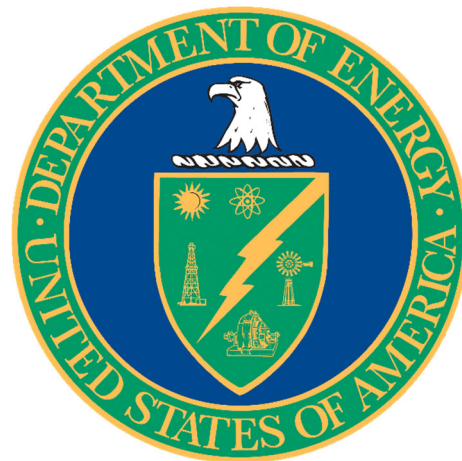


Waste Data System User's Manual

U.S. Department of Energy
Carlsbad Field Office

Revision 24

Effective Date: 3/13/2025



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U.S. Department of Energy
Carlsbad Field Office

Waste Data System User's Manual

DOE/WIPP-09-3427
Revision 24

Effective Date: 03/13/2025

CBFO Approval:	<u>/Signature on File/</u>	<u>03/13/25</u>
	Mindy Toothman, Director	Date
	Site Operations and Infrastructure Division	

CHANGE HISTORY SUMMARY

REVISION NUMBER	DATE ISSUED	DESCRIPTION OF CHANGES
20	05/21/20	<ul style="list-style-type: none"> • Replaced all dashboards screenshots. • Removed Appendix B (Web Service Data Transfer). • Removed Appendix C (OAKES Data Transfer). • Removed Acronyms OAKES, WDSL, and XML. • Added Reactivity Group Number (RGN) to Acronyms and Abbreviations section. • Removed Figure B-1 and B-2. • Modified Table 1 – WDS Roles and Responsibility • Removed Shipment FGE and PE-Ci Totals Query on the WCO and DA Dashboard, section 6.4. • Added Overpack/Canister Plan Removal to WCO Dashboard. • Added Payload MAR Override Function to WCO Dashboard, section 6.4. • Removed Shipment FGE and PE-Ci Totals query from TCO Dashboard, section 6.3. • Removed Characterization Counts Query from TCO Dashboard. • Added Payload Plan deletion screen to TCO Dashboard. • Added new screen on Waste Handling Operation Dashboard to allow emplacement date modification. • Added Reference Data Report link to AK Dashboard. • Removed Payload MAR Override function from DA Dashboard. • Added Chemical Material Associations query to Packaging Dashboard. • Removed Payload of Interest Query and Report from the Packaging Dashboard. • Modified section 16.0 references. • Added to section 6.4. • Removed paragraph in section 6.16 about D001, D002, and D003.
21	06/22/21	<ul style="list-style-type: none"> • Replaced Figure 6D – Waste Handling Operations Dashboard screen shot. • Removed contact information telephone number from section 2.1 and 4.2.

CHANGE HISTORY SUMMARY, cont.

22	06/24/24	<ul style="list-style-type: none"> • Removed access to the Master Chemical/Material List Admin function from the Packaging Dashboard. • Added access to the new CCEM Chemical/Material Worksheet function to the Packaging Dashboard. • Added access to the new CCEM Chemical/Material Worksheet Review function to the Packaging Dashboard. • Added access to the new CCEM Chemical/Material Worksheet Report to the Packaging Dashboard. • Replaced Figure 6-D - Packaging Dashboard screen shot.
23	01/15/25	<ul style="list-style-type: none"> • Identified and addressed any errors, refined language, and simplified sections to ensure clarity and readability.
24	03/13/25	<ul style="list-style-type: none"> • Removed ETS and SME from Acronym List. • Added new Material Control & Accountability (MC&A) Dashboard, in Section 6.8. • Added MC&A Figure. • Removed Business Reports Dashboard and Safety and Emergency Response Dashboard. • Arranged sort-order of Dashboards to alphabetical order. • Replaced Figures 6-A through 9-D screen shots to match align with WDS software. • Updated WDS DA email address to DL_WDS_DA@wipp.doe.gov in Section 2.1 and Section 4.2. • Updated read-only WDS address to https://wds.wipp.energy.gov in Section 3.0. • Added to second paragraph in Section 6.2. • Updated the description in the Acceptable Knowledge Dashboard in Section 6.3. • Updated the CBFO Dashboard description in Section 6.4. • Updated description in the Confirmation Dashboard in Section 6.5. • Updated description in the Data Administrator Dashboard in Section 6.6. • Updated description in the EPA dashboard in Section 6.7. • Updated description in the NMED Dashboard in Section 6.9. • Updated description in the Packaging Dashboard in Section 6.10.

		<ul style="list-style-type: none">• Updated the Exporting Files description under the TCO Dashboard in Section 6.11.• Updated description in the Transportation Dashboard in Section 6.12.• Updated description and Exporting Files section in the WCO Dashboard in Section 6.13.• Updated description in the WIPP User Dashboard in Section 6.14.• Updated the Figure number in the description of the Waste Handling Operations Dashboard in Section 6.15.• Updated AD-HOC QUERIES Section 9.0 to include Figures 9-A Through 9-D.• Removed Acceptance Criteria after Section 13.• Updated first paragraph under Section A.1 Emplacement of Magnesium Oxide (MgO Sacks).• Removed Appendix A – WIPP Waste Emplacement Tracking Software.• Removed third paragraph from Section 3.0 on MGO barcode application.• Removed Figure A-1 – Manual Emplacement.• Removed reference to Emplacement Tracking Software and the barcode from Sections 10.0 and 11.0.• Removed Table 1 and updated Sections 6.3 to 6.13 to include Table 1 information.• Renamed Table 2 to Table 1.
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ACRONYMS AND ABBREVIATIONS

AK	Acceptable Knowledge
BOK	Basis of Knowledge Evaluation
CBFO	Carlsbad Field Office
CCEM	Chemical Compatibility Evaluation Memorandum
CCP	Central Characterization Program
CHTES	CH_TRAMPAC Evaluation Software
CFR	Code of Federal Regulations
CH	contact-handled
CPR	cellulose, plastic, rubber
CSV	comma-separated values
CTMA	CH-TRUCON Maintenance Application
DA	Data Administrator
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
DSA	Documented Safety Analysis
EPA	U.S. Environmental Protection Agency
FGE	fissile gram equivalent
g/cc	grams per cubic centimeter
HalfPACT	Waste Shipping Container
HTML	Hypertext Markup Language
HWFP	Hazardous Waste Facility Permit
ICV	Inner Containment Vessel
ID	Identification
IP	Internet Protocol
IV	Inner Vessel
kg	kilogram
LDR	Land Disposal Restrictions
m ³	cubic meters
MAR	material at risk
MC&A	Material Control and Accountability
MgO	magnesium oxide
mrem/hr	millirem per hour

ACRONYMS AND ABBREVIATIONS, cont.

NMED	New Mexico Environment Department
OJT	On-the-Job-Training
OPCTCD	Overpack Payload Container Transportation Certification Document
PATCD	Payload Assembly Transportation Certification Document
PCB	Polychlorinated Biphenyl
PCTCD	Payload Container Transportation Certification Document
PDF	portable document format
PE-Ci	Pu-239 equivalent curie
PTCD	Payload Transportation Certification Document
QA	Quality Assurance
RGN	Reactivity Group Number
RH	remote-handled
SLB2	Standard Large Box 2
SWB	Standard Waste Box
TCO	Transportation Certification Official
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
URL	Uniform Resource Locator
VE	visual examination
WAC	Waste Acceptance Criteria
WAP	Waste Analysis Plan
WCO	Waste Certification Official
WDS	Waste Data System
WIPP	Waste Isolation Pilot Plant
WITS	Waste Information Tracking System
WWIS	WIPP Waste Information System

WASTE DATA SYSTEM DEFINITIONS

Acceptable Knowledge (AK) – 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 – Remote-handled (RH) transuranic (TRU) waste canister authorized for transport within the RH TRU 72-B shipping package.

Certification Program Identification ID – Program that certifies the waste data prior to submittal to Waste Isolation Pilot Plant (WIPP).

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

CH TRU Mixed Waste – Contact-handled (CH) TRU mixed waste with a surface dose rate not greater than 200 millirem per hour (mrem/hr).

Characterization – Sampling, monitoring, and analysis to identify and quantify 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 volatile or semi-volatile organic compounds or metals.

Chemical Compatibility Evaluation Memorandum – The Acceptable Knowledge (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 describing 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).

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

Database – Electronic storage of data in a way allowing data manipulation and retrieval. Databases may include tables, fields, and records.

WASTE DATA SYSTEM DEFINITIONS, cont.

Destination Site ID – Site receiving a waste shipment for treatment, characterization, certification, or disposal.

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 available shipment options in case of a "conditional" evaluation status.

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

Generator Site ID – Site that generated the waste.

Inter-Site Shipment – A shipment of certified TRU waste containers meeting 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 originating at a TRU waste generator site and being sent to a site for formal characterization, certification, and shipment to WIPP.

Layers of Confinement – Any boundary restricting, but not prohibiting, release of hydrogen gas across the boundary. Examples of confinement layers are plastic bags (smaller inner bags or larger container bags) with allowable closure methods described in appendix 3.8 of the 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 waste, that has been emplaced in a WIPP disposal room.

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

Package – (1) Package(s) containing contents, (2) Package(s) containing radioactive contents prepared for transported.

