DSA accident scenarios and are monitored through Key Elements in Chapter 18 that must be met prior to shipment to WIPP.

3.0 SCOPE

This user's manual provides users with summary information on data entry, data review, conducting searches, and producing output reports, and also describes helpful features contained in each topic-specific dashboard.

The software provides the ability to access the WDS User's Manual from each screen in the system after login. The software provides the ability to access screen-level help for each screen for which approved help content is available. The user can access context-sensitive help for individual sections of a screen for which approved block-level help content is available. On-screen help is also available for the TRUCON Code field on the Container Certification Data Submittal screen on TRUCON Code/Shipping Category associations for CH containers, (excluding SLB2 containers).

The magnesium oxide (MgO) barcode application is used to facilitate the receipt and emplacement of CH waste shipments at WIPP. The application was designed to be used by wireless barcode scanners and tied directly to shipment and container information provided by the application. Appendix A provides a summary of the Emplacement Tracking System barcode application and the WDS Manual Emplacement Screen.

A read-only version of the WDS application and database provides access to all report and query functions except for those that are available only from screens that perform database updates. The read-only version does not allow access to any screens or any functions that perform database updates except for updates to user preferences, password changes and Report Builder query saves/updates. The read-only version is accessible only to registered WDS users. The internet address is <https://wds.wipp.ws>.

4.0 SECURITY, ACCESS PRIVILEGES, PASSWORDS, AND CONNECTIVITY

Information about security, passwords, and connectivity. This information can also be found in User Preferences screen-level help. WDS users who are external to WIPP access the system via DOENet or the WIPP Instant Virtual Extranet (WIPPIVE) server. Users who are internal to WIPP in Carlsbad and at the WIPP site access the WDS via WIPPNet. User Preferences screen-level help also provides instruction for obtaining help from the WIPP Data Administrator (DA).

4.1 Security

Effective security is vital for safeguarding information and business processes. The WDS makes every reasonable effort to provide safe and secure access for its users while maintaining the highest levels of data security. This section summarizes components that comprise the overall security design for the WDS.

The goal of the WDS web server deployment is to closely follow the recommendations set forth in the National Institute of Standards and Technology (NIST) Guidelines on Securing Public Web Servers. The NIST guidelines provide comprehensive standards for securing web servers and the applications they contain. The security requirements and security controls that are in place to protect the accreditation boundary and the database have been implemented as described in the Department of Energy Office of Environmental Management Program Security Plan. System requirements are outlined in the screen-level help for each dashboard.

4.2 Connectivity and WIPP Technical Support Contact Information

Prospective users who require access to the WDS may contact a DA via email at DL_WDS_DA@wipp.ws to request access to WDS. Alternatively, the prospective user may contact a DA by telephone to obtain a WDS Access Request Form or requests for other support. The prospective user will be sent a WDS Access Request Form via email. The prospective user will then complete the form, provide justification of the need for access to the application, have the form approved by a management sponsor and return it via email or fax to the DA. Upon receipt of the completed WDS Access Request Form, the DA will set up the user's account in the application and interface with the WIPP Information Resource Management Group to assist the user with any connectivity issues that may prevent the user from accessing the WDS. If necessary, completion of additional forms may be required to establish access to the WIPP Secure Access (WIPPIVE), DOENet and WIPPNet. After all required application forms have been completed and approved, the prospective user will receive via email the Uniform Resource Locator (URL) (i.e., internet address) needed to connect to the system, along with instructions regarding security, and maintenance of passwords.

4.3 User Accounts and Passwords

Each registered user is assigned a User ID and creates a password that is used to log in to the WDS application. The “complex” password criteria described here are also covered in User Preferences screen-level help. The software will display the password expiration date based on the default 90-day password expiration period. At the end of the 90-day password expiration period, the user is required to create a new password. The user's password must be a "complex" password that meets the following criteria:

- Password must be at least 12 characters long
- Password must contain three of the following:
 1. Uppercase letters (A-Z)
 2. Lowercase letters (a-z)
 3. Numbers (0-9)
 4. Special characters (! @ # \$ % ^ & * () + - = ? space)
- Passwords must not contain the user's first or last name, or the account username
- Passwords cannot start with a number
- Old passwords cannot be reused
- Passwords must contain at least eight non-blank characters

When the user account is created, each user is assigned a primary role based on the functions that the user will perform when using the WDS. For example, users who upload and submit container data to the WDS and users who create payloads and shipments are assigned the Shipper/Generator user role. Connectivity, WIPP Technical Support Contact Information, and User Roles are explained in detail in screen-level help for each user role.

NOTE

In accordance with an approved program plan document, the DAs create, edit, and inactivate WDS user accounts, add or remove role associations to user accounts, and add or remove site/program associations with user accounts. Whenever an inactivated user account is reactivated, the password is reset. When a password is reset by the user or the DA, the password expiration date will be set based on the default password expiration period. The password can be changed at any time, which will initiate a new 90-day expiration period.

Users will receive a system message when their passwords are within two weeks of expiration. Users who have not logged on to the WDS within the past 30 days will be

notified via email of account inactivity, and users will be notified again after 60 days of inactivity. Accounts for users who have not logged into the WDS in the past 90 days will be automatically inactivated and the users will be sent an email message notifying them of their inactive account status.

Whenever a password is created or an existing password is reset, the user is required to confirm the new password by entering it a second time. Detailed instructions for creating and confirming a new password are outlined in screen-level help. After a user account has been established, the user is permitted to update the following account record fields by clicking the user preferences link at the bottom of the page: first name, last name, phone number, fax number, company, address, city, state, zip code, password, email address, and email notification flag. The User ID cannot be edited.

The screenshot shows the WDS login page. At the top, there is a red banner with the text "System Use Notification". Below this, there are four red asterisks followed by the word "WARNING" in red. The main text of the notification states: "This is a Department of Energy (DOE) computer system. DOE computer systems are provided for the processing of official U.S. Government information only. All data contained within DOE computer systems is owned by the DOE, and may be audited, intercepted, recorded, read, copied, or captured in any manner and disclosed in any manner, by authorized personnel. THERE IS NO RIGHT OF PRIVACY IN THIS SYSTEM. System personnel may disclose any potential evidence of crime found on DOE computer systems to appropriate authorities." Below this, it says: "USE OF THIS SYSTEM BY ANY USER, AUTHORIZED OR UNAUTHORIZED, CONSTITUTES CONSENT TO THIS AUDITING, INTERCEPTION, RECORDING, READING, COPYING, CAPTURING, and DISCLOSURE OF COMPUTER ACTIVITY." Another set of four red asterisks followed by "WARNING" in red is shown. Below the warnings, there is a checkbox labeled "I AGREE TO THE ABOVE TERMS OF USE." To the left of the login fields is the WDS logo, which consists of a circular icon with a globe and the text "WDS WASTE DATA SYSTEM". To the right of the logo are three input fields: "Username" (a text box), "Password" (a text box), and "DB Instance" (a dropdown menu with "prd05.wipp.carlsbad.nm.us" selected). Below these fields is a "LOGIN" button. In the bottom right corner of the page, there is a dark grey box with the text "INSTANCE: N/A" and "BUILD: WDS_20150805".

Figure 4-A – WDS Login Page

NOTE

If the URL changes, users will be notified. At first login, the user may add the Internet Protocol (IP) address to Favorites as shown in Figure 4-A above.

When the URL is entered into the browser or selected from the user's Favorites list, the WDS login screen will appear as shown in Figure 4-A. Read the Privacy and Security Notice prior to logging in.

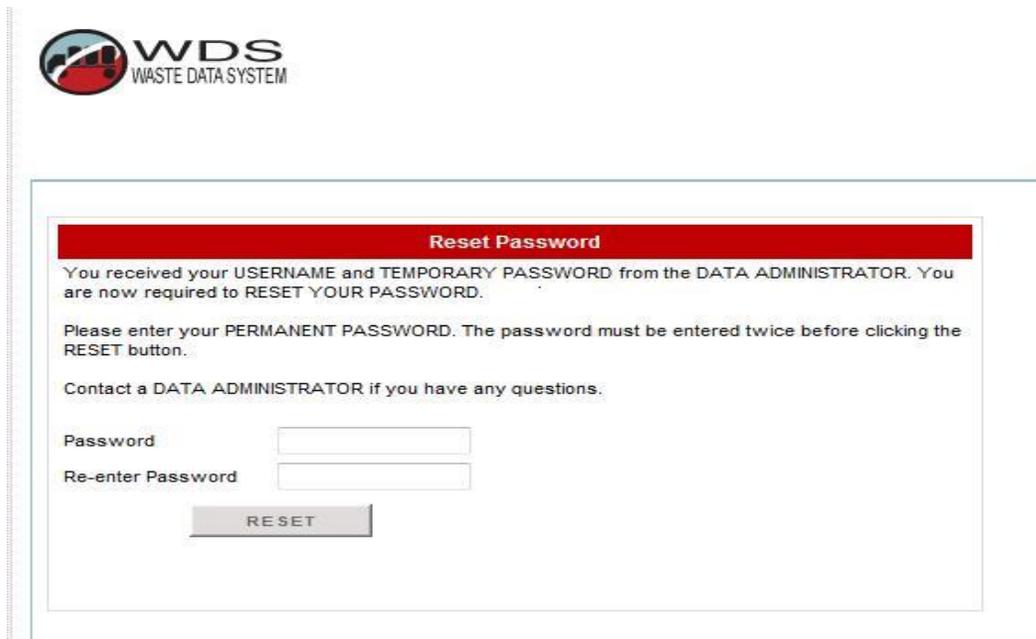
Use the following process to log in:

- Select the checkbox to agree to the terms of use.
- Enter a valid username in the User ID block.
- Enter a valid password in the Password block.
- Select the database that needs to be accessed from the database (DB) instance dropdown menu.
- Press the Login button.

NOTE

If the terms of use checkbox is unchecked, the user will be reminded to check the box before proceeding.

At first login, after the warning message has been confirmed and the login button is pressed, the software directs the new user to reset the password as shown below. Refer to this section and screen-level help for password requirements.



