

WIPP Library

WIPP
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**TRU WASTE SAMPLING PROGRAM
IDAHO NATIONAL ENGINEERING LABORATORY**

VIDEO PRESENTATION

**WASTE ACCEPTANCE CRITERIA SEMINAR
NEW MEXICO ENVIRONMENT DEPARTMENT
FEBRUARY 3, 1993**

**PAUL DREZ
TECHNICAL SUPPORT GROUP
WIPP PROJECT INTEGRATION OFFICE**



WASTE FORM: GLASS

CONTENT CODE: 441

DESCRIPTION: RASCHIG RINGS

CONTAINER I.D.: 89-04114

CONTAINER TYPE: DRUM

LINER: 90-MIL

ASSAY (GRAMS): 1.9

AGE: 12 YEARS

PHYSICAL STATE OF WASTE: DRY

PACKING EFFICIENCY: 100%

VOLUME PERCENT COMBUSTIBLES: 10%

FREE LIQUIDS: NONE

WIPP-CERTIFIABLE: YES

CONTENTS (LBS): 8 FIBERBOARD CONTAINERS
DRUM BAGS
RASCHIG RINGS
OIL DRY

16.3
2.5
151.8
1.5

WASTE FORM: RESINS

CONTENT CODE: 432

DESCRIPTION: RESIN, LEACHED AND CEMENTED

CONTAINER I.D.: 02-10288

CONTAINER TYPE: DRUM

LINER: 90-MIL

ASSAY (GRAMS): 19.0

AGE: 12 YEARS

PHYSICAL STATE OF WASTE: DRY

PACKING EFFICIENCY: 80%

VOLUME PERCENT COMBUSTIBLES: 20%

FREE LIQUIDS: 520 ML, pH 7.0

WIPP-CERTIFIABLE: YES

CONTENTS (LBS):	POLY VINYL CHLORIDE (PVC)	7.5
	POLYETHYLENE (POLY) BAGS	14.2
	AND BOTTLES	
	GALLON PAINT CAN AND	
	SOLIDIFIED MATERIAL	4.8
	CEMENTED RESINS	157.3
	OIL DRY	4.0

WASTE FORM: CONCRETE, BRICK

CONTENT CODE: 906 (374)

DESCRIPTION: CINDERBLOCK PIECES

CONTAINER I.D.: 01-08083

CONTAINER TYPE: DRUM

LINER: 90-MIL

ASSAY (GRAMS): 8.9

AGE: 12 YEARS

PHYSICAL STATE OF WASTE: DRY

PACKING EFFICIENCY: 80%

VOLUME PERCENT COMBUSTIBLES: 2%

FREE LIQUIDS: NONE

WIPP-CERTIFIABLE: YES

CONTENTS (LBS):	POLY BAG	1.0
	CINDERBLOCK PIECES AND FINES	386.4
	OIL DRY	11.5

WASTE FORM: COMBUSTIBLES

CONTENT CODE: 900 (330)

DESCRIPTION: LSA PLASTICS, PAPER

CONTAINER I.D.: 746-2906

CONTAINER TYPE: DRUM

LINER: 90-MIL

ASSAY (GRAMS): 0.5

AGE: 12 YEARS

PHYSICAL STATE OF WASTE: DAMP

PACKING EFFICIENCY: 70%

VOLUME PERCENT COMBUSTIBLES: 97%

FREE LIQUIDS: 15 ML, pH 12.0

WIPP-CERTIFIABLE: YES

CONTENTS (LBS):	PAPER	113.0
	CLOTH	1.8
	PVC	7.0
	POLY	15.4
	SURGEON'S GLOVES	4.0
	STAINLESS STEEL	0.5
	CARBON STEEL	1.5
	PORTLAND CEMENT	26.0
	OIL DRY	10.8