Packaging – Ancillary components necessary to ensure compliance with packaging requirements of Code of Federal Regulations, Title 10, Part 71 (10 CFR 71).

WASTE DATA SYSTEM DEFINITIONS, cont.

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

Record – Collection of metadata treated as a unit. Records are informational outputs created to document entries. One record contains data that pertains to a single item (e.g., container). In a database table, the records are commonly referred to as rows.

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

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

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

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

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

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 and disposed at WIPP. The WWIS database is a subsystem of the Waste Data System (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 is processed, repackaged, and shipped to WIPP. The WDS is used to create and store documentation about waste containers, shipments, and emplacement 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 is the primary DOE directive for ensuring that CH and RH TRU waste is managed and disposed of in a manner that protects human health and the environment and provides safety. WDS implements elements in its subset WIPP Waste Information System (WWIS) to meet regulatory requirements for the operation of WIPP.

WDS users can upload containers data to plan and create payloads and shipments. WDS uses previously developed applications through direct integration and interfacing.

2.0 **SUMMARY OF APPLICABLE AUTHORIZATION BASIS REQUIREMENTS AND PERMITS**

The WIPP WAC summarizes requirements applicable to transportation, storage, and disposal of CH and RH TRU waste at WIPP.

DOE TRU waste generator sites must certify CH and RH TRU waste payload containers to the WAC. The applicable requirements flowed down from 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)
- TRUPACT-II, 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 Land Withdrawal Act (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 to WIPP required waste characterization, certification, and shipping data, using the WDS before shipping TRU waste payload containers from a WIPP-acceptable waste stream. The WDS is equipped with edit/limit checks to ensure data representing TRU waste payload containers are in compliance with the WAC.

2.1 Edit/Limit Checks

The Edit/Limit Checks describes how WDS implements authorization basis requirements. Additional information about edit/limit checks is available via screen-level and context-level online help. A full list of current edit/limit checks performed by the WDS may be obtained by request from the WDS Data Administrator (DA) via email at DL_WDS_DA@wipp.doe.gov.

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. They include container characterization evaluations for the Waste Analysis Plan and data integrity.

2.1.2 WIPP WAC

CH and RH Containers are certified per applicable WAC edit/limit evaluation checks based on container handling codes.

2.1.3 Transuranic Waste Authorized Methods for Payload Control

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

2.1.4 WIPP DSA

The WIPP DSA (DOE/WIPP-07-3372) 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 the WIPP DSA, Chapter 6.0, "Prevention of Inadvertent Criticality." WDS edit/limit checks and DA approval of the containers constitute an independent check of the data for nuclear criticality safety.

Initial conditions in DSA accident scenarios includes WIPP WAC requirements monitored through Key Elements in Chapter 18.0 of the DSA that must be met prior

to shipping waste to WIPP.

3.0 **SCOPE**

The User's Manual shows Users how to generate output reports that summarize data entry, reviews, and searches. Topic specific dashboards contain helpful features.

The software provides the ability to access the WDS User's Manual from each screen in the system after login. On-line Help information and content is also available to users. Users can access context-sensitive help from individual screen sections 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). WDS provides functionality for maintaining On-Line Help content. Access to the On-Line Help maintenance function is restricted to users with a DA role.

A read-only version of the WDS application and database provides access to all report and query functions, except for those available from screens for database updates. The read-only version does not allow access to screens or 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 outside of the WIPPnet only to registered WDS users. The read-only WDS address is <https://wds.wipp.energy.gov>. To access the internal read/write version, the address is <https://wds.wipp.carlsbad.nm.us>.

4.0 **SECURITY, ACCESS PRIVILEGES, PASSWORDS, AND CONNECTIVITY**

This section provides 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 VMware Horizon Client system. Users who are internal to WIPP at Carlsbad facilities and at the WIPP site, access the WDS via WIPPNet. User Preferences screen-level help also provides instruction for obtaining help from the 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 users while maintaining the highest levels of data security. This section summarizes components that comprise overall security design for the WDS.

Security requirements and security controls in place to protect the accreditation boundary and the database have been implemented as described in the DOE Order 205.1B, *Department of Energy Cyber Security Program*. System requirements are outlined in 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.doe.gov to request access and obtain a WDS Access Request Form (EA08NT1003-1-0). The prospective user will receive the form via email. The prospective user will complete the form, provide justification of need for access to the application, have the form approved by a management sponsor, and return it via email to the DA. Upon receipt of the completed WDS Access Request Form, the DA will set up the user's account, 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 WIPP Secure Access, DOENet, and WIPPNet servers. After application forms are 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 Identification (ID - username) and creates a password to log into 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 complex and meet the following criteria:

- Password must contain at least 12 characters
- 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
- Past 24 passwords used have been saved and 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 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 Waste Certification Official (WCO) and Transportation Certification Official (TCO) user role, respectively. 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 passwords are within two weeks of expiration. Users who have not logged onto the WDS within the prior 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 onto 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 is 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, cell phone number, company, address, city, state, zip code, email address, and password. The User ID cannot be edited.

Figure 4-A – WDS Login Page

NOTE: If the URL changes, users will be notified. At first login, users may add the WDS link to their browser Favorites list.

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.

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.
- Click 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.

Figure 4-B – WDS Reset Password Page Example

The WDS stores the username, user Internet Protocol (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 re-enter 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 invalid login attempts has been reached, the account will be automatically locked for one hour or until a DA unlocks it.

Upon a successful login, any current and unexpired system messages are displayed. After acknowledgement of system messages, the software directs the user to the dashboard for the user's designated primary role. Users with access to multiple roles or Dashboards can access them by using the Dashboard dropdown menu.

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 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) > 0.1846 (g/cc) and ≤ 0.6461 (g/cc), the compaction level is defined as "partially compacted."
- 70% poly density = $0.70 \times 0.923 \text{ (g/cc)} = 0.6461 \text{ (g/cc)}$: If the container CPR density (g/cc) > 0.6461 (g/cc), the compaction level is defined as "fully compacted."
- If the container CPR density (g/cc) ≤ 0.1846 (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 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 number 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. The LDR requires that hazardous waste meets specific treatment standards to reduce the mobility or toxicity of the hazardous constituents in the waste. 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/deficit for a specified emplacement location (panel and room) using the following equation:

$$\text{MgO Excess/Deficit (lbs)} = [mMgO - [tp,r \times 6 \times [[mc + mr + (1.7mp)] \div 162] \times 40.3]] \times 2.205$$

where:

- mMgO* = Total mass of MgO sacks in the specified Panel/Room (kg)
- mc* = Total mass of cellulose (kg):
Cellulose in waste + cellulose in packaging + cellulose in MgO sacks + cellulose in emplacement assembly
- mr* = Total mass of rubber (kg):
Rubber in waste + rubber in packaging + rubber in MgO sacks + rubber in emplacement assembly
- mp* = Total mass of plastic (kg):
Plastic in waste + plastic in packaging + plastic in MgO sacks + plastic in emplacement assembly
- tp,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:

$$\text{MgO Excess Factor} = mMgO / [6 \times [[mc + mr + (1.7mp)] \div 162] \times 40.3]$$

where:

- mMgO* = Total mass of MgO sacks in the specified Panel/Room (kg)
- mc* = Total mass of cellulose (kg):
Cellulose in waste + cellulose in packaging + cellulose in MgO sacks + cellulose in emplacement assembly
- mr* = Total mass of rubber (kg):
Rubber in waste + rubber in packaging + rubber in MgO sacks + rubber in emplacement assembly
- mp* = 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 WDS privileges, the user will have an 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 links to the functions and the Reports tab to view links to the reports available from the dashboard. Screen-level and context-level help is available from the dashboard.

6.1 General Report Structure

Reports are available in PDF, CSV, or HTML as specified. 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 current user, total number of pages in the report, selection criteria (as applicable)
- Header of each page: report title, "Waste Isolation Pilot Plant," page number

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 on an HTML report, the user is provided a link to access 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).

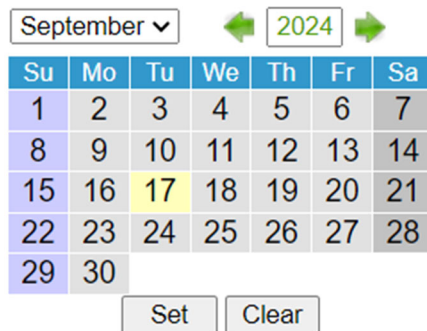


Figure 6-A – WDS Data Calendar Example

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

The DA, TCO, WCO, 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. Confirmation users have access to containers that are in Characterization to provide Container Data Reports for Waste Stream Profile Reviews. All other report types are restricted to approved or completed records only, for containers, overpacks, and payloads.

All other users (Waste Handling Operations, New Mexico Environment Department [NMED], EPA, Carlsbad Field Office [CBFO], and General WIPP Users,) are restricted to reports for approved or completed records only for containers, overpacks, payloads and shipments. Access to reports concerning inter-site shipments is restricted to DA, TCO, WCO, and Packaging users.

NOTE: If reference data is not available for a site due to assignment of privileges, refer to the User Management screen to review assigned privileges.

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

NOTE: The following WDS dashboard roles are read-only and do not allow a user to modify any WDS data. Dashboards are: CBFO, EPA, NMED, and General WIPP User.