The screenshot shows a web interface for resetting a password. At the top left is the WDS logo, which consists of a circular icon with a red and blue design and the text 'WDS WASTE DATA SYSTEM'. Below the logo is a red horizontal bar with the text 'Reset Password' in white. The main content area is white and contains the following text: 'You received your USERNAME and TEMPORARY PASSWORD from the DATA ADMINISTRATOR. You are now required to RESET YOUR PASSWORD.' Below this is a paragraph: 'Please enter your PERMANENT PASSWORD. The password must be entered twice before clicking the RESET button.' followed by 'Contact a DATA ADMINISTRATOR if you have any questions.' There are two text input fields: the first is labeled 'Password' and the second is labeled 'Re-enter Password'. Below the second input field is a grey button with the text 'RESET' in white.

Figure 4-B – WDS Reset Password Page Example

The WDS stores the username, user IP address, and date/time of login attempt for any login attempt to the system. The WDS will automatically close the current session after 30 minutes of inactivity. The user must then reenter identification and authentication information to access the WDS. The WDS enforces a limit of three consecutive invalid access attempts by a user during a 15-minute period, after which the WDS locks the account.

NOTE

Once the threshold of bad login attempts has been reached, the account will be automatically locked for one hour or until a DA unlocks it. When an account is unfrozen, the WDS require the DA to generate the password. After the DA has reset a user password, the user is required to create a new password upon the first login. The user is required to confirm the updated password by entering it a second time with an exact match.

Upon a successful login, the software directs the user to the dashboard for the user's designated primary role. Dashboards are made available for selection by using the Dashboard dropdown menu. All current and unexpired system messages are displayed.

5.0 VOLUME CONVERSION, WEIGHT CONVERSION, PACKING FRACTIONS, AND MgO CALCULATIONS

This section provides a basic summary of standard volumetric conversions used in the database and instructions for navigating the WDS.

The container volume of a CH waste container is defined in cubic meters (m³) in the *Container Types Reference Data Report*.

The waste volume of a CH or RH payload container is calculated in m³ as the sum of the container volume of the waste container(s) comprising the payload container, excluding the volume of dunnage containers. The waste volume of each pipe overpack is equal to the volume of the respective pipe component.

The container volume of an RH waste container is defined in m³ in the *Container Types Reference Data Report*.

For weight conversion, the WDS converts kilograms (kg) to pounds by multiplying by a factor of 2.205. For all weight calculations, the software performs the entire calculation in kg and applies the conversion factor for pounds to the result when applicable. The waste container net weight is the sum of all material parameter weights for those material parameters identified as waste reported for the container.

5.1 Packing Fractions for Compacted Waste

The WDS determines the packing fraction based on the compaction level of a non-overpack container in grams per cubic centimeter (g/cc) of waste, based on the density of the CPR (excluding cellulosic and plastic packaging materials in pipe overpacks) present in the container compared to the density of polyethylene as follows:

- $\text{CPR density (g/cc)} = ((\text{waste CPR weight (kg)} + \text{packaging CPR weight (kg)}) \times 1000 \text{ (g/kg)}) / (\text{container volume (m}^3) \times 1000000 \text{ (cubic centimeters cubed [cm}^3\text{]/m}^3\text{)})$
- 20% poly density = $.20 \times .923 \text{ (g/cc)} = .1846 \text{ (g/cc)}$: If the container CPR density (g/cc) $>.1846 \text{ (g/cc)}$ and $\leq .6461 \text{ (g/cc)}$, the compaction level is defined as "partially compacted."
- 70% poly density = $.70 \times .923 \text{ (g/cc)} = .6461 \text{ (g/cc)}$: If the container CPR density (g/cc) $>.6461 \text{ (g/cc)}$, the compaction level is defined as "fully compacted."
- If the container CPR density (g/cc) $\leq .1846 \text{ (g/cc)}$, the compaction level is defined as "non-compacted."

The WDS determines the compaction level of an overpack container to be the highest level of compaction present in the individual containers in the overpack container. Refer to the *Constants Reference Data Report* for a listing of minimum/maximum values and units of conversion for reported radionuclide values that are used in the WDS.

5.2 Land Disposal Restriction Notification

If any waste stream profile associated with a shipment has not appeared on a previously sent shipment, or if any hazardous waste code has not appeared on a previously sent shipment in the waste stream profile associations present on a shipment, Land Disposal Restrictions (LDR) paperwork is required for the shipment. As an enhancement to ensure compliance with HWFP requirements regarding LDR notification, a message will appear on the shipment screen to prompt the user to initiate an LDR notification when needed.

5.3 MgO Excess Factor and MgO Excess/Deficit

The software calculates the MgO excess for a specified emplacement location (panel and room) using the following equation:

$$\text{MgO Excess/Deficit (lbs)} = [m_{MgO} - [t_{p,r} \times 6 \times [[m_c + m_r + (1.7m_p)] \div 162] \times 40.3]] \times 2.205$$

where

- m_{MgO} = Total mass of MgO sacks in the specified Panel/Room (kg)
- m_c = Total mass of cellulose (kg):
Cellulose in waste + cellulose in packaging + cellulose in MgO sacks + cellulose in emplacement assembly
- m_r = Total mass of rubber (kg):
Rubber in waste + rubber in packaging + rubber in MgO sacks + rubber in emplacement assembly
- m_p = Total mass of plastic (kg):
Plastic in waste + plastic in packaging + plastic in MgO sacks + plastic in emplacement assembly
- $t_{p,r}$ = Target excess factor for panel and room

The software calculates the MgO Excess Factor for a specified emplacement location (Panel and Room) using the following equation:

$$\text{Excess Factor} = m_{MgO} / [6 \times [[m_c + m_r + (1.7m_p)] \div 162] \times 40.3]$$

where

- m_{MgO} = Total mass of MgO sacks in the specified Panel/Room (kg)
- m_c = Total mass of cellulose (kg):
Cellulose in waste + cellulose in packaging + cellulose in MgO sacks + cellulose in emplacement assembly
- m_r = Total mass of rubber (kg):
Rubber in waste + rubber in packaging + rubber in MgO sacks + rubber in emplacement assembly
- m_p = Total mass of plastic (kg):
Plastic in waste + plastic in packaging + plastic in MgO sacks + plastic in emplacement assembly

6.0 DASHBOARD SUMMARIES

Depending upon assigned database privileges, the user will have the option to select one or more dashboards from the main menu. When the desired dashboard is selected, the user will then have the option to select the Functions tab to view the links to the functions and the Reports tab to view the links to the reports that are available from the dashboard. Screen-level and context-level help is available from the dashboard.

6.1 General Report Structure

The following items are displayed on all reports:

- Title page fields: report date/time, report title, version of the report, WDS instance on which the report was executed, User ID of the current user, total number of pages in the report, select criteria (as applicable)
- Header of each page: report title, "Waste Isolation Pilot Plant," page number

Reports are available in portable document file (PDF) format unless otherwise specified. The default selection criteria are set to a wildcard (%) or NULL value (blank). When a wildcard or NULL value is used for the selection criterion, the WDS will not restrict the query by that parameter. The default date is set to 1/1/1999 for all start date criteria fields, unless otherwise specified. The default date is set to the current date for all end date and single date selection criteria, unless otherwise specified by the user at the time the report is generated. When a container number, payload ID, or shipment number is input or otherwise displayed, the user is provided direct access to the corresponding container report (e.g., *container data report*, *overpack data report*, *canister data report*, *payload report*, or *shipment summary report*).

When establishing parameters to run reports in the WDS, the user may have the option to filter the report being run with a specified date range. This is accomplished using the date calendar function. The user clicks the  icon to open the calendar. The calendar for the current month with the current date highlighted appears on the screen (see Figure 6-A).

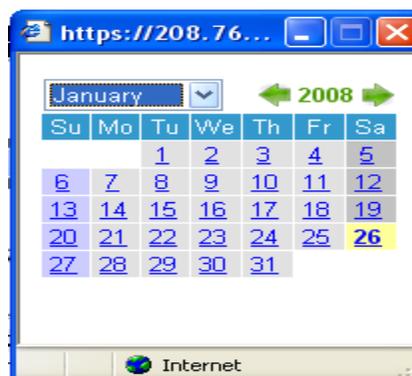


Figure 6-A – WDS Date Calendar Example

To insert a date into the date field, the user clicks the desired day on the calendar. If the start or end date of a different month is needed, the user selects the desired month from the dropdown list.  If either the start date or end date for the previous calendar year is required, the user uses the green arrows to toggle back to previous years. When the day, month, and year have been selected, the user clicks on the highlighted day to insert the date into the field on the report form.

6.2 General User Roles/Access to Reports

DA, Shipper/Generator, and Packaging users are allowed to access reports for container, overpack, canister, payload, and shipment records without regard to status.

Confirmation users and Transportation users are allowed to access shipment reports for shipments without regard to status. All other report types are restricted to approved or completed records only (containers, overpacks, payloads).

All other users (Waste Handling Operations, Transportation, New Mexico Environment Department (NMED), EPA, Carlsbad Field Office (CBFO), Safety and Emergency Response, and General WIPP User and Business Reports users) are restricted to reports for approved or completed records only (containers, overpacks, payload, shipments). Access to reports concerning inter-site shipments is restricted to Business Reports, DA, Shipper/Generator, and Packaging users.

NOTE

If reference data are not available for a site due to assignment of privileges, refer to the users' reference data report to review assigned privileges.

Refer to screen-level and context-level help for details about all reports that are available from all dashboards.

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The following table outlines the user roles and the characteristics of users who perform the roles. A brief description of the role function is also provided.