WASTE FORM: COMBUSTIBLES

CONTENT CODE: 337

DESCRIPTION: PLASTIC AND NONLEADED RUBBER

CONTAINER I.D.: 389-85743

CONTAINER TYPE: BOX

LINER: POLY BOX LINER

ASSAY (GRAMS): 13.0

AGE: 12 YEARS

PHYSICAL STATE OF WASTE: DRY

PACKING EFFICIENCY: 100%

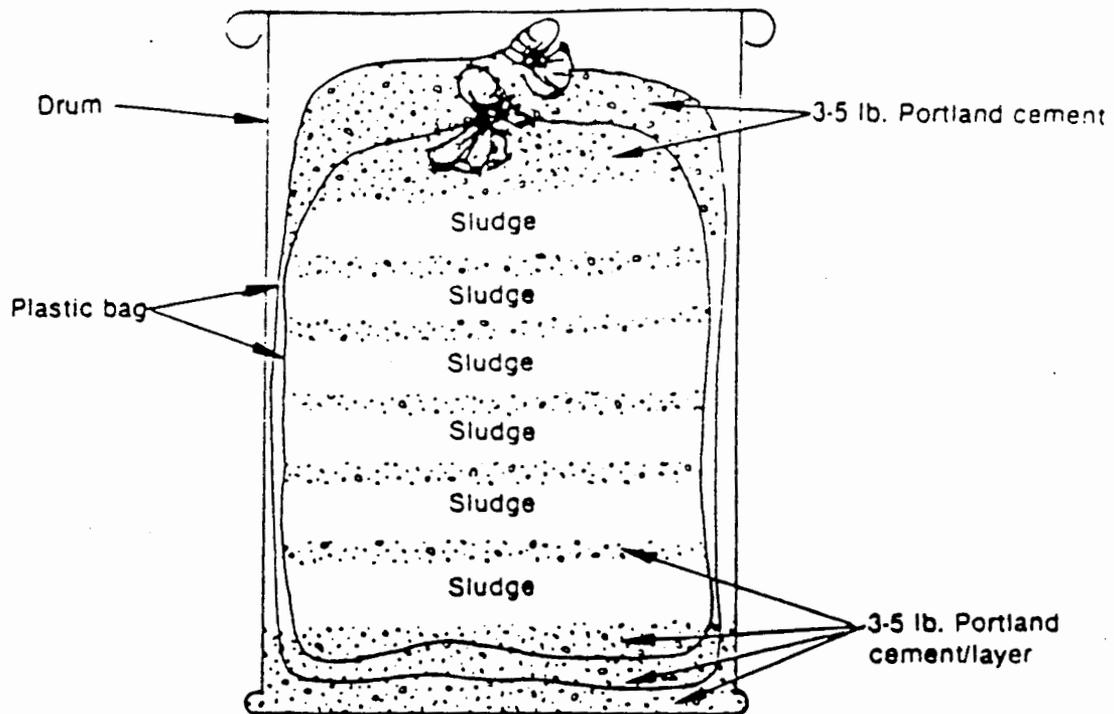
VOLUME PERCENT COMBUSTIBLES: 95%

FREE LIQUIDS: 1,400 ML

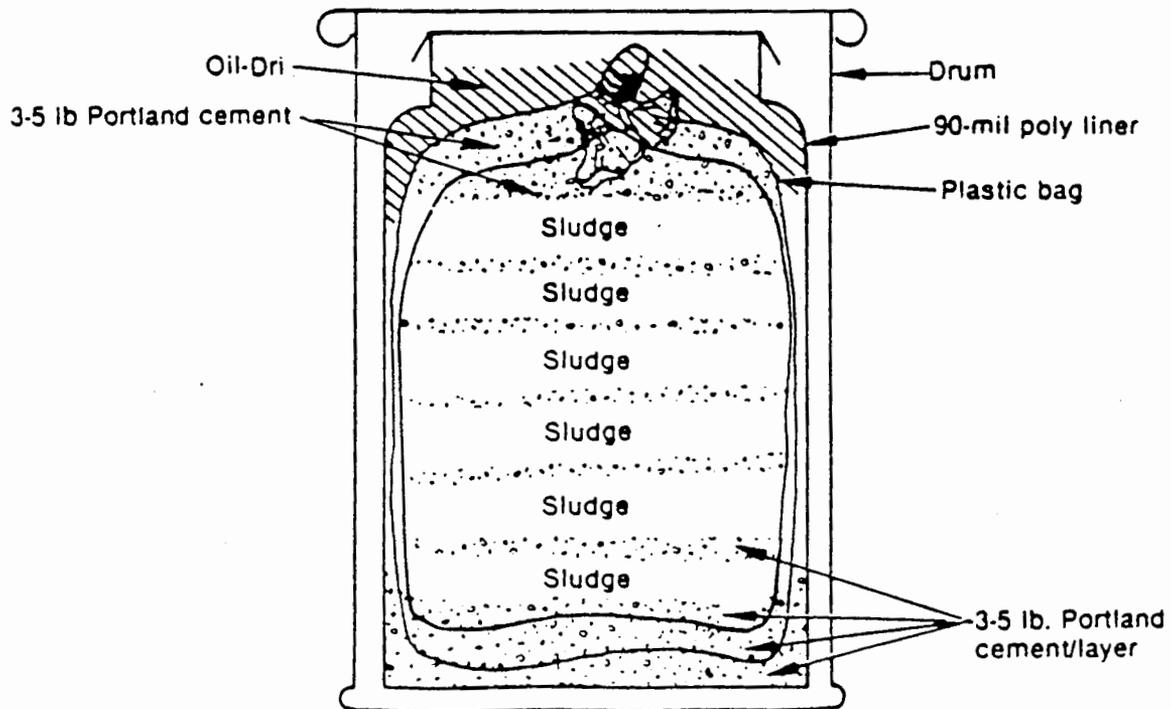
WIPP-CERTIFIABLE: YES

CONTENTS (LBS):	CARDBOARD LINER	6.2
	PLASTIC	338.4
	SHEET METAL	39.2
	COPPER	4.4