6.3 Acceptable Knowledge Dashboard

The AK dashboard is accessible to those with the AK role. It provides access to the CCEM Administration, CCEM Review, AK Assessment Data Review, and the Basis of Knowledge (BOK) functions. The dashboard provides access to reports listed in Figure 6-B below. Screen-level and context-level help provides additional details to the users about data entry functions and generating reports accessible from this dashboard.

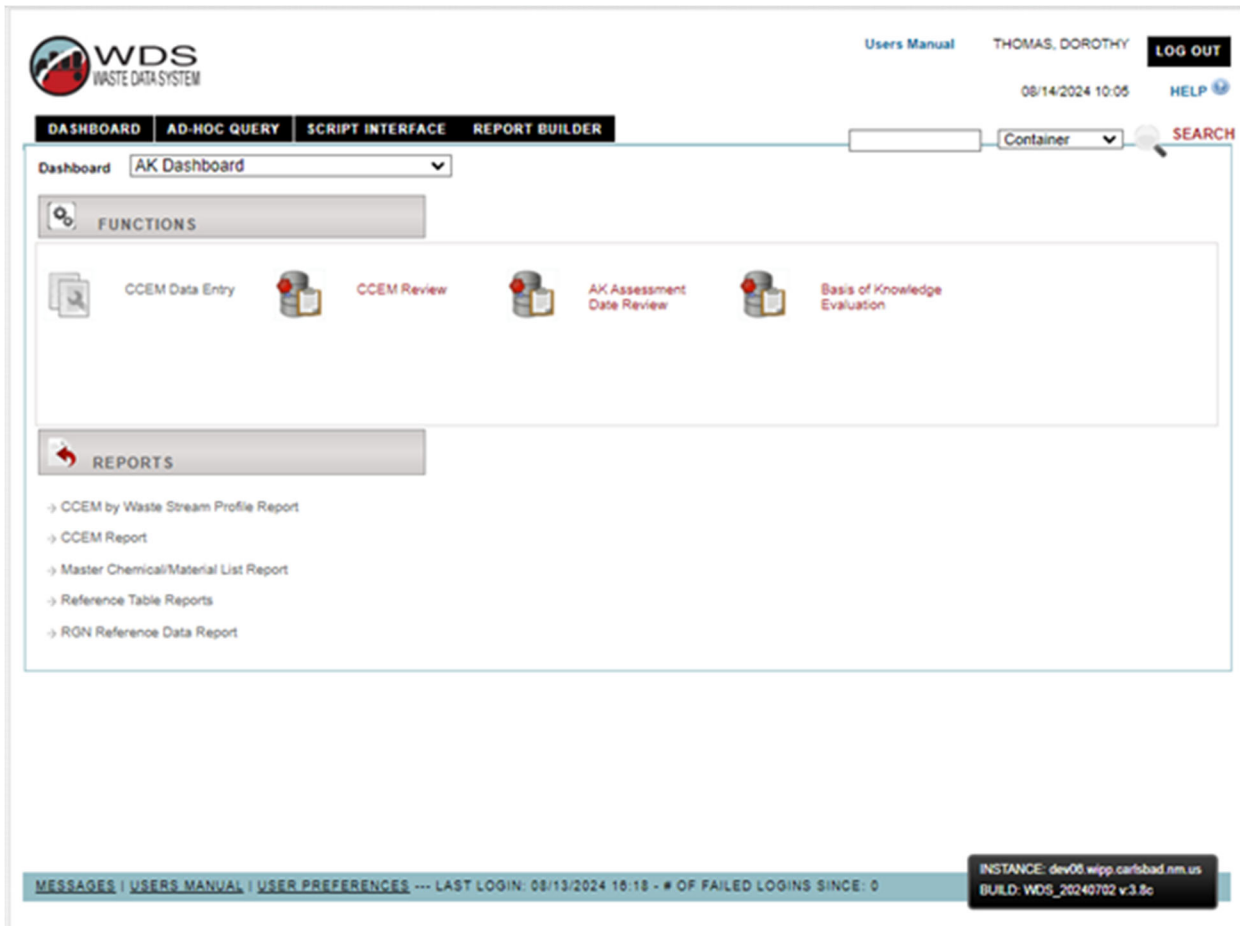


Figure 6-B – AK Dashboard

6.4 CBFO Dashboard

The CBFO dashboard is accessible to users with the CBFO role. The CBFO dashboard provides access to reports as shown in Figure 6C. 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.

WDS WASTE DATA SYSTEM

Users Manual THOMAS, DOROTHY LOG OUT

08/14/2024 10:05 HELP

DASHBOARD AD-HOC QUERY SCRIPT INTERFACE REPORT BUILDER

Dashboard CBFO Dashboard

REPORTS

Summary Reports

- WIPP Status Report
- Containers To Be Emplaced
- Reference Table Reports

Emplacement Reports

- Closure Report
- Daily Report
- Emplacement History Overview
- Emplaced LWA/TMW Volume Report
- Emplacement Statistics Report
- MgO Excess Factor Report
- Nuclide Report
- Room Map
- Waste Emplacement Report
- WIPP Land Withdrawal Act Limits Report

Shipment Reports

- Controlled Shipment Report
- Shipping Report
- Intersite Containers Received at Destination Report
- Intersite Containers Waiting to be Shipped Report
- Intersite Shipment Summary Report

Chemical Compatibility Reports

- Master Chemical/Material List Report
- CCEM Report

MESSAGES | USERS MANUAL | USER PREFERENCES --- LAST LOGIN: 08/13/2024 16:18 - # OF FAILED LOGINS SINCE: 0

INSTANCE: dev06.wipp.carlsbad.nm.us
BUILD: WDS_20240702 v3.8c

Figure 6-C – CBFO Dashboard

6.5 Confirmation Dashboard

The Confirmation Dashboard provides access to WIPP Shipment Confirmation users. They are members of the Los Alamos Technical Associates (LATA) group that monitors shipments for HWFP compliance. Requirements for TRU-mixed waste confirmation are described in the WIPP HWFP, Att. C (7) and approved WIPP procedures for waste stream shipment confirmation. Functions and reports available from the Confirmation dashboard are shown in Figure 6-D.

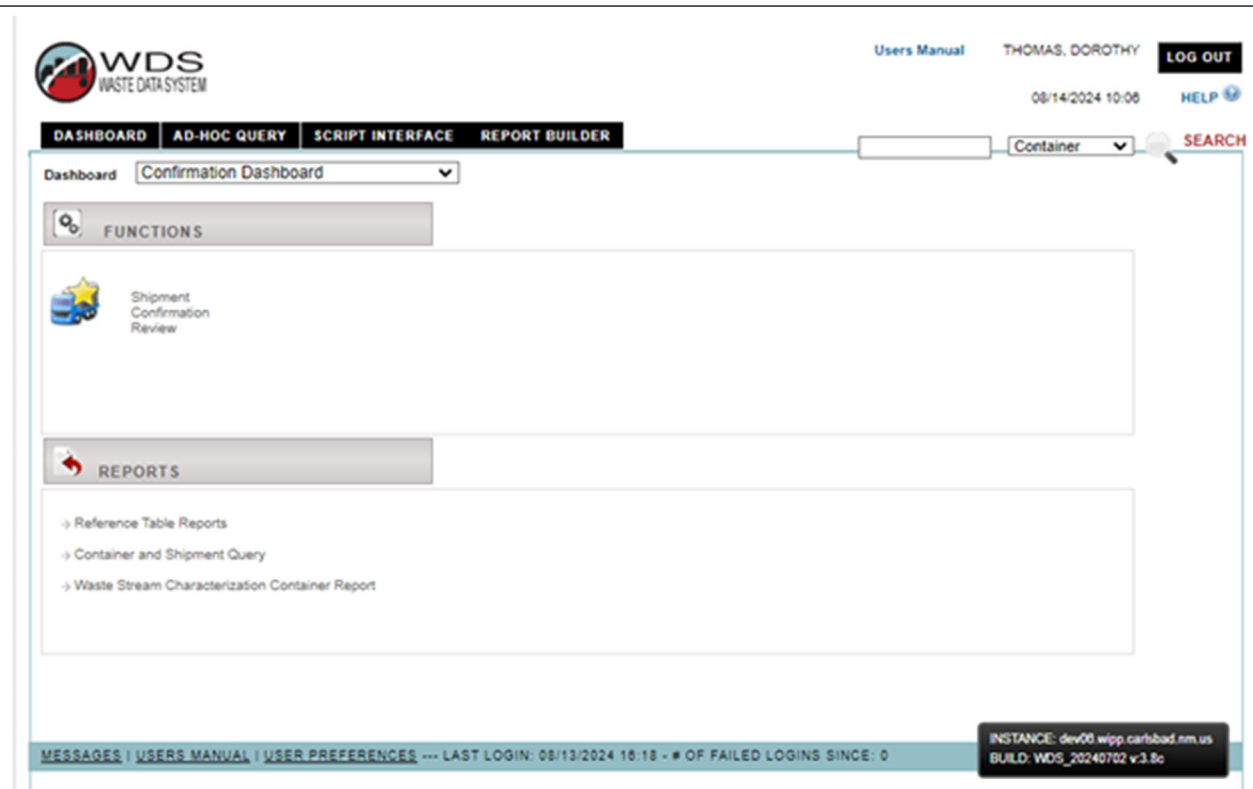


Figure 6-D – Confirmation Dashboard

The Shipment Confirmation Review page as shown in Figure 6-E, Shipment Confirmation Review Page, provides several other report links: Shipment Data Report, Shipment Container Data Report, Confirmation Container Data Report, Payload Container List, and TRU Waste Confirmation Module Report.