Table 1 – WDS Roles and User Characteristics

WDS Role	Typical User Role and Characteristics
Data Administrator (DA)	The DAs are members of the National TRU Programs Waste Information Tracking Systems group with background and training in both the software and applicable regulatory documentation.
Shipper/Generator (SG)	Users in the SG Role are typically Waste Certification Officials (WCOs) and/or Transportation Certification Officials (TCOs). WCOs supervise the entry of payload container data into the WDS. TCOs focus on the data entry required for the design of payloads and shipments.
Confirmation	The Shipment Confirmation users are members of the Regulatory Environmental Services group at WIPP that monitor shipments for compliance with the Hazardous Waste Facility Permit. The Confirmation group performs container data review on a shipment-waste stream basis. Shipment confirmation approval is required for each to-WIPP shipment processed in the WDS.
Waste Handling Operations	Waste Handling Operations personnel at WIPP are involved with the processing and emplacement of waste, and the emplacement of MgO.
Transportation	Transportation Management personnel at WIPP are involved with the scheduling and receipt of shipments to and from the WIPP facility.
Packaging	The Packaging Implementation and Technical Support group at WIPP are involved with reviewing containers, payloads and shipments for compliance with the TRAMPAC documentation.;
NMED	The NMED role provides system access for users who are from or who represent the NMED. Read only access to query and report functionality is provided to the users from the perspective of compliance with the HWFP.
EPA	The EPA role provides system access for users who are from or who represent the EPA. Read only access to query and report functionality is provided to the users from the perspective of compliance with EPA regulations.
General WIPP User	WIPP user may include individuals in management, technical support or quality assurance positions within the DOE complex who have a need to review container, payload or shipment data from an individual record or report perspective on an occasional basis.
Business Reports	The Business Reports role provides reports to support contract objectives.

Acceptable Knowledge	The AK dashboard is accessible to application users who are assigned the AK and Chemicals Administration Roles. The dashboard provides access to the Master Chemical/Material List Administration function with access limited to users with the Chemicals Administrator role.
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6.3 Shipper/Generator Dashboard Functions

The functions and reports available from the Shipper/Generator dashboard are shown in Figure 6-B. Additional details about the functions performed by Shipper/Generator users are described in screen-level help. Screen-level help provides additional details about reports accessible from this dashboard.

The WDS will allow users to upload container data, plan and create payloads using uploaded containers, and plan and create shipments using approved payloads. Access to the shipment data entry function is restricted to the Shipper/Generator user group. The Shipper/Generator user can create a new shipment record or edit an existing shipment record. Options are provided to allow the user to indicate the inclusion of dunnage in a shipment due to Weight limitation, fissile gram equivalent (FGE) limitation, Gas Generation limitation, or other limitation.

The user can associate one or more payloads with a shipment in the New Shipment (NEW_SHIP) status. The user can delete payloads and all associated packaging data, from the active shipment record if the shipment has a (NEW_SHIP) status. The WDS automatically populates the shipment Governing Shipping Period field with the minimum governing shipping period for the payloads associated with the shipment. Visual attributes are provided to enable users to distinguish containers (and their associated assemblies and/or payloads if applicable) in Pending Certification Data Approval status from those in Certification Data Approved status within the shipment data entry function.

The WDS automatically populates the Handling Material Weight field with the Handling Material Weight specified in the Packaging/Container Types reference table for the given packaging and container type of the payload as the default value. Inner Containment Vessel/Inner Vessel (ICV/IV) Closure Date must include the time of closure. The WDS automatically provides a candidate list of payloads, where the selection criteria include all completed payloads saved to the database with the Shipping Program ID, Current Location, and Destination Site ID of the active shipment that have not been assigned to a shipment. As payloads are added to the shipment, the WDS limits the list of payload candidates to payloads of the same handling code of the payloads already assigned to the shipment. For each candidate payload, the WDS displays the payload governing shipping period and PCB indicator flag.

The WDS calculates and displays the following total fields for the payloads associated with the active shipment: Package Weight, Payload Weight and Error (kg), FGE and 2 x Error, Decay Heat & Error (W), and Pu-239 Equivalent Curies (PE-Ci). For each total

shipment error field, the WDS automatically calculates the total as the Root Sum Square, or square root of the sum of the squares, of the payload errors.

The user has access to the payload data (via the *Payload Data Report*) for each payload associated with the active shipment. The user can save the shipment record without submitting the record. The WDS enables the save function if a unique shipment number has been entered. Upon successful save of a shipment that has not previously been saved, the WDS sets the shipment record to New Shipment status and records the insertion into the database in the shipment status history table. The overall shipment status is displayed (i.e., New, In Review, Complete, En Route, or Received). The overall shipment status is displayed with respect to the following three subcomponents of the shipment status: confirmed status, DA review status, and shipment data finalized status. When the shipment is submitted to the review process, the WDS executes the preliminary shipment edit/limit check evaluation. If the shipment passes the preliminary shipment edit/limit check evaluation, the WDS automatically sets the shipment status to In Review, records the status change in the shipment status history table, sends an email to the Confirmation Team distribution list stating that the shipment is ready for confirmation review (WIPP destination site only), and sends an email to the Data Administrator Team distribution list stating that the shipment is ready for DA review (WIPP destination site only). If the shipment fails the preliminary shipment edit/limit check evaluation, the WDS provides access to the detailed results for the shipment edit/limit check evaluation. The user can submit the active shipment to the final shipment edit/limit check evaluation if the shipment data have not already been finalized. The WDS updates the shipment data finalized status to TRUE and records the shipment finalization in the shipment status history table if the shipment passes the final shipment edit/limit check evaluation. If the shipment fails the final shipment edit/limit check evaluation, the user is provided access to the detailed results for the shipment edit/limit check evaluation.

All shipment data, with the exception of Send Date, are protected from update for a shipment record with shipment data finalized status = TRUE. The user can update a shipment in Complete (COMPLETE_SHIP) status to En Route status and record the change in status in the shipment status history table. All shipment data, including the Send Date, are protected from update for a shipment with an En Route status. The applicable errors from the most recent shipment edit/limit check evaluation are displayed. The user can delete shipment records in New Shipment status or shipment records in In-Review status that are not confirmed and not DA approved. The WDS automatically clears all payload associations to the shipment when a shipment is deleted. The user can reset the shipment status to New Shipment for the active shipment and the WDS will automatically record the reset in the shipment status history table if it is in "In Review" status and has not been confirmed. If the shipment has DA approval, the WDS automatically removes the approval and sends an email to the confirmation team distribution list stating that the shipment is no longer available for confirmation review (WIPP destination site only).

The user can set the shipment data finalized status to FALSE if the shipment is in a status prior to En Route status. When the shipment data finalized status is set to

FALSE, the WDS updates the shipment status to In Review and records the status change in the shipment status history table.

The user has access to the *Payload Assembly Transportation Certification Document* (PATCD) reports for one or more TRUPACT or HalfPACT payloads assigned to the active shipment. The user has access to the *PTCD report* for one or more RH 72-B payloads assigned to the active shipment. The user can access the *Payload Container Transportation Certification Document/Overpack Payload Container Transportation Certification Document (PCTCD/OPCTCD) report* for all payload containers assigned to the active shipment and for all payload containers and associated inner containers (as applicable) assigned to the highlighted payload. The user can access the *Shipment Summary report* for the displayed shipment.

6.3.1 Exporting Files

The Shipper/Generator dashboard provides access to the following file export functions:

- Containers meeting the selected overpack candidate query parameters
- Containers meeting the selected canister candidate query parameters
- Containers meeting the selected payload candidate query parameters
- Container activity query function that displays the total number of containers inserted, approved (first time DA certification approval), and shipped that meet the selected query criteria
- Container activity query results
- Containers in presubmittal certification status query
- Certified containers not shipped query
- Containers assigned to shipment query
- Shipment PE-Ci and FGE query

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WDS
WASTE DATA SYSTEM

Users Manual RICHEY, LINDA KAY (KATIE)
05/11/2016 07:54

DASHBOARD AD-HOC QUERY SCRIPT INTERFACE REPORT BUILDER

Dashboard SHIPPER GENERATOR DASHBOARD

FUNCTIONS

- Container Characterization Data Submittal
- Container Certification Data Submittal
- Canister Planning & Completion
- Overpack Planning & Completion
- Payload Planning & Completion
- Shipment Data Entry
- Data Upload Function
- Dunnage Container Data Entry
- Intersite Shipment Receipt

REPORTS

- Container Certification Approval/Rejection Report
- Containers with Conditional Status List
- Containers in Certification Pre-submittal Status
- Containers Certification Approved - Not Yet Shipped
- Containers Certification Approved - Assigned to Shipment
- Shipment FGE and PE-Ci Totals
- Shipment Summary Report
- Container and Shipment Query
- Reference Table Reports
- TRUCON Help
- Master Chemical/Material List Report
- CCEM Report
- CCEM by Waste Stream Profile Report

Figure 6-B – Shipper/Generator Dashboard

6.4 Waste Handling Operations Dashboard

The functions and reports that are available from the WIPP Waste Handling Operations dashboard are shown in Figure 6-C. Details about the Shipment Receipt function performed by WIPP Waste Handling Operations and Transportation users are described in an approved WIPP TRU waste receipt procedure. The Manual Emplacement function must be used for emplacement of RH waste containers. Details about waste emplacement at WIPP are provided in WIPP Waste Handling Operations procedures. Screen-level and context-level help provides additional details about generating reports that are accessible from this dashboard.

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The screenshot displays the Waste Data System (WDS) interface. At the top left is the WDS logo. The top right shows the user manual link, a date and time (01/20/2016 12:24), and a help icon. Below the logo is a navigation bar with tabs for DASHBOARD, AD-HOC QUERY, SCRIPT INTERFACE, and REPORT BUILDER. A search bar is located on the right side of the navigation bar. The main content area is titled 'Dashboard' and 'WASTE HANDLING OPERATIONS DASHBOARD'. It features a 'FUNCTIONS' section with icons for 'Site Derived Waste Container Data Submittal', 'WIPP Shipment Receipt', 'Manual Emplacement', and 'Barcode Application'. Below this is a 'REPORTS' section with a list of report links: Closure Report, Controlled Shipment Report, Daily Emplacement Volume Report, Daily Report, Emplacement by Container Type Report, Emplacement History Overview, MgO Excess Factor Report, Monthly Annual Emplacement Comparison Graph, On-Site Waste Location Report, Plot Emplacement Excess Factor and Volume Used, Reference Table Reports, Room Map, Shipment Summary Report, Waste Emplacement Report, and Weekly Shipment and Emplacement Summary Report. At the bottom, there is a status bar with links for 'MESSAGES', 'USERS MANUAL', and 'USER PREFERENCES', along with login information: 'LAST LOGIN: 01/19/2016 12:24 - # OF FAILED LOGINS SINCE: 0'. On the right side of the status bar, it shows 'INSTANCE: prd09.wipp.carlsbad.nm.us' and 'BUILD: WDS_20160105'.