	CARBON STEEL	406.6
	WOOD	134.2
	INSULATION	134.1

1970 - 1972:



1972 - 1979: In 1972, use of the 90-mil polyethylene drum liner began.



CONTENT CODE 002 INORGANIC SLUDGE

WASTE FORM: UNCEMENTED SLUDGES

CONTENT CODE: 2

DESCRIPTION: SECOND STAGE SLUDGE

CONTAINER I.D.: 742-21594

CONTAINER TYPE: DRUM

LINER: 90-MIL

ASSAY (GRAMS): 0.21

AGE: 12 YEARS

PHYSICAL STATE OF WASTE: DAMP

PACKING EFFICIENCY: 85%

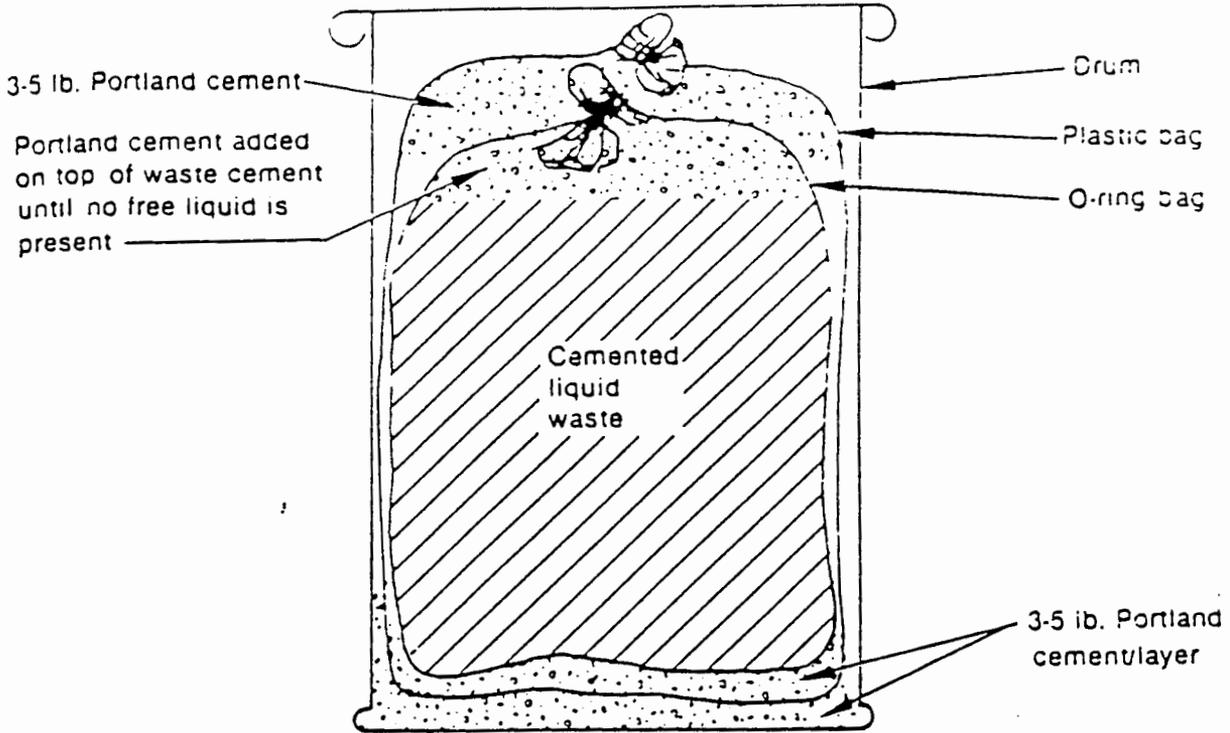
VOLUME PERCENT COMBUSTIBLES: 5%

FREE LIQUIDS: SLUDGE