After the confirmation process is complete, the user clicks the Confirm Shipment 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.

Screen-level and context-level help provides additional details about reports accessible from the Confirmation dashboard.

WDS WASTE DATA SYSTEM Users Manual BRUEMMER, HEATHER LOG OUT
09/09/2019 16:29 HELP

DASHBOARD AD-HOC QUERY SCRIPT INTERFACE REPORT BUILDER Container SEARCH

SHIPMENT CONFIRMATION REVIEW

Shipment Number
IN190174
IN190175
IN190176
OR190019

Selected Shipment: IN190174

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.

Waste Stream (Container Count)	Payload Num	#	Container Num	Rep	Container Type		
D-SRP-53000(2)	90966	1	IN10669358	✓	3 - TEN DRUM OVERPACK (TDOP) - OVERPACK		
			SRP19951	✗	18 - 55 GAL DRUM TO BE OVERPACKED - SOLD/VITRIFIED - GOOD		
			SRP20168	✗	18 - 55 GAL DRUM TO BE OVERPACKED - SOLD/VITRIFIED - GOOD		
			SRP20202	✗	18 - 55 GAL DRUM TO BE OVERPACKED - SOLD/VITRIFIED - GOOD		
			SRP22715	✗	18 - 55 GAL DRUM TO BE OVERPACKED - SOLD/VITRIFIED - GOOD		
			SRP23492	✗	18 - 55 GAL DRUM TO BE OVERPACKED - SOLD/VITRIFIED - GOOD		
			SRP23875	✗	18 - 55 GAL DRUM TO BE OVERPACKED - SOLD/VITRIFIED - GOOD		
			SRP23909	✗	18 - 55 GAL DRUM TO BE OVERPACKED - SOLD/VITRIFIED - GOOD		
			SRP23945	✗	18 - 55 GAL DRUM TO BE OVERPACKED - SOLD/VITRIFIED - GOOD		
			SRP23972	✗	18 - 55 GAL DRUM TO BE OVERPACKED - SOLD/VITRIFIED - GOOD		
			SRP24991	✗	18 - 55 GAL DRUM TO BE OVERPACKED - SOLD/VITRIFIED - GOOD		
			90963	2	IN10669382	✓	3 - TEN DRUM OVERPACK (TDOP) - OVERPACK
					SRP20188	✗	18 - 55 GAL DRUM TO BE OVERPACKED - SOLD/VITRIFIED - GOOD
					SRP20217	✗	18 - 55 GAL DRUM TO BE OVERPACKED - SOLD/VITRIFIED - GOOD
					SRP20924	✗	18 - 55 GAL DRUM TO BE OVERPACKED - SOLD/VITRIFIED - GOOD
					SRP20955	✗	18 - 55 GAL DRUM TO BE OVERPACKED - SOLD/VITRIFIED - GOOD
					SRP21999	✗	18 - 55 GAL DRUM TO BE OVERPACKED - SOLD/VITRIFIED - GOOD
					SRP22622	✗	18 - 55 GAL DRUM TO BE OVERPACKED - SOLD/VITRIFIED - GOOD
					SRP22634	✗	18 - 55 GAL DRUM TO BE OVERPACKED - SOLD/VITRIFIED - GOOD
				SRP22841	✗	18 - 55 GAL DRUM TO BE OVERPACKED - SOLD/VITRIFIED - GOOD	
			SRP22842	✗	18 - 55 GAL DRUM TO BE OVERPACKED - SOLD/VITRIFIED - GOOD		
			SRP22819	✗	18 - 55 GAL DRUM TO BE OVERPACKED - SOLD/VITRIFIED - GOOD		

✓ The Waste Confirmation Module has been run.

CONFIRM SHIPMENT

MESSAGES | USERS MANUAL | USER PREFERENCES — LAST LOGIN: 09/09/2019 16:41 • # OF FAILED LOGINS SINCE: 0
INSTANCE: prod3.wipp.certlab.nm.us BUILD: WDS_20190909 v. 2.9.4

Figure 6-E – Shipment Confirmation Review Page

6.6 Data Administrator Dashboard

Functions and reports are available from the WIPP Data Administrator dashboard as shown in Figure 6-F, Data Administrator Dashboard. The Data Administrators (DAs) are members of the National TRU Program's Waste Information Tracking Systems group with background and training in both the software and applicable regulatory documentation. Additional details about Container/Shipment Review and Approval functions are summarized in an approved Waste Data System Program and Data Management Plan. Details about Data Administration Reference Table maintenance functions are described or summarized in an approved Waste Data System Program and Data Management Plan.

WDS WASTE DATA SYSTEM

Users Manual THOMAS, DOROTHY LOG OUT

08/14/2024 10:03 HELP

DASHBOARD AD-HOC QUERY SCRIPT INTERFACE REPORT BUILDER

Container SEARCH

Dashboard Data Administrator Dashboard

FUNCTIONS

- Characterization Review / Approval
- Container Certification Review / Approval
- Shipment Review
- Data Administration
- User Accounts
- Resend System Email
- Test Container Data Entry

REPORTS

Internal Reporting

Data Administrator, WCO and TCO Reports

- Container Certification Approval/Rejection Report
- Containers Certification Approved - Assigned to Shipment
- Containers Certification Approved - Not Yet Shipped
- Containers in Certification Pre-submittal Status
- Containers Exceeding Assembly MAR Limit Report
- Data Change Log Report
- Payload Assembly MAR Report
- Reference Data Change Log Report
- Reference Table Reports
- Shipment Summary Report
- Users Report
- Usage Analysis

Packaging Reports

- Container CHTES Evaluation Results

Chemical Compatibility Reports

- Master Chemical/Material List Report
- CCEM Report
- CCEM by Waste Stream Profile Report

Operations Reporting

Waste Operations Reports

- Closure Report
- Daily Report
- Emplacement by Container Type Report
- Emplacement History Overview
- MgO Excess Factor Report
- On-Site Waste Location Report
- Room Map
- Waste Emplacement Report
- Weekly Shipment and Emplacement Summary Report

Transportation Reports

- PCB and Controlled Shipments Report
- PCB Certificate of Disposal Report
- Waste Stream Profile Hazardous Waste Numbers Report

External Reporting

CBFO Reports

- Controlled Shipment Report
- Containers to be Emplaced Report
- Emplaced LWA/TMW Volume Report
- Emplacement Statistics Report
- Intersite Containers Received at Destination Report
- Intersite Containers Waiting to be Shipped Report
- Intersite Shipment Summary
- Nuclide Report
- Shipping Report
- WIPP Land Withdrawal Act Limits Report
- WIPP Status Report

Regulatory Reports (NMED & EPA)

- Biennial Report
- Container Waste Type Summary Report
- EPA Container Query
- NMED Container and Shipment Query
- Summary of Waste Emplacement Inventory Report
- Waste Container Data Report (Permit Format)
- Waste Stream Characterization Container Report
- Waste Stream Profile Container Report

Figure 6-F – Data Administrator Dashboard

6.7 EPA Dashboard

Reports that are available to users with the EPA role from the EPA dashboard are shown in Figure 6-G. Screen-level and context-level help provides additional details about generating reports that are accessible from the EPA dashboard. Read only access to query and report functionality is available to show/demonstrate compliance with EPA regulations.

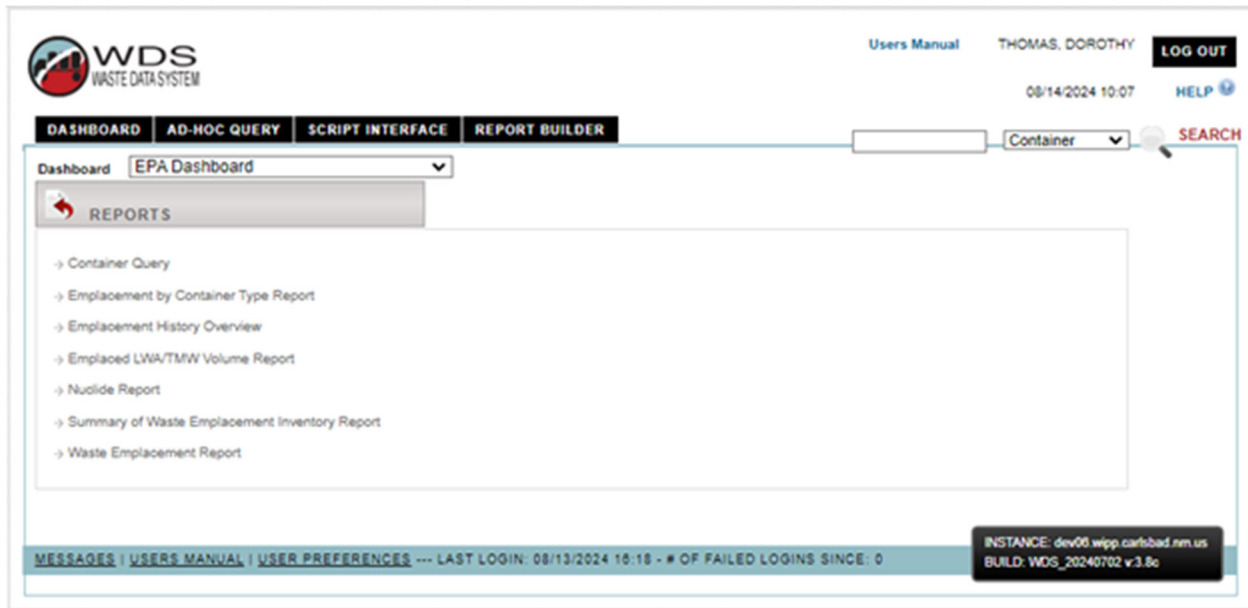


Figure 6-G – EPA Dashboard

6.8 Material Control and Accountability (MC&A) Dashboard

The MC&A dashboard shown in Figure 6-H, is used by the Material Accounting Controller role to review shipment information to control and account for special nuclear material (SNM) at the Waste Isolation Pilot Plant (WIPP). The MC&A user will be provided a dropdown list of shipments available for review and the ability to mark them as reviewed.