Figure 6-C – Waste Handling Ops Dashboard

6.5 Shipment Confirmation Dashboard

The Shipment Confirmation dashboard allows a user to view a series of detailed data reports on individual shipments. Requirements for TRU-Mixed waste confirmation are described in the WIPP HWFP, Att. C(7). The functions and reports available from the Shipment Confirmation dashboard are shown in Figure 6-D. Details about use of the functions that are available from this dashboard as well as details about generating the reports are further explained in screen-level and context-level help.

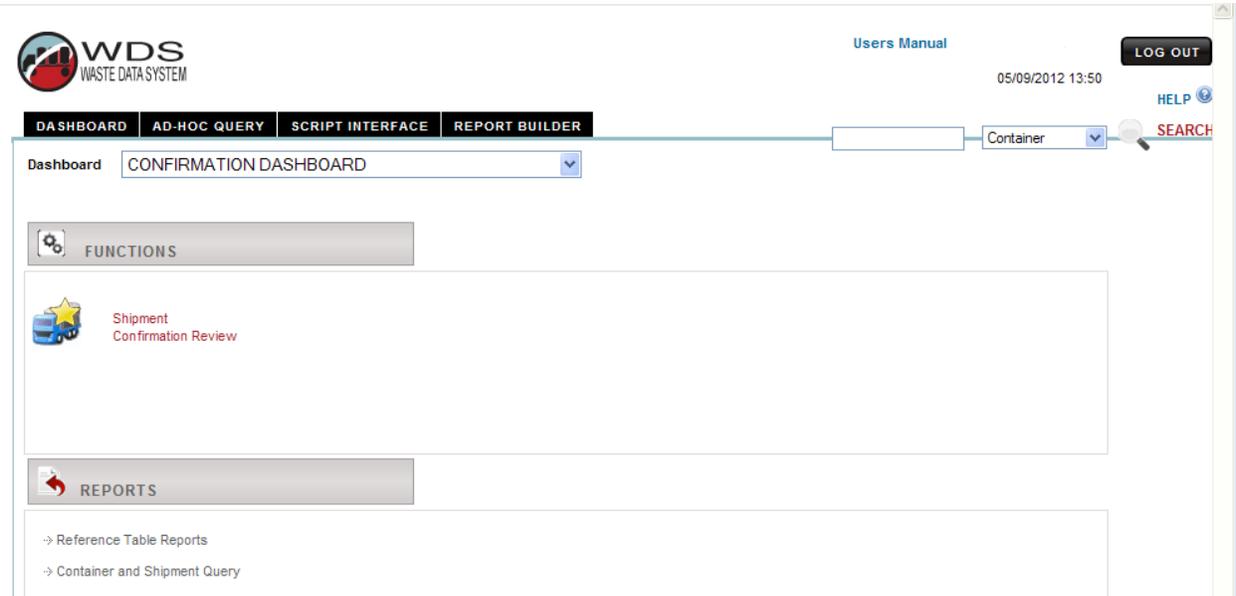


Figure 6-D – Confirmation Dashboard

The Shipment Confirmation Review page also provides several other report links:

The *Payload Container List report* generates a PDF listing of the container number and container type for each container in the shipment grouped by waste stream and payload.

After the confirmation process is complete, the user presses the confirm button located at the bottom of the form. The user is given the opportunity to cancel or to continue with the “confirmation” action. The shipment status will then be updated to Confirmed. Additional details about the functions performed by WIPP Shipment Confirmation users are contained in the WIPP HWFP and approved WIPP procedures for waste stream shipment confirmation. Screen-level and context-level help provides additional details about the reference table reports accessible from the Confirmation dashboard.

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WDS WASTE DATA SYSTEM Users Manual 05/09/2012 13:57 LOG OUT HELP

DA SHBOARD AD-HOC QUERY SCRIPT INTERFACE REPORT BUILDER Container SEARCH

SHIPMENT CONFIRMATION REVIEW

Shipment Number

- IN110489
- IN110490
- IN110491
- IN110492
- LA110163
- OR110013

Selected Shipment: IN110490

Reset/Rejection Reasons

Date	Type	Reason

Reports

- Shipment Data Report
- Shipment Container Data Report
- Confirmation Container Data Report
- Payload Container List
- TRU Waste Confirmation Module Report

The Waste Confirmation Module has been run.

Containers Selected Pending Approved

Waste Stream (Container Count)	Payload Num	#	Container Num	Rep	Container Type
BNS10.1(15)	95414	1	BN10399746		23 - 100 GAL DRUM (DIRECT LOAD)
		2	BN10422745		23 - 100 GAL DRUM (DIRECT LOAD)
		3	BN10422858		23 - 100 GAL DRUM (DIRECT LOAD)
	95418	4	BN10420143		23 - 100 GAL DRUM (DIRECT LOAD)
		5	BN10422854		23 - 100 GAL DRUM (DIRECT LOAD)
		6	BN10424484		23 - 100 GAL DRUM (DIRECT LOAD)
		7	BN10424857		23 - 100 GAL DRUM (DIRECT LOAD)
		8	BN10424861		23 - 100 GAL DRUM (DIRECT LOAD)
		9	BN10424909		23 - 100 GAL DRUM (DIRECT LOAD)
	95419	10	BN10423432		23 - 100 GAL DRUM (DIRECT LOAD)

Local intranet

Figure 6-E – Shipment Confirmation Review Page

6.6 Packaging Dashboard

The functions and reports available from the Packaging dashboard are shown in Figure 6-F. Additional details about functions performed by WIPP Packaging Engineering users are described in approved procedures and in screen-level and context-level help. The dashboard provides access to the PCTCD, OPCTCD, PATCD, and PTCDC reports when viewing DA-approved containers or overpacks that are associated with completed payloads (PCTCD, OPCTCD). The dashboard provides access to the *Reference Table Reports*. Screen-level and context-level help provides details about generating the reports that are accessible from the Packaging dashboard.

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[Users Manual](#) STRUM, MIKE [LOG OUT](#)
 01/09/2013 08:25 [HELP](#)

DA SHBOARD
AD-HOC QUERY
SCRIPT INTERFACE
REPORT BUILDER

Container [SEARCH](#)

Dashboard **PACKAGING DASHBOARD**

Shipments Submitted for Review (12) [SHOW](#)

Shipment Number	Current Location	Destination Site ID	Shipping Program ID	DA Approved?	Confirmed?	Finalized?	Handling Code	Package Type(s)	Send Date	Controlled Shipment?	High-Wallage Shipment?	Packaging Reviewed?	Update Review Status

Payloads Of Interest [Expand Search](#)

Payloads with Inner Container CHTES Results of Interest: 0 Records [SHOW](#)

Payload Number	Shipping Program	Current Location	Destination Site	Payload Type	Container	Flammability Index	AFGC (mol fr)

Payloads with High Payload FGE Totals: 0 Records [SHOW](#)

Payload Number	Shipping Program	Current Location	Destination Site	Payload Type	FGE (g)	FGE Error (g)

Payloads with Containers with High Decay Heat or Null/Zero Values: 0 Records [SHOW](#)

Payload Number	Shipping Program	Current Location	Destination Site	Payload Type	Container	FGE (g)	FGE Error (g)	Decay Heat (w)	Decay Heat Error (w)

Payloads with Containers with Unusual #s of Filters: 0 Records [SHOW](#)

Payload Number	Shipping Program	Current Location	Destination Site	Payload Type	Container	TDOP with <8 Filters?	Drum with >1 Filter?

Payloads with Containers with High Hydrogen or Zero/Null Hydrogen/Methane: 0 Records [SHOW](#)

Payload Number	Shipping Program	Current Location	Destination Site	Payload Type	Container	Analyte	Concentration (ppm)

Containers with Conditional Status List [Expand Search](#)

10 Containers Matched Your Query

Container Number	Certification Date	Current Location	Destination Site	Certification Program	TRUCON Code	Shipping Category	Evaluations
LA00000091905	12/27/2012	LA	WI	C4	LA225Q	3003400238	CE_FGE
LA00000092274	12/27/2012	LA	WI	C4	LA225B	3001090217	CE_FGE
LA00000092309	12/27/2012	LA	WI	C4	LA225C	3001090047	CE_FGE
LA00000092311	12/27/2012	LA	WI	C4	LA225B	3001090217	CE_FGE
LA00000092318	12/27/2012	LA	WI	C4	LA225C	3001090047	CE_FGE
LA00000092320	12/27/2012	LA	WI	C4	LA225C	3003400047	CE_FGE
LA00000092324	12/27/2012	LA	WI	C4	LA225C	3001090047	CE_FGE
WMAPS/WB447	01/03/2013	SR	WI	C1	SR119A	3001090111	CE_GVE
LA00000092328	01/04/2013	LA	WI	C4	LA225Q	3003400238	CE_FGE
LA00000092336	01/04/2013	LA	WI	C4	LA225Q	3003400238	CE_FGE

FUNCTIONS

Execute TRAMPAC Test Payloads

Filters Administration

TRUCON Relationships Administration

Certification Data Trending

REPORTS

- Payloads of Interest Report
- Containers with Conditional Status
- Emplacement by Container Type Report
- Reference Table Reports

Figure 6-F – Packaging Dashboard

6.7 WIPP User Dashboard

The reports that are available to users from the WIPP User dashboard are shown in Figure 6-G. The WIPP user may view reports but does not perform any data input functions using the WDS. Screen-level and context-level help contains additional details about generating reports that are accessible from the WIPP User dashboard.



