WIPP Update National TRU Program Improvements

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- **Key Concepts**
  - ➢ Governing Documents
  - ➢ Data Collection
  - ➢ Verification
  - ➢ Tracking/Auditing
- **Program Enhancements**
  - ➢ Why will future event be prevented?
- **Roles and Responsibilities**
- **Walk through Roadmap**
- **Way forward**
  - ➢ Program Updates
  - ➢ Document Updates
  - ➢ Certification

- HWFP – Hazardous Waste Facility Permit
  - Lists RCRA requirements

(Update) • DSA – Documented Safety Analysis
  - Nuclear Safety related requirements (Chapter 18)
  - (New) • Adds 4 Key Elements for NTP

- TRAMPAC – Transportation/Payload Control
  - Compiles all NRC/DOT transportation requirements

(Update) • WIPP WAC – Waste Acceptance Criteria
  - Compiles all above requirements

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- eAK – Enhanced Acceptable Knowledge
  - Compiles all data associated with <u>waste stream</u>
  - **(New)** CCE – Chemical Compatibility Evaluation
    - Compares all chemicals and materials in waste
      - Better identifies incompatibilities
      - Uses specific EPA Method
  - **(New)** BoK – Basis of Knowledge
    - Guide for waste Sites
    - More thorough review – Based on actual testing
    - Provides guidance for resolving potentially ignitable waste that was previously remediated
  - **(New)** AKA – Acceptable Knowledge Assessment
    - All eAK, CCE information for previously certified containers

- Characterization to confirm AK
  - NDE – Non-destructive Examination
    - Verifies no unauthorized items in waste using non-invasive, visual techniques.
    - RTR (Real Time Radiography)
    - VE (Visual Examination)
  - NDA – Non-destructive Assay
    - Verifies container meets the WAC radiological parameters
  - FGA – Flammable Gas Analysis
    - Verifies headspace gas meets NRC limits

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New • IWMDL – Interface Waste Management Document List

- Lists all Generator Site documents that must receive specific approval by CP and CBFO for <u>ANY</u> change.

Update • WSPF – Waste Stream Profile Form

- Summary of key waste data by waste stream to meet Permit

• WDS – Waste Data System

- Tracks WAC important data – record of waste from characterization to disposal
- Automated WAC verification
- Provides vehicle to place HOLDS on waste

New • GSTR – Generator Site Technical Review (CBFO/NWP)

- Independent program review of sites' waste processing

Update • Recertification Audit

- Primary audit on Characterization Program

Program Enhancements

Issue	Then	Now

Repackaging and Treatment	• Review of site operations by CP and DOE
	• Site informed CP of changes
		• All sites must be recertified – Ensures all new requirements in place prior to resumption of waste remediation and shipping to WIPP
		• IWMDL – Prevents creating a procedure that allows mixture of incompatible components
		  • Clear list of procedures
		  • Every technical change reviewed and approved – Prevents future change that adds an incompatibility
		  • No processing until procedure approved – Prevents use of incorrect procedures

Training and Qualification	• Resumé based • No formal qualification program in place	• New qualification program and cards – Ensures NTP oversight personnel are specifically certified to know ALL requirements and expectations

Program Enhancements

Issue	Then	Now

AK process	• Compiled documents
	• Incompatible components reported to site
	• High reliance on no liquids
	• WSPF only approved by CP
		• Enhanced AK – Significantly increased rigor/detail
		  • Reverification of previously certified waste – Ensures this waste meets new requirements prior to shipment to WIPP
		  • Includes commercial product names – Ensures personnel do not miss some incompatible compounds
		  • Review of National Lab experts – Higher pedigree of review
		  • CCE
		    • Uses specific EPA method – More rigor. Adds more objectivity when looking for incompatibilities
		    • Uses IWMDL and checks revision delta for every waste/packaging procedure – Ensures ALL waste was not prepared incorrectly
		    • Checks compatibility of ALL constituents – More comprehensive
		  • BoK – Prevents receipt of ignitable waste
		    • Extra review on chemical– Stops primary cause
		    • Provides resolution for remediation
		• WSPF reviewed/approved by CBFO (DSA) – Higher pedigree

Program Enhancements

Issue	Then	Now
Management and Oversight	• Review of CP documents and procedures • Site visits with oversight personnel	• NTP Oversight Office at HQ – Provides more program rigor • CBFO restructured – Separates program and oversight responsibilities • GSTR • DSA Key Element – higher pedigree to ensure this control remains in place and robust • Focus on Operations – Physically observes CONOPS to ensure Site is following procedures correctly • Separate from QA recertification – Independent review with independent group of assessors • No shipments until complete – Prevents shipment until each site program has been verified to meet new requirements

Roles and Responsibilities

DOE EM

CBFO/NTP

GENERATOR SITE

Prepares Waste

- Packages and treats
- Must follow WAC
- Provides new information and critical to CP

CERTIFIED PROGRAMS (CP)

Verifies Waste

- Certified by CBFO
- Ensures Sites have properly prepared the waste
- Reviews documentation
- Characterization
- Prepares WSPF
- Data input into WDS

NWP

Receives Waste

- Verifies waste meets WAC
- Reviews WSPFs
- Approves data in WDS
- Approves shipment
- Emplaces Waste

CBFO NTP

Generator Sites

Certified Program
(CCP/AMWTP)

CBFO Contractor (NWP)

DSA — GSTR

Permit — Recert Audit

Oversight

Approval

Enhanced AK — Permit

Processing Documents

WASTE STREAM

Processing Documents

CCE

AKA

IWMDL

BoK

AK Summary Report

Approval

Approval

Authorize Shipment

WDS

Permit

Permit

WSPF

Approval — DSA

Waste Stream Info

Confirm

Characterization — Permit

NDE/NDA Documents

Confirmation — DSA

TRU Waste

CONTAINER

TRU Waste

FGA — NDE — NDA

WAC REQUIRED DATA

Treatment — WAC

PACKAGING CONFIGURATION

Manifest

Manifest — DSA

RETREATMENT REQUIRED

WASTE APPROVED TO SHIP

Payload Assembly

TRU Waste — TRU Waste — TRU Waste

SHIPMENT

TRU Waste — TRU Waste — TRU Waste

WAC

TRU Waste

DSA

EMPLACE — DSA

Legend:
- ★ New Control/Element
- Process
- Documents/Data
- Movement
- Approval
- Supporting Documents
- Audit/Review
- DSA/WAC/Permit Requirement

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- Program Self Assessment **Done**
- New CBFO Organization approved **Done**
- Enhanced Implementation Plan
- BoK incorporated
- New NTP Qualification Program

Way Forward – Update Documents

- New WAC **Done**

- New NTP Description Document

- In-Process review team in place **Done**

- Update Procedures at CP and Sites

- Developing shipping plan

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- NTP personnel complete qualification

- Complete NTP Independent Implementation Review (equivalent to DOE O 425.1D)

- Recertification Audit at each site

- Complete GSTR at each site