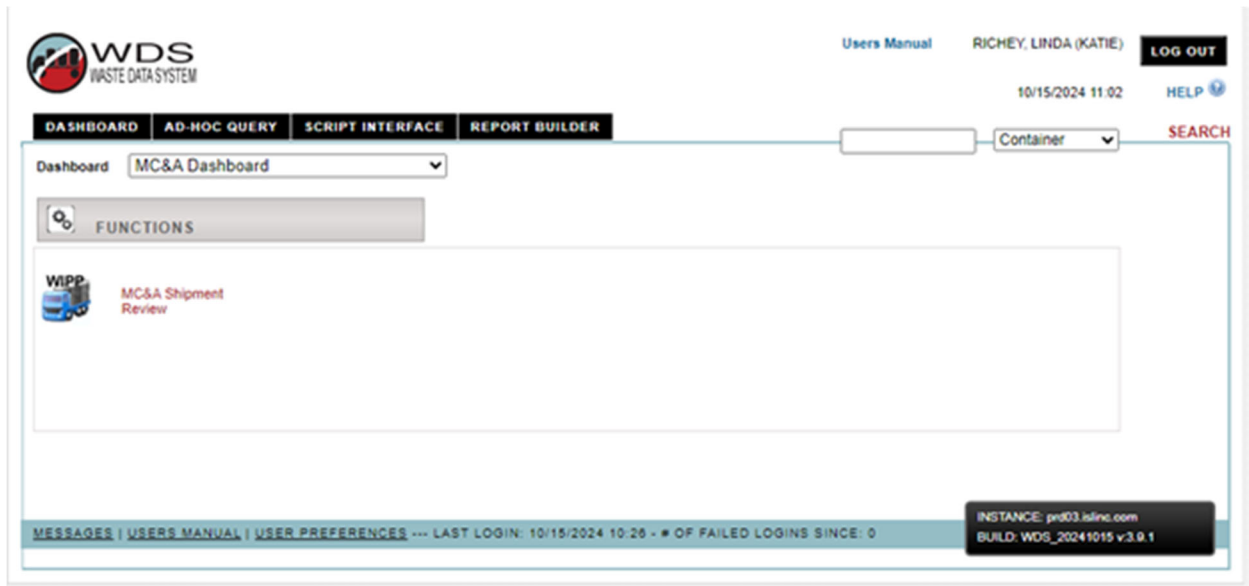


Figure 6-H – MC&A Dashboard

6.9 NMED Dashboard

The NMED role provides system access to the NMED Dashboard. The Dashboard 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.

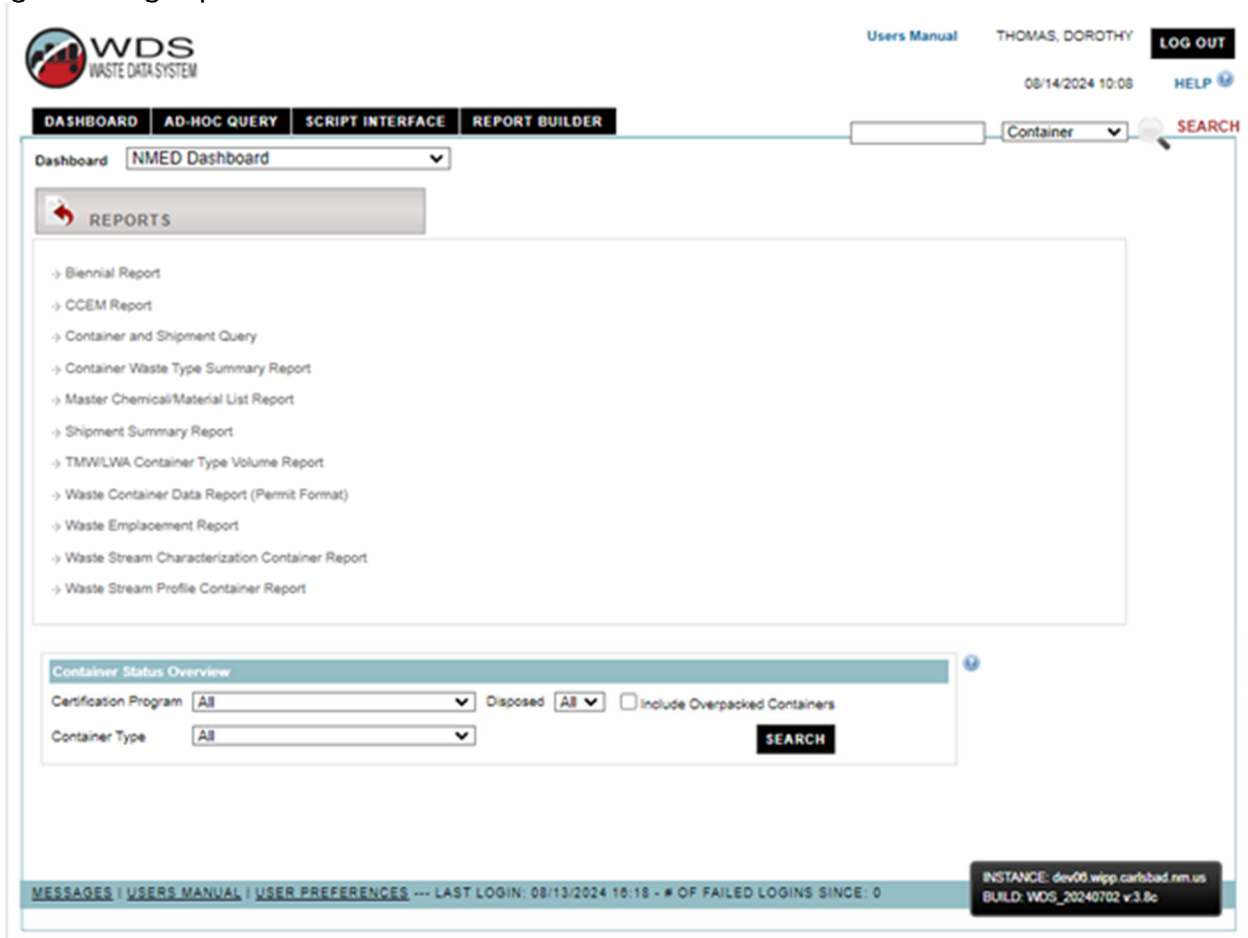


Figure 6-I – NMED Dashboard

6.10 Packaging Dashboard

Functions and reports available from the Packaging dashboard are shown in Figure 6-J. The Packaging Dashboard is limited to users with the WIPP Packaging Information System Technical Support role. 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 Filters Administration, TRUCON Relationships Administration, CCEM Chemical/Material Worksheet, and CCEM Chemical/Material Worksheet Review functions. Packaging Users can enter and update TRUCON and Shipping Category information used by the CH TRUPACT-II TRAMPAC, 72-B RH-TRAMPAC, and CH TRUPACT-III TRAMPAC for transporting waste containers to WIPP.

The dashboard also provides access to the PCTCD, OPCTCD, PATCD, and PTCD reports when viewing DA-approved containers or overpacks associated with completed payloads (PCTCD, OPCTCD).

The dashboard provides access to CCEM Chemical/Material Worksheet Report, CCEM Report, Container CHTES Evaluation Results, Emplacement by Container Type Report, Master Chemical/Material List Report, Reactivity Group Number (RGN) Reference Data Report, Reference Table Reports, TRUCON Help and Exit Code Help. Screen-level and context-level help provides details about generating reports accessible from the Packaging dashboard. Users can search and export from the Chemical/Material Associations Query.

The screenshot displays the WDS (Waste Data System) interface. At the top left is the WDS logo. The top right shows the user 'THOMAS, DOROTHY' with a 'LOG OUT' button and the date '08/14/2024 10:09' with a 'HELP' link. Below this is a navigation bar with tabs for 'DASHBOARD', 'AD-HOC QUERY', 'SCRIPT INTERFACE', and 'REPORT BUILDER'. A search bar contains the text 'Container' and a 'SEARCH' button. The main content area is titled 'Packaging Dashboard' and is divided into two main sections: 'FUNCTIONS' and 'REPORTS'. The 'FUNCTIONS' section contains four icons: 'Filters Administration', 'TRUCON Relationships Administration', 'CCEM Chemical/Material Worksheet', and 'CCEM Chemical/Material Worksheet Review'. The 'REPORTS' section contains a list of report links on the left and a 'Chemical/Material Associations Query' window on the right. The query window has a text input field with 'Select one or more chemicals/materials' and an 'EXPORT' button. Below the input field is a scrollable list of chemical names: 1,1,1-trichloroethane, 1,1,1-trichlorotrifluoroethane, 1,1,2,2-tetrachloroethane, 1,1,2-trichloro-1,2,2-trifluoroethane, 1,1,2-trichloroethane, 1,1-dichloroethylene, 1,1-dichloroethylene (inhibited), and 1,2,4-trimethylbenzene. At the bottom of the dashboard, there is a footer with links for 'MESSAGES', 'USERS MANUAL', and 'USER PREFERENCES', along with the text 'LAST LOGIN: 08/13/2024 16:18 - # OF FAILED LOGINS SINCE: 0'. On the right side of the footer, it says 'INSTANCE: dev06.wipp.carlsbad.nm.us' and 'BUILD: WDS_20240702 v3.8c'.