Figure 6-G – WIPP User Dashboard

6.8 CBFO Dashboard

The CBFO dashboard is accessible to users with the CBFO role. The CBFO dashboard provides access to the reports as shown in Figure 6-H. The CBFO user may view reports but does not perform any data input functions using the WDS. Screen-level and context-level help contains additional details about generating reports that are accessible from the CBFO dashboard.

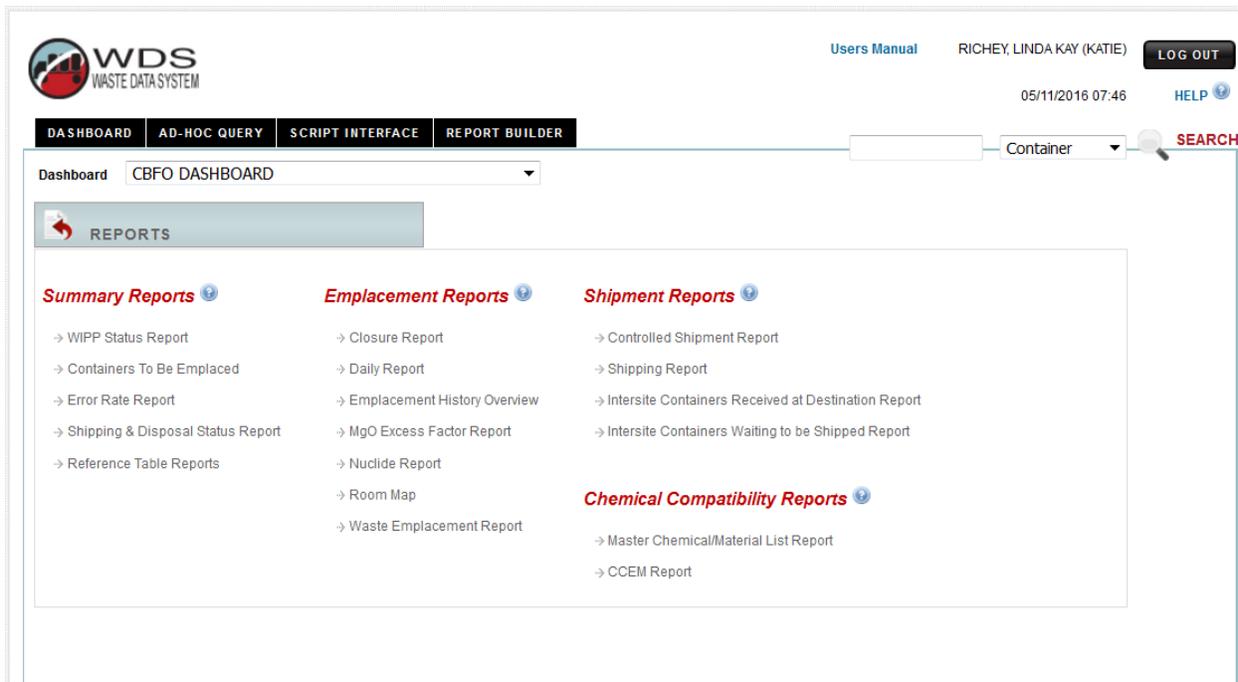


Figure 6-H – CBFO Dashboard

6.9 Data Administrator Dashboard

The functions and reports are available from the WIPP Data Administrator dashboard. Additional details about the Container/Shipment Review and Approval functions are summarized in an approved WIPP waste information tracking system (WITS) program plan. Details about the Data Administration reference table maintenance functions are described or summarized in an approved WIPP WITS program plan.

6.10 New Mexico Environment Department Dashboard

The reports that are available to users from the NMED dashboard are shown in Figure 6-I. The NMED users have access to reports but do not perform any data entry functions using the WDS. Refer to screen-level and context-level help for additional details about generating reports that are accessible from the NMED dashboard.

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The screenshot displays the WDS (Waste Data System) interface. At the top left is the WDS logo. The top right shows the user name 'RICHEY, LINDA KAY (KATIE)', the date '05/11/2016 07:45', and buttons for 'LOG OUT' and 'HELP'. A navigation bar contains 'DASHBOARD', 'AD-HOC QUERY', 'SCRIPT INTERFACE', and 'REPORT BUILDER'. Below this is a search bar with a 'Container' dropdown and a 'SEARCH' button. The main content area is titled 'Dashboard' and 'NMED DASHBOARD'. A 'REPORTS' section lists various report types with arrows: Container and Shipment Query, Shipment Summary Report, Waste Stream Profile Container Report, Biennial Report, Waste Emplacement Report, Waste Stream Characterization Container Report, Container Waste Type Summary Report, Waste Container Data Report (Permit Format), Master Chemical/Material List Report, and CCEM Report. At the bottom, a 'Container Status Overview' section includes filters for 'Certification Program' (All), 'Disposed' (All), and 'Include Overpacked Containers' (checkbox), along with a 'Container Type' dropdown and a 'SEARCH' button.

Figure 6-I – NMED Dashboard

6.11 Environmental Protection Agency Dashboard

The reports that are available to users from the EPA dashboard are shown in Figure 6-J. Screen-level and context-level help provides additional details about generating reports that are accessible from the EPA dashboard.



Figure 6-J – EPA Dashboard

6.12 WIPP Safety and Emergency Response Dashboard

The reports that are available to users from the Safety and Emergency Response dashboard are shown in Figure 6-K. Screen-level and context-level help provides additional details about generating reports that are accessible from this dashboard.

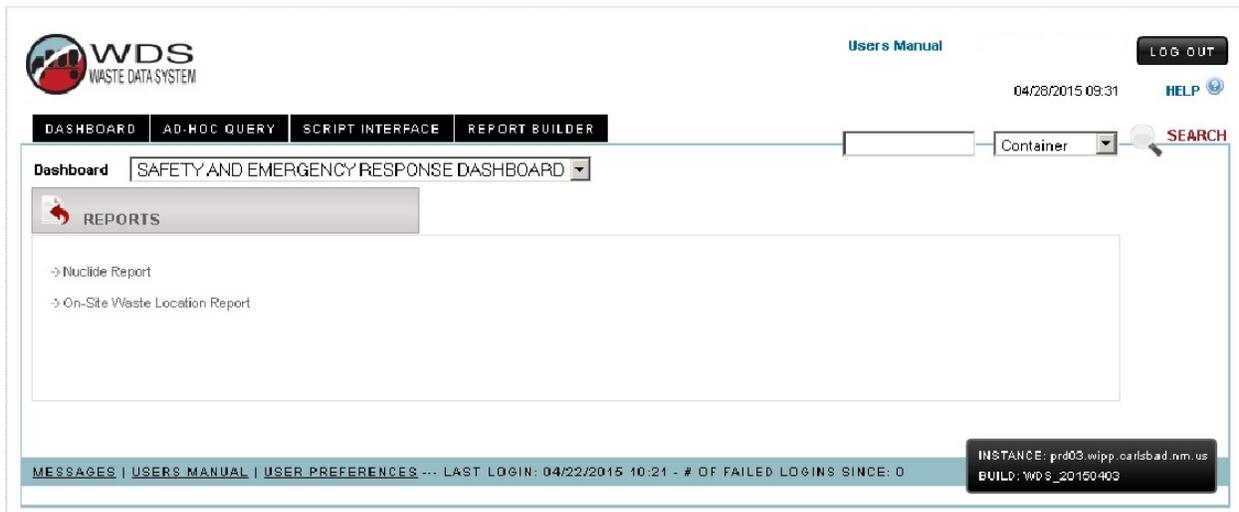


Figure 6-K – Safety and Emergency Response Dashboard

6.13 WIPP Site Transportation Dashboard

The functions and reports that are available to WIPP personnel from the Transportation dashboard are shown in Figure 6-L. Additional details about the Shipment Receipt function and the Tractor/Trailer Administration functions that are performed by Transportation users are summarized in approved WIPP procedures and in screen-level and context-level help. Details about the shipment receipt process at WIPP are described in an approved WIPP TRU waste receipt procedure and in screen-level and context-level help. Screen-level and context-level help provides additional details about generating reports that are accessible from the Transportation dashboard.

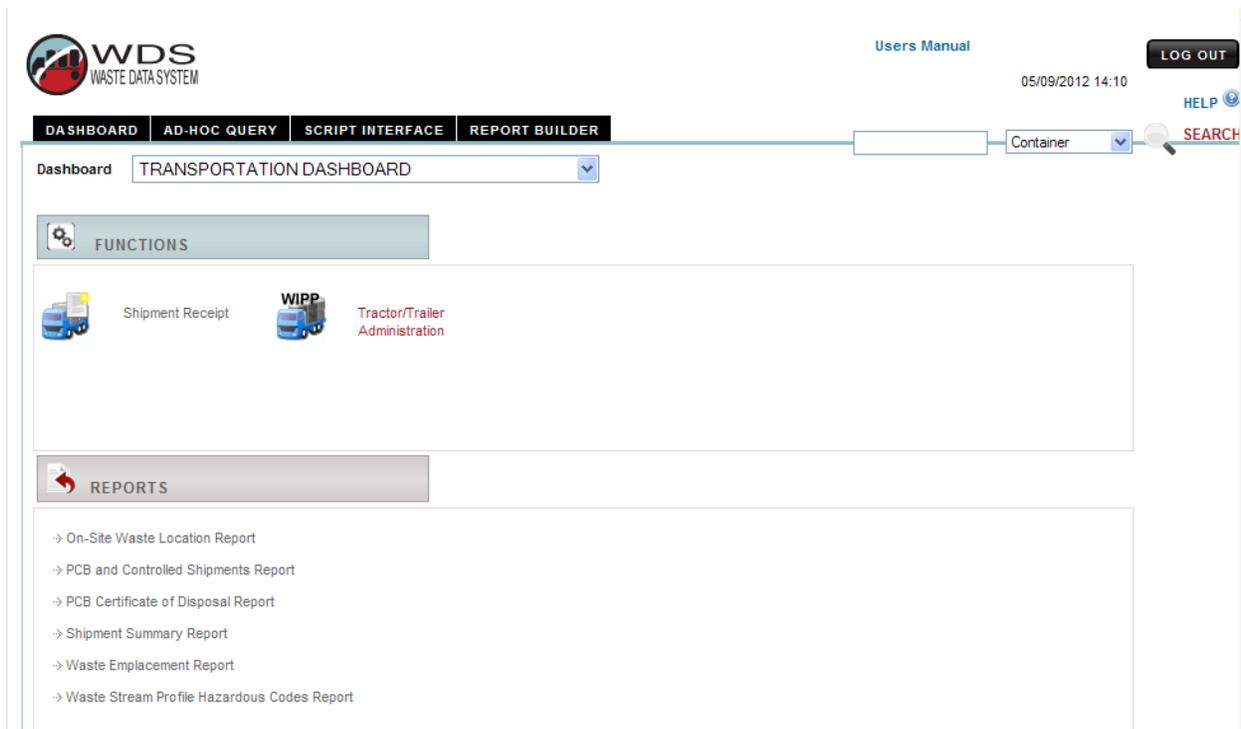
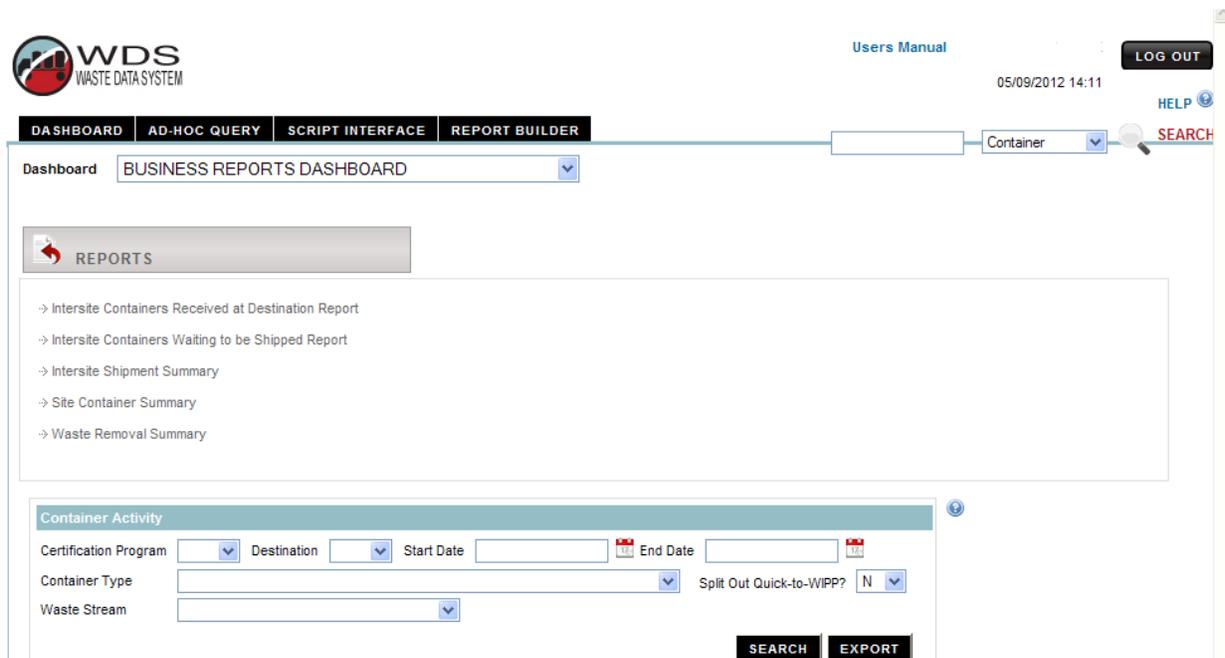


Figure 6-L – Transportation Dashboard

6.14 Business Reports Dashboard

The Business Reports dashboard is accessible only to users with the Business Reports role. The dashboard provides access to the reports shown in Figure 6-M. Screen-level and context-level help provides additional details about generating reports that are accessible from this dashboard.



The screenshot displays the Business Reports Dashboard interface. At the top left is the WDS logo (Waste Data System). The top right shows the user manual link, the date and time (05/09/2012 14:11), and a LOG OUT button. A navigation bar contains 'DASHBOARD', 'AD-HOC QUERY', 'SCRIPT INTERFACE', and 'REPORT BUILDER'. Below this is a search bar with a 'Container' dropdown and a 'SEARCH' button. The main content area is titled 'Dashboard' and 'BUSINESS REPORTS DASHBOARD'. A 'REPORTS' section lists several report links: 'Intersite Containers Received at Destination Report', 'Intersite Containers Waiting to be Shipped Report', 'Intersite Shipment Summary', 'Site Container Summary', and 'Waste Removal Summary'. Below the reports is a 'Container Activity' section with various filters: 'Certification Program', 'Destination', 'Start Date', 'End Date', 'Container Type', 'Waste Stream', and 'Split Out Quick-to-WIPP?' (set to 'N'). There are 'SEARCH' and 'EXPORT' buttons at the bottom of the filter section.

Figure 6-M – Business Reports Dashboard

6.15 Acceptable Knowledge Dashboard

The AK dashboard provides access to the Master Chemical/Material List Administration function, limited to those in the Chemicals Administrator role. The dashboard also provides access to the Chemical Compatibility Evaluation Memorandum (CCEM) Administration function and access to the Chemical Compatibility Evaluation Memorandum (CCEM) Review function. The dashboard provides access to the Master Chemical List report, the Reactivity Group Numbers reference data report, the Chemical Compatibility Evaluation Memorandum (CCEM) report and the CCEM by Waste Stream Profile report. Screen-level and context-level help provides additional details to the users about data entry functions and generating reports that are accessible from this dashboard as shown in Figure 6-N AK Dashboard.

As part of the process for characterizing and certifying TRU waste for disposal at WIPP, it is necessary to consider the range of possible chemical combinations that could occur in each waste stream. The evaluation considers potential adverse chemical reactions (e.g., generation of fire, explosion, heat, or fumes) from chemicals which may be present in the waste to assure safe and compliant transportation and waste management. The evaluation considers compatibility of waste materials and chemicals performed to assess the RCRA characteristics for ignitable (D001), corrosive (D002), and reactive (D003) wastes. Site procedures provide an Example Form and Content

Guide for the Chemical Compatibility Evaluation Memorandum and provides a template for the preparation of a CCEM to document the assessment. Revisions to the AK Summary Report include a description of the results described in the CCEM in the Chemical Content Identification section. The Site Project Manager (SPM) reviews and approves the CCEM.

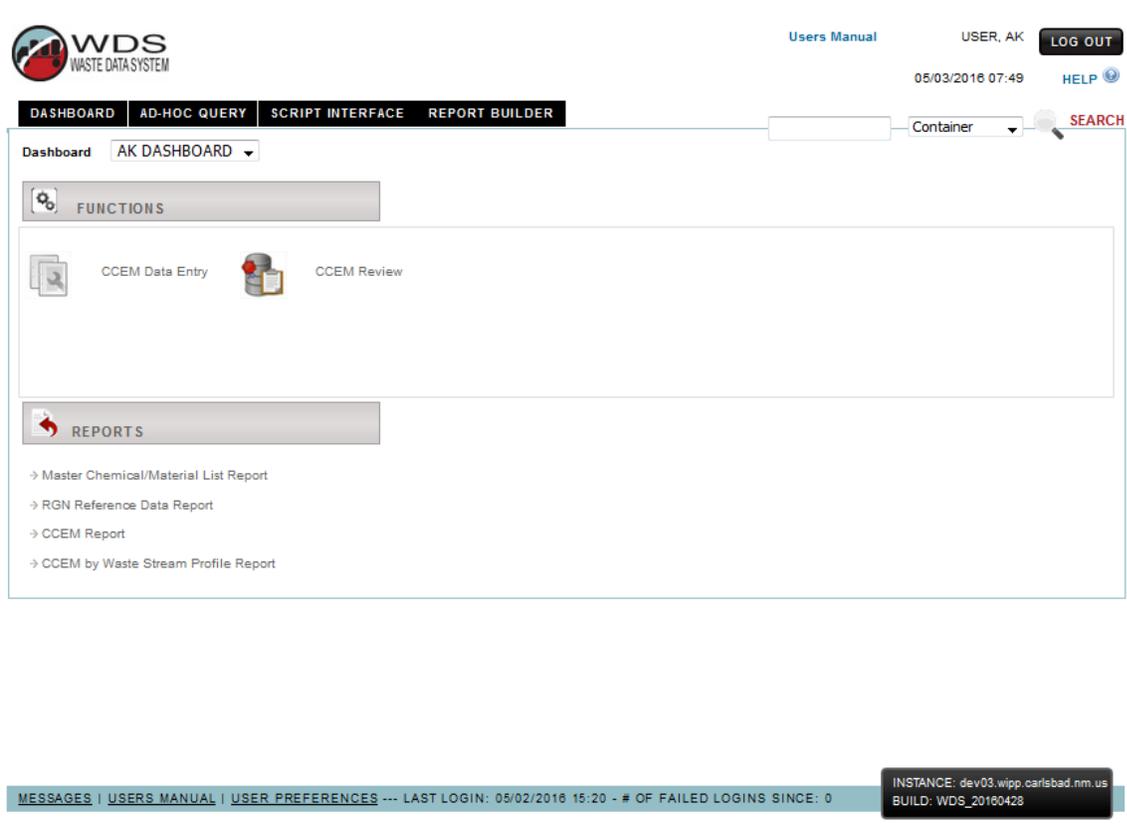


Figure 6-N – AK Dashboard

7.0 SUMMARY OF WDS EVENT CODES

The following event codes are applicable to WDS container, shipment and disposal data. Users can also refer to the *Event Codes Reference Data Report* for an online summary of the codes and a summary description of each code.