Figure 6-J – Packaging Dashboard

6.11 TCO Dashboard

The functions and reports available from the TCO dashboard are shown in Figure 6-K and are accessed by users with the Transportation Certification Official role. Details about the use of the TCO dashboard are summarized in approved WIPP procedures and in screen-level and context-level help.

WDS allows users with the TCO role to plan and create payloads using certified containers, and plan and create shipments using approved payloads. TCO users can create a new shipment record or edit an existing shipment record. Options allow dunnage creation for inclusion in a shipment due to weight limitation, fissile gram equivalent (FGE) limitation, gas generation limitation, or other limitation. The TCO may also receive inter-site shipments to designated destination sites. TCOs may delete unused Payload Plans.

Several Container related reports are available as well as Payload Materials At Risk, Reference Tables and Shipment Summaries are also available on the TCO Dashboard.

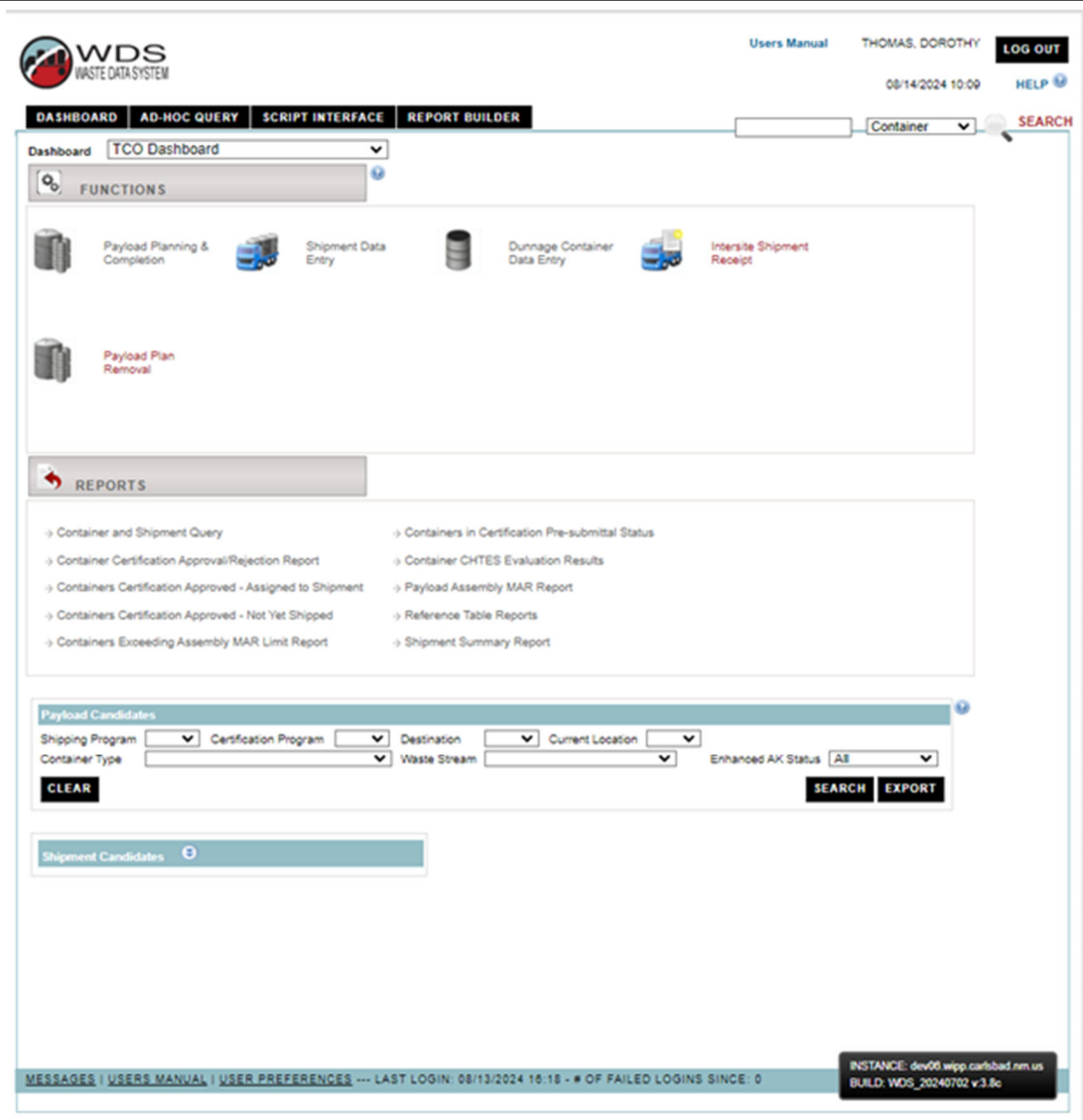


Figure 6-K – TCO Dashboard

The TCO can delete payloads and all associated packaging data from a shipment record if the shipment has (NEW_SHIP) status. After one Payload has been selected, the user has the option to add an Empty Package. The user is limited to two Empty Packages per shipment. The WDS automatically provides a candidate list of payloads to add to the shipment.

The TCO has access to the payload data for each payload associated with the active shipment. The overall shipment status is displayed (i.e., New, In Review, Complete, In Route, or Received) as it passes through the approval process: confirmed, DA approved, MC&A approved and shipment finalized.

TCO users have access to the Payload Assembly Transportation Certification Document (PATCD) reports for one or more TRUPACT or HalfPACT payloads. Users have access to the Payload Transportation Certification Document (PTCD) report for one or more RH-TRU 72-B payloads. Users can access the Payload Container Transportation Certification Document/Overpack Payload Container Transportation Certification Document (PCTCD/OPCTCD) report for payload containers and associated inner containers (as applicable). Users can access the Shipment Summary Report for the displayed shipment.

6.12 Transportation Dashboard

Functions and reports available to WIPP Transportation Subject Matter Experts from the Transportation dashboard are shown in Figure 6-L. Additional details about Shipment Receipt and Tractor/Trailer Administration functions 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. Help also provides additional details about generating reports accessible from the Transportation dashboard.

WDS
WASTE DATA SYSTEM

Users Manual THOMAS, DOROTHY LOG OUT

08/14/2024 10:10 HELP

DASHBOARD AD-HOC QUERY SCRIPT INTERFACE REPORT BUILDER

Container SEARCH

Dashboard Transportation Dashboard

FUNCTIONS

- Shipment Receipt
- Tractor/Trailer Administration

REPORTS

- On-Site Waste Location Report
- PCB and Controlled Shipments Report
- PCB Certificate of Disposal Report
- Shipment Summary Report
- Waste Emplacement Report
- Waste Stream Profile Hazardous Waste Numbers Report

MESSAGES | [USERS MANUAL](#) | [USER PREFERENCES](#) --- LAST LOGIN: 08/13/2024 16:18 - # OF FAILED LOGINS SINCE: 0

INSTANCE: dev06.wipp.carlsbad.nm.us
BUILD: WDS_20240702 v.3.8c

Figure 6-L – Transportation Dashboard

6.13 WCO Dashboard

The functions and reports available from the WCO dashboard are shown in Figure 6-M and are accessible by users with the Waste Certification Official (WCO) role. Additional details about the functions performed by WCO users are described in approved WIPP procedures and screen-level help. Help also provides additional details about reports accessible from this dashboard.

The WDS will allow users to submit containers for characterization and certification, create RH Canisters and CH Overpacks. Remove Overpack/Canister Plans, Override Payload Assembly MAR Limits, and update the current Container CCEM revision number. WCOs also have access to Acceptable Knowledge review and Basis of Knowledge review and approval.

The WCO dashboard provides access to View Detailed Container History. This dashboard also provides access to the Shipment Candidates Query function to display the number of payloads available for shipment planning (payloads in complete status) grouped into totals by the following:

- Handling code
- Current location
- Shipping program ID
- Package type

The screenshot displays the WCO Dashboard interface. At the top left is the WDS logo (Waste Data System). The top right shows user information: 'Users Manual', 'THOMAS, DOROTHY', 'LOG OUT', and the date '08/14/2024 10:10' with a 'HELP' link. Below this is a navigation bar with tabs: 'DASHBOARD', 'AD-HOC QUERY', 'SCRIPT INTERFACE', and 'REPORT BUILDER'. A search bar contains the text 'Container' and a 'SEARCH' button. The main content area is divided into sections: 'Dashboard' (set to 'WCO Dashboard'), 'FUNCTIONS' (with icons for Container Characterization Data Submittal, Container Certification Data Submittal, Canister Planning & Completion, Overpack Planning & Completion, Overpack/Canister Plan Removal, Payload Assembly MAR Limit Override, and Container CCEM Revision Update), and 'REPORTS' (listing various reports like CCEM by Waste Stream Profile Report, Containers Exceeding Assembly MAR Limit Report, etc.). Below the reports are filter panels for 'View Deleted Container History', 'Container Activity', 'Overpack Candidates', 'Canister Candidates', 'Payload Candidates', and 'Shipment Candidates', each with dropdown menus and 'SEARCH'/'EXPORT'/'CLEAR' buttons.

Figure 6-M – WCO Dashboard

6.14 WIPP User Dashboard

Reports available to users from the WIPP User dashboard for users with the General WIPP User Role are shown in Figure 6-N. 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 accessible from the WIPP User dashboard. General WIPP Users may include individuals in management, technical support, or Quality Assurance (QA) positions within the DOE complex.



Figure 6-N – WIPP User Dashboard

6.15 Waste Handling Operations Dashboard

The functions and reports that are available to the WIPP Operations Department role from the WIPP Waste Handling Operations dashboard are shown in Figure 6-O. 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. 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.

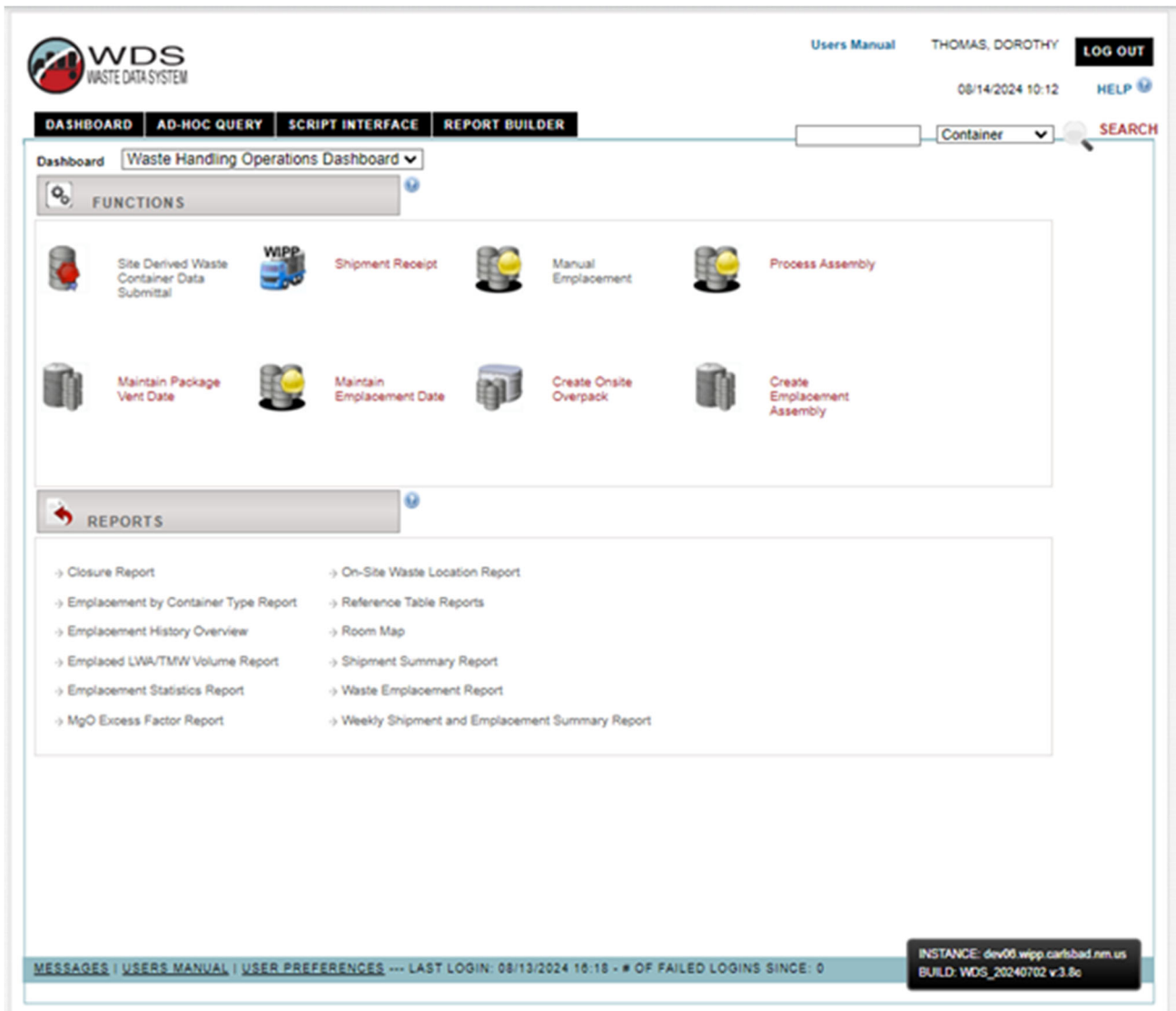


Figure 6-O – Waste Handling Operations Dashboard

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 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 has been "saved" but not yet "submitted" for approval. 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.

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. When a "submit" function is performed, a "save" function is also automatically performed. 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 WCO 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) – A status assigned by the WDS to a container record after the new waste stream profile is approved and a DA has reviewed and approved the data.

Pre-Submittal to Certification Approval (PRESUB_CERT) – The initial status for waste containers entered in the WDS and "saved" but not yet "submitted" for approval. This status is also applicable to waste containers successfully submitted for certification approval and subsequently reset by a DA or WCO user. Resetting container records from APPROVED_CERT to PRESUB_CERT allows for correction of data entry errors discovered as part of data quality checks conducted by the sites.

When container data are initially entered in the WDS, and if container data are never "saved," but "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 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) – Assigned by the WDS to a container record when the WCO user "submits" a complete set of container data to the database for approval. When the container record is submitted, data are evaluated by the automated WDS edit/limit checks and the CH-TRAMPAC Evaluation Software (CHTES) or RH-TRAMPAC Evaluation Software (RHTEES) container evaluation checks. This status is automatically assigned to the container record after 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 WCO 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 email message to the user who entered the certification data to provide notification/confirmation 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 (TBO) into a larger payload container, such as a SWB or 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 waste 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/outer container (OC) Lid Numbers, ICV/IV Closure Dates, Dose Rates, Surface Contamination measurement results, and U.S. DOT Description.** These fields must be populated by the shipper in order to finalize the shipment. By design, shipments not 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. Some General Information regarding the shipment can be changed in this status.

Shipment Complete (COMPLETE_SHIP) – Automatically assigned to a shipment after all required shipment data fields are entered and submitted in the WDS, and after a DA, MC&A and the Confirmation Team have reviewed the shipment data and completed the required approval steps.

Shipment In Route (IN_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 recorded 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 sponsoring manager and be familiar with the system before being allowed to log onto the WDS (refer to Section 6.0 Dashboard Summaries). For example, each user is assigned a role and site access privileges. Each user must be assigned both role and access privileges for the site. Table 1 is a list of site IDs and Central Characterization Program (CCP) certification sites. Refer also to the *Sites/Programs Reference Data Report* for additional details regarding site IDs and locations.

Table 1 – Site IDs and CCP Certification Sites

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 – CH Waste
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
CH	CCP at Sandia National Laboratories – CH Waste
CI	CCP at Nuclear Radiation Development, LLC – CH Waste
CJ	CCP at Sandia National Laboratories – RH Waste
GE	GE Vallecitos Nuclear Center
IN	Idaho National Laboratory
LA	Los Alamos National Laboratory
LB	Lawrence Berkeley National Laboratory
LL	Lawrence Livermore National Laboratory
MD	Mound Site
MU	University of Missouri Research Reactor

Table 1 – Site IDs and CCP Certification Sites (cont.)

Site ID	Location
NT	Nevada Test Site
NR	Nuclear Radiation Development, LLC
OR	Oak Ridge National Laboratory
RF	Rocky Flats
RL	Hanford Site
SR	Savannah River Site
WCS	Waste Control Specialists, LLC
WI	Waste Isolation Pilot Plant


NOTE: The physical location of the waste containers is submitted to the database with the certification data and automatically changes as container data moves through the WDS system.

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 TCO and WCO 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 authorized for AD-HOC QUERY use by the DA when setting up the user account in the WDS. Management approval for AD-HOC QUERY access is not required. The NMED users and EPA users have AD-HOC QUERY built into the functions available from the dashboard and special access to AD-HOC QUERY is not required for them. The AD-HOC QUERY functions may be accessed by clicking the AD-HOC QUERY tab on the dashboard as shown in Figures 9-A through 9-D. Details for all types of AD-HOC QUIERIES are described in screen-level and context-level help.

A query may be performed for a container, overpack, payload, or shipment based on 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.



Users Manual THOMAS, DOROTHY **LOG OUT**

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DASHBOARD

AD-HOC QUERY

SCRIPT INTERFACE

REPORT BUILDER

Container **SEARCH**

General Criteria

Container Number <input style="width: 100%;" type="text"/>	Container Type All <input type="button" value="Select"/>	Damaged? (CH TBO only) All <input type="button" value="Select"/>
Current Location All <input type="button" value="Select"/>	Container Status All <input type="button" value="Select"/>	Waste Stream Profile All <input type="button" value="Select"/>
Generator Site ID All <input type="button" value="Select"/>	IDC Code <input style="width: 100%;" type="text"/>	Date Criteria
Destination Site ID All <input type="button" value="Select"/>	Waste Matrix Code All <input type="button" value="Select"/>	Vent Date on <input type="button" value="Select"/> <input style="width: 100%;" type="text"/>
Shipping Program ID All <input type="button" value="Select"/>	TRUCON Code <input style="width: 100%;" type="text"/>	Closure Date on <input type="button" value="Select"/> <input style="width: 100%;" type="text"/>
Cert Program ID All <input type="button" value="Select"/>	Shipping Category <input style="width: 100%;" type="text"/>	HGS Date on <input type="button" value="Select"/> <input style="width: 100%;" type="text"/>
Handling Code All <input type="button" value="Select"/>	Total Dose Rate (mrem/hr) < <input type="button" value="Select"/> <input style="width: 100%;" type="text"/>	Certification Date on <input type="button" value="Select"/> <input style="width: 100%;" type="text"/>
		Insert Date on <input type="button" value="Select"/> <input style="width: 100%;" type="text"/>

Filter Criteria

Filter Model All <input type="button" value="Select"/>	FGE + 2X Err (g) < <input type="button" value="Select"/> <input style="width: 100%;" type="text"/>	Headspace Gas Criteria
Filter Diffusivity <input style="width: 100%;" type="text"/>	Gross Weight + Err (kg) < <input type="button" value="Select"/> <input style="width: 100%;" type="text"/>	Headspace Hydrogen (ppm) < <input type="button" value="Select"/> <input style="width: 100%;" type="text"/>
Filter Quantity <input style="width: 100%;" type="text"/>	Decay Heat + Err (W) < <input type="button" value="Select"/> <input style="width: 100%;" type="text"/>	Methane Concentration (ppm) < <input type="button" value="Select"/> <input style="width: 100%;" type="text"/>
Total Filter Diffusivity (mol/s/mf) <input style="width: 100%;" type="text"/>	PCB Waste Status? <input type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	Combined Hydrogen and Methane (ppm) < <input type="button" value="Select"/> <input style="width: 100%;" type="text"/>
	Be Present? <input type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	TRAMPAC Total FVOCs (ppm) < <input type="button" value="Select"/> <input style="width: 100%;" type="text"/>
	Be/BeO > 1% <input type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	Compliance Method (CHTES/T3ES only) All <input type="button" value="Select"/>
	Compacted? <input type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	Cond w/Pack Options All <input type="button" value="Select"/>
	Puck Drum Waste? All <input type="button" value="Select"/>	AK Criteria

Emplacement Criteria

Disposal Date on <input type="button" value="Select"/> <input style="width: 100%;" type="text"/>	Downstream Criteria	
Panel <input style="width: 50%;" type="text"/> Room <input style="width: 50%;" type="text"/>	In Overpack? All <input type="button" value="Select"/>	CCEM - Revision All <input type="button" value="Select"/>
Row <input style="width: 50%;" type="text"/> Column <input style="width: 50%;" type="text"/>	In Overpack Plan? All <input type="button" value="Select"/>	BOK Evaluation Acceptance All <input type="button" value="Select"/>
Height <input style="width: 50%;" type="text"/> Borehole <input style="width: 50%;" type="text"/>	In Payload? All <input type="button" value="Select"/>	AK Assessment Date on <input type="button" value="Select"/> <input style="width: 100%;" type="text"/>
Emplaced? All <input type="button" value="Select"/>	In Payload Plan? All <input type="button" value="Select"/>	IWMOL Date on <input type="button" value="Select"/> <input style="width: 100%;" type="text"/>

Container List

Shipment List (search returns shipment containers)

Figure 9-A – Container AD-HOC QUERY

WDS WASTE DATA SYSTEM Users Manual THOMAS, DOROTHY LOG OUT
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DASHBOARD AD-HOC QUERY SCRIPT INTERFACE REPORT BUILDER

Container SEARCH

CONTAINER AD-HOC QUERY
OVERPACK AD-HOC QUERY

CLEAR ALL SEARCH

General Criteria

Container Number
Current Location
Waste Stream Profile All
Container Type
Configuration
FGE + 2X Err (g)
Inner Container Flammability Index
Cert Program ID
Shipping Program ID
Container Status
Total Dose Rate (mrem/hr)
Insert Date
Gross Weight + Err (kg)
PE-CI

Filter Criteria

Filter Model
Filter Diffusivity (mol/mf)
Filter Quantity
Total Filter Diffusivity (mol/mf)

Emplacement Criteria

Panel Room
Row Column
Height Borehole
Disposal Date

Downstream Criteria

In Payload?
In Payload Plan?
Shipped?
 PDF CSV
GENERATE

PAYLOAD AD-HOC QUERY
SHIPMENT AD-HOC QUERY

MESSAGES | USERS MANUAL | USER PREFERENCES --- LAST LOGIN: 08/13/2024 16:18 - # OF FAILED LOGINS SINCE: 0
INSTANCE: dev06.wipp.carlbmad.nm.us
BUILD: WDS_20240702 v3.8c

Figure 9-B – Overpack AD-HOC QUERY

WDS
WASTE DATA SYSTEM

Users Manual THOMAS, DOROTHY LOG OUT
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DASHBOARD AD-HOC QUERY SCRIPT INTERFACE REPORT BUILDER

Container SEARCH

CONTAINER AD-HOC QUERY
OVERPACK AD-HOC QUERY
PAYLOAD AD-HOC QUERY

CLEAR ALL SEARCH

General Criteria

Payload Number
Current Location
Package & Payload Container Type
Dunnage Containers
Total Payload FGE + 2X Err (g)
Total Payload Gross Weight + Err (kg)
Assembly MAR Limit Override Applied?
Shipping Program ID
Destination Site ID
Complete Status
Associated Container AFGC (mol ft)
Associated Container Decay Heat (w)
Associated Container Flammability Index
Shipped?

PDF CSV GENERATE

SHIPMENT AD-HOC QUERY

MESSAGES | USERS MANUAL | USER PREFERENCES --- LAST LOGIN: 08/13/2024 15:18 - # OF FAILED LOGINS SINCE: 0
INSTANCE: dev06.wipp.carlsbad.nm.us
BUILD: WDS_20240702 v3.8c

Figure 9-C – Payload AD-HOC QUERY

WDS WASTE DATA SYSTEM Users Manual THOMAS, DOROTHY LOG OUT
01/16/2025 12:15 HELP

DASHBOARD AD-HOC QUERY SCRIPT INTERFACE REPORT BUILDER

Container SEARCH

CLEAR ALL SEARCH

General Criteria

Shipment Number:
Current Location:
Handling Code:
Contains Payloads of Container Type:
Package Type:
Shipping Program ID:
Destination Site ID:
Shipment Status:
Package Number:
Confirmed?: Limit to Controlled Shipments?:
DA Approved?: Limit to HRCQ Shipments?:
MC&A Approved?: Limit to PCB Waste Shipments?:
Shipment Finalized?: Assembly MAR Override Applied?:

Date Criteria

Payload ICV/IV Closure Date Between: and
Scheduled Send Date Between: and
Sent Date Between: and
Received Date Between: and
Assembly Processed Date Between: and
Assembly Emplaced Date Between: and

PDF CSV GENERATE

Figure 9-D – Shipment AD-HOC QUERY

10.0 SHIPMENT RECEIPT AT WIPP

The WDS tracks CH waste received and emplaced at WIPP. The WDS presents the list of shipments in In Route status with WIPP as the destination site. When a shipment arrives at WIPP, it is considered received when a Waste Handling Technician at WIPP enters the receipt date and time into the WDS. During the shipment receipt process, all container numbers are verified to ensure 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 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 received and emplaced waste.

12.0 REPORT BUILDER

Access to the Report Builder functionality is limited to users 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 WDS User's Manual does not generate any QA records. Those are generated in implementing procedures by the users.

14.0 TRAINING

Personnel needing write access to WDS will have their qualification verified by the sponsoring manager. The sponsoring manager must verify the user is qualified to operate in a manner commensurate with Certified Program Training Requirements. Prior to the access request, the sponsoring manager must be of sufficient knowledge and have access to training records to verify the sponsored user has completed requisite training. (Reference DOE/CBFO-94-1012, *Quality Assurance Program Document*, DOE Order 414.1D, *Quality Assurance*).

On-the-Job Training (OJT) will be conducted by the requisite department according to their training requirements (i.e., Waste Handling will conduct OJT for Waste Handling Operators). Other training may consist of training on departmental procedures, required reading, or special training as documented by the individual department.

15.0 REFERENCES

DOCUMENT NUMBER AND TITLE
10 CFR 71, Packaging and Transportation of Radioactive Material
EPA-600/2-80-076, A Method for Determining the Compatibility of Hazardous Wastes (EPA Method)
DOE Order 205.1B, <i>Department of Energy Cyber Security Program</i>
DOE Order 414.1D, <i>Quality Assurance</i>
DOE/CBFO-94-1012, <i>Quality Assurance Program Document</i>
DOE/WIPP-02-3122, <i>Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant (WAC)</i>
DOE/WIPP-07-3372, <i>Documented Safety Analysis (DSA)</i>
WP 13-1, <i>Salado Isolation Mining Contractors, LLC Quality Assurance Program Description</i>
EA08NT1003-1-0, WDS Access Request Form
WIPP Hazardous Waste Facility Permit (HWFP)
WIPP Land Withdrawal Act
EPA Approval of DOE RH TRU Characterization Program
Transuranic Waste Authorized Methods for Payload Control
Transuranic Package Transporter–Model II (TRUPACT-II)
Transuranic-Model III (TRUPACT-III) CH-TRUCON, RH-TRUCON
HalfPACT Certificate of Compliance
RH-TRU 72-B Certificate of Compliance