Pre-Submittal to Characterization Approval (PRESUB_CHARZ) – Initial status for containers to be submitted for evaluation before a waste stream profile is approved. The data have been "saved" (but not yet "submitted") to the database.

When a container record is initially entered in the WDS, and if container data are never "saved," but are "submitted" instead, the pre-submittal status will never be assigned to that container. When a "submit" function is performed, a "save" function is also automatically performed.

Pending Characterization Data Approval (PENDING_CHARZ) – When a user "submits" a container record to the WDS for characterization approval, and the

container data pass the edit/limit checks, this status is automatically assigned to the container. The container record is now available to the DA for potential characterization data approval, and cannot be modified by the user.

Holding for Characterization Data Approval (HOLDING_CHARZ) – A DA has placed the container record "on hold" while the Shipper/Generator is investigating a container data issue. The user who submitted the container record will receive a notification from the database whenever the hold status is applied. Depending on the results of the investigation, the DA will approve or reject the container data. Data for containers with this status cannot be modified by the user. The database design incorporates functionality for the DA to describe data issues and resolutions.

Characterization Data Approved (APPROVED_CHARZ) – This status is assigned by the WDS to a container record after a DA has reviewed and approved the data, and after the new waste stream profile is approved.

Pre-Submittal to Certification Approval (PRESUB_CERT) – This is the initial status for waste containers that have been entered into the WDS and "saved" (but not yet "submitted") to the database. This status is applicable to waste containers that were not part of the characterization submittal and containers that were successfully submitted for certification approval and subsequently reset by a DA or the Shipper/Generator user. Resetting container records from APPROVED_CERT to PRESUB_CERT is done to allow for correction of data entry errors that are discovered as part of the data quality checks conducted by the sites.

When container data are initially entered in the WDS, and if container data are never "saved," but are "submitted" instead, this status will never be assigned to that container. When a "submit" function is performed, a "save" function is also automatically performed. A container that has a pending certification data approval or certification data approved status can be reset by the DA to pre-submittal to certification approval status.

Pending Certification Data Approval (PENDING_CERT) – This status is assigned by the WDS to a container record when the Shipper/Generator user "submits" a complete set of container data to the database for approval. When the container record is submitted, the data are evaluated by the automated WDS edit/limit checks and the CH-TRAMPAC Evaluation Software (CHTES) or RH-TRAMPAC Evaluation Software (RHTEs) container evaluation checks. This status is automatically assigned to the container record after the data have passed all automated edit/limit checks. The container record is now available to the DA for potential Certification Data Approval, and cannot be modified by the user.

Holding for Certification Data Approval (HOLDING_CERT) – The database design allows the DAs to place containers "on hold" to allow the Shipper/Generator to investigate a container data issue identified during the data review without deleting the container record from the database. Depending on the results of the investigation, the DA will approve or reject the container data. Data for containers with this status cannot be modified by the user. The database design incorporates functionality for the DAs to

describe data issues and resolutions. The user who submitted the container record will receive a notification from the database whenever the hold status is applied.

Certification Data Approved (APPROVED_CERT) – The WDS automatically sends an e-mail message to the user who entered the certification data, to provide notification/confirmation that the container has been approved. Approved waste containers then become available for selection for assignment into shipment payloads.

If a certified waste container such as a damaged 55-gallon drum is designated to be overpacked into a larger payload container such as a standard waste box (SWB) or ten-drum overpack (TDOP), the APPROVED_CERT status will be the final status for those inner containers, and the WDS container status for the overpack will be modified further during the shipping and WIPP emplacement processes.

New Shipment (NEW_SHIP) – This is the initial status for shipments that have been "saved" but not yet "submitted" in the WDS.

Data must be entered into the Shipment Number data field before a shipment may be "saved." Shipment data may be added, deleted, and modified by the user while the status of the shipment is NEW_SHIP.

NOTE

The following data fields may be NULL when a shipment is submitted: Manifest Number, Shipment Send Date, Tractor ID, Trailer ID, Transporter Name, Package Numbers, Outer Containment Assembly (OCA)/outer container(OC) Lid Numbers, Inner Containment Vessel (ICV)/inner-vessel (IV) Closure Dates, Dose Rates, Surface Contamination measurement results, and U.S. Department of Transportation (DOT) Description. These fields must be populated by the shipper in order to finalize the shipment. By design, shipments that have not been finalized cannot be electronically received at the Destination Site.

Pending Shipment Data Approval (PENDING_SHIP) – When a user "successfully submits" a shipment in the WDS, the shipment status becomes pending approval. The container status for each waste container assigned to that shipment is automatically set to pending shipment data approval by the database. The shipment data are now available to the DA for potential approval and an email message is automatically sent to the Confirmation Team stating that the shipment is ready to undergo waste stream shipment confirmation.

Shipment Complete (COMPLETE_SHIP) – This status is automatically assigned to a shipment after all of the required shipment data fields have been entered and submitted in the WDS, and after a DA and the Confirmation Team have reviewed the shipment data and completed the required approval steps. It is imperative that each shipment be finalized prior to its actual arrival at WIPP in order to enable WIPP operations personnel to perform their functions in accordance with procedures for shipment receipt.

Shipment En Route (EN_ROUTE) – This status is assigned to a shipment after the shipment has been finalized and has departed the shipper site.

Shipment Has Been Received (RECEIVED_SHIP) – When a shipment is received at the destination site, operations personnel enter the receipt date into the appropriate field on the shipment form. When the date is saved, the status for each waste container in that shipment is automatically set by the database to "Shipment Received." When waste containers are emplaced at WIPP, the disposal date and emplacement location information is record at the assembly level. A container is considered emplaced when its emplacement assembly has a non-NULL disposal date. An overpack payload container is considered emplaced when the overpack emplacement assembly has a non-NULL disposal date.

8.0 ROLES AND SITE PRIVILEGES

A user must obtain authorization from a sponsor and be familiar with the system before being allowed to log onto the database. Each user is assigned a role and site access privileges. Each Shipper/Generator user must be assigned both the Shipper/Generator role and access privileges for the site. Table 2 is a list of site IDs and locations. Refer also to the *Sites/Programs Reference Data Report* for additional details regarding site IDs and locations.

Table 2 – Site IDs and Locations

Site ID	Location
AE	Argonne National Laboratory – East
BC	Battelle-Columbus
BE	Bettis Laboratory (BAPL)
BN	Advanced Mixed Waste Treatment Facility – Idaho
C1	CCP at Savannah River Site – CH Waste
C2	CCP at Argonne National Laboratory – East
C3	CCP at Nevada Test Site
C4	CCP at Los Alamos National Laboratory
C5	CCP at Lawrence Livermore National Laboratory
C6	CCP at Oak Ridge National Laboratory – CH Waste
C7	CCP at Oak Ridge National Laboratory – RH Waste
C8	CCP at Idaho National Laboratory
C9	CCP at Idaho National Laboratory – RH Waste
CA	CCP at Los Alamos National Laboratory – RH Waste
CB	CCP at Savannah River Site – RH Waste
CC	CCP at GE Vallecitos – RH Waste
CD	CCP at GE Vallecitos – CH Waste
CF	CCP at Hanford
CG	CCP at Bettis Laboratory – RH Waste

Table 2 – Site IDs and Locations

Site ID	Location
CH	CCP at Sandia National Laboratories – CH Waste
CI	CCP at Nuclear Radiation Development, LLC – RH Waste
CJ	CCP at Sandia National Laboratory – RH Waste
GE	GE Vallecitos Nuclear Center
IN	Idaho National Laboratory
LA	Los Alamos National Laboratory
MD	Mound Site
NT	Nevada Test Site
NRD	Nuclear Radiation Development, LLC
OR	Oak Ridge National Laboratory
RF	Rocky Flats
RL	Hanford Site
SR	Savannah River Site
WI	Waste Isolation Pilot Plant

The following definitions have been developed for business management purposes:

Generator Site ID: Site that generated the waste.

Current Location Site: Site where the waste is physically located.

NOTE

The physical location of the waste containers is submitted to the database with the certification data and does not automatically change as container data moves through the WDS system.

Certification Program ID: Program that certifies the waste data prior to submittal to WIPP.

Shipping Program ID: Program that performs shipping activities and ships the waste.

Destination Site ID: Site that will be receiving a waste shipment for treatment, characterization, certification, or disposal.

Refer to the dropdown menus on the data entry forms or the *Sites/Programs reference data report* for a list of valid entries. Due to the variety of valid entries for a single location, site management should provide Shipper/Generator users with guidance for correct site entries prior to submittal of container and shipment data to the WDS.

9.0 AD HOC QUERIES

Access to ad hoc query is granted to users who are authorized for ad hoc query use by the DA when setting up the user account in WDS. Management approval for ad hoc query access is not required. NMED Users and EPA Users have ad hoc query built into the functions that are available from the dashboard and special access to ad hoc query is not required for these users. The ad hoc query functions may be accessed by clicking the Ad-Hoc Query tab on the dashboard as shown in Figure 9-A. Details for all types of ad hoc queries are described in screen-level and context-level help.



Figure 9-A – Ad Hoc Query Tab

A query may be performed for a container, payload, or shipment, based on the input of a specific container ID, payload ID, or shipment ID using the input field and the dropdown menu at the top right hand corner of the screen.

10.0 SHIPMENT RECEIPT AT WIPP

The WIPP Emplacement Tracking Software tracks CH waste received and emplaced at WIPP. The WDS presents the list of shipments in En Route status with WIPP as the destination site. When a shipment arrives at WIPP, the shipment is considered received when a trained technician at WIPP enters the receipt date and time into the WDS. When each payload is unloaded, the payload is scanned or entered into the emplacement tracking software, where the status of each container is updated to the received status in the WDS. During the shipment receipt process, all container numbers are verified to ensure that the correct waste was received (correct packages on the shipment, correct assemblies in each package on the shipment, and correct containers in each assembly in the packages).

11.0 EMPLACEMENT OF WASTE AT WIPP

When the waste is emplaced in the repository, the WDS updates the status of each container and assigns and stores a unique location ID for each waste container to enable full traceability of all received and emplaced waste. Details about operation of the barcode reader software and the waste emplacement process are covered in

approved WIPP procedures. Appendix A provides a summary of the Emplacement Tracking System barcode application and the WDS Manual Emplacement Screen.

12.0 REPORT BUILDER

Access to the report builder functionality is limited to users who have been authorized for report builder use by management. Refer to report builder screen-level help for additional details about use of the report builder function

13.0 RECORDS

The records listed below that are generated as a result of implementing this manual are considered Quality Assurance (QA) records and shall be identified, classified, and maintained in accordance with WP 13-1, *Nuclear Waste Partnership LLC Quality Assurance Program Document*, and other implementing program documents/procedures at the sites. The following documents are maintained as QA Records.

- Waste stream profiles and/or process knowledge documentation that are approved by the destination site prior to first shipment of waste from the shipper site.
- Various reports from data management systems as required by the shippers' quality assurance program including, but not limited to, dose rate measurement reports and surface contamination records for all waste containers.
- Data entry spreadsheets (include formula copies of worksheets and supporting documentation of formula calculation validations, if any formulas were used in data entry).
- Container approval/rejection reports, copies of any e-mail correspondence, or both. Other correspondence explaining the rejection of a waste container should also be maintained.

The following transportation documentation should be maintained in accordance with established site records management program requirements and procedures.

- PCTCD/OPCTCD/PATCD/PTCD
- Payload Assembly approval/rejection reports
- Shipment approval/rejection reports and results from scripts that generate data used for the purpose of documenting compliance with regulatory compliance parameters.
- Hazardous Waste Manifests or Bills of Lading

14.0 ACCEPTANCE CRITERIA

Proper completion and submittal of the records described in section 13 provides evidence of satisfactory implementation of QA record requirements.

15.0 TRAINING

All WDS Shipper/Generator users shall receive on-the-job training (OJT). Other personnel who have access to the WDS will be provided training to support the work they are assigned to perform in accordance with site-specific procedures. Training on the contents of this program document is provided as a required reading OJT activity. Special training will be available on a case-by-case basis and is documented accordingly.

APPENDIX A – WIPP EMPLACEMENT TRACKING SOFTWARE
Appendix A – WIPP Emplacement Tracking Software

A.1 Emplacement of Magnesium Oxide (MgO Sacks)

The WIPP Emplacement Tracking Software (ETS) calculates the amount of MgO required in each room being populated with waste based on the amount of CPR included in the emplaced waste material and packaging material. The ETS displays the amount of MgO required, the amount emplaced, and the excess or deficit amount currently in the room. For full MgO traceability, the ETS also assigns and stores a unique sack ID and location data for each sack of MgO emplaced in the repository.

Other features of the ETS include automatic checks that verify that all emplaced waste has been assigned a unique location ID and has the correct status. The ETS performs automatic and manual gap checks to ensure that all empty emplacement locations are identified while it is still possible to fill them, or to indicate they are intentionally empty. The ETS performs automatic calculation and display of required MgO for expected shipments for production planning. The ETS performs user authorization checking and control to ensure that all users are properly authorized. The ETS provides full reporting capability for all open and closed room data, automatic emailing for daily report tracking, and process management support.

A.2 Barcode Reader

To use the barcode reader or the ETS, the user is required to logon to the system by entering a username and password, pressing the Login button, and reading/accepting the security acknowledgement.

A.3 WIPP ETS Home Page

Once a user is logged on, the WIPP ETS Home Page provides access to all emplacement tracking screens and functions. Functional areas include shipment unload data tracking and validation, emplacement data tracking and validation for waste containers, MgO sacks and dunnage containers, review functions to validate emplacement location data, and report functions for the generation of room closure reports, open room daily reports, MgO balance reports and graphical room display reports. The Home Page also provides access to the manual gap check and manual review check functions to provide further validation of emplacement data accuracy.

The *Unload* function is used to access the Shipment Unload screen. This allows the user at the destination site to unload the payload from the shipping package.

The *Emplace* function is used to access the Emplacement screen. This allows the WIPP Waste Handling Operations user to emplace waste containers, dunnage assemblies, and MgO sacks. Section A.8 describes the manual emplacement function.

The *Review* function is used by the WIPP Waste Handling Operations user to access the Emplacement Location Review screen. This allows the user (usually a supervisor or crew leader) to review and validate the accuracy of emplacement location data for waste containers.

The *Reports* function allows the user to access the Report Selection screen to retrieve the following reports:

- *MgO Balance Report*
- *Graphical Room Display Report*

The Review Check function allows the user to access the Manual Review Check screen and manually perform a location data validation review on a specific row in the selected panel/room combination.

A.4 Barcode Reader/ETS Assembly Validation Screen

The Assembly Validation screen displays the assemblies and associated waste containers recorded in the database to be in the selected package. The user scans in or manually enters a container number from the assembly, and the ETS validates that the entered number is actually included in the displayed list. After the user enters a container ID and presses the Validate button, the ETS compares the entered value with the recorded data to validate that the entered container number is associated with one of the displayed assemblies. If the entered number is invalid (not associated with any of the displayed assemblies), the Supervisor Reset screen is displayed for the Supervisor to acknowledge the data discrepancy and reset the system before the user can continue. After the Supervisor resets the system, the display returns to the Package Unload screen for the user to select another package to unload. If the entered container number passes the validation, the Assembly Accept/Reject screen is displayed to provide the user with the ability to validate additional containers in the assembly or accept or reject the entire assembly.

A.5 WIPP ETS Emplacement Location Data Entry Screen

The Emplacement Location Data Entry screen provides the user with the ability to display the current location of a container and associated assembly, assign emplacement location data to a waste container and associated assembly, or assign emplacement location data to a dunnage assembly or MgO sack. The ETS verifies that the assigned location is available for emplacement and prompts the user to enter a new location if the entered location is occupied. The software only allows emplacement where authorized for the different types of containers (Drums, Pipe Overpacks, SWBs, TDOPs, SLB2s, dunnage assemblies, MgO sacks, etc.). The screen is accessed by selecting the Emplace option on the Home Page.

A.6 WIPP Barcode Reader/ETS Emplacement Location Review

The Emplacement Location Review screen provides the user with the functionality to review location data accuracy for newly emplaced assemblies (including dunnage assemblies) and MgO sacks by location data or container number. An automatic review check is executed by the ETS at the completion of the first emplacement in each row. The ETS performs the automatic review on an entire row, two rows back from the row that triggered the automatic review. If the automatic review finds one or more locations in the row that have a status of Review or Rejected, the ETS halts all further emplacement activity until the status of these locations is updated to Accepted by a reviewer using this screen and the following Location Accept/Reject screen. After data are entered on the Emplacement Location Review screen and the Review button is pressed, the Location Accept/Reject screen is displayed to enable the reviewer to accept or reject the location data under review.

A.7 Report Selection Screen

The Report Selection screen provides access to all available WIPP ETS reports, including the *Balance Report* for MgO balance reporting on a specified room and the *Room Display Report*, which graphically displays occupancy and location status for all locations in a specified range of rows in a specified panel/room combination. The software provides the following location data entry fields: Panel Number, Room Number, Handling Type, Target Excess Factor, Expire Date, and Reason.

The report only displays closed rooms and includes all of the same parameters as displayed in a Daily Report.

**Waste Data System User's Manual
DOE/WIPP-09-3427, Rev. 13**

A.8 Manual Emplacement of Waste

PRD09 Users Manual **LOG OUT**

01/27/2016 11:07 **HELP**

DASHBOARD AD-HOC QUERY SCRIPT INTERFACE REPORT BUILDER Container **SEARCH**

MANUAL EMPLACEMENT

Shipment Assemblies

Cntr Num: Shipment Assembly Num: Shp Program:

Shipment Number: Package Num: Handling Code:

Exclude Dunnage Assembly:

CLEAR ALL SEARCH

Handling Code	Container Type	Package Number	Shipment Number	Assembly Num	Includes Dunnage	Dunnage Assembly
CH	55 gal	512	IN140044	IN136332	N	N
CH	TDOP	203	IN140041	IN139266	N	N
CH	SWB	210	IN140036	IN139540	N	N
CH	SWB	210	IN140036	IN139541	N	N
CH	SWB	505	IN140040	IN139593	N	N
CH	TDOP	202	IN140044	IN139666	N	N
CH	TDOP	181	IN140044	IN139670	N	N
CH	TDOP	166	IN140037	IN139806	N	N

On Site Created and Modified

Cntr Num: Emplacement Assembly Num:

CLEAR ALL SEARCH

Emplacement Assembly Num	Overpack/Cntr Number	Includes Dunnage	Dunnage Assembly
021507		Y	Y
WD000061		Y	Y
WD000081		Y	Y
WD000101		Y	Y
WD000102		Y	Y
WD000104		Y	Y
WD000105		Y	Y
WD075993		Y	Y

Container Number	Container Type	Dunnage
BN10509600	TDOP	N

Assembly Num: **IN139806**
Package Num: **166**
Disposal Date:
Location:

CREATE ASSEMBLY
CREATE OVERPACK
EDIT SELECTED
MOVE SELECTED
CLEAR

Emplacement Destination

Panel Room: Row: Column: Height:

SELECT DESTINATION **DESELECT DESTINATION**

Disposal Date: (MT)

MgO Type:
EMPLACE NEW MGO
EMPLACE

Selected In Use Emplaced Selected Destination

Emplacement Location Information

Viewing: CH **SHOW RH MAP**

Default Location: Panel: 7 Room: 7 Row: 24 **SHOW DEFAULT ROW**

Show: Panel: Room: Row: **SHOW ROW**

MgO Without Location : 0 NCM Without Location : 1

	1i	1	2	3	4	5	6	6i
S2								
S1			MGO					
Top			SWB					
Middle			SWB					
Bottom	DRUMS		SWB					

Figure A-1 – Manual Emplacement Form

Manual Emplacement is further described in approved WIPP Waste Handling Operations procedures and in screen-level online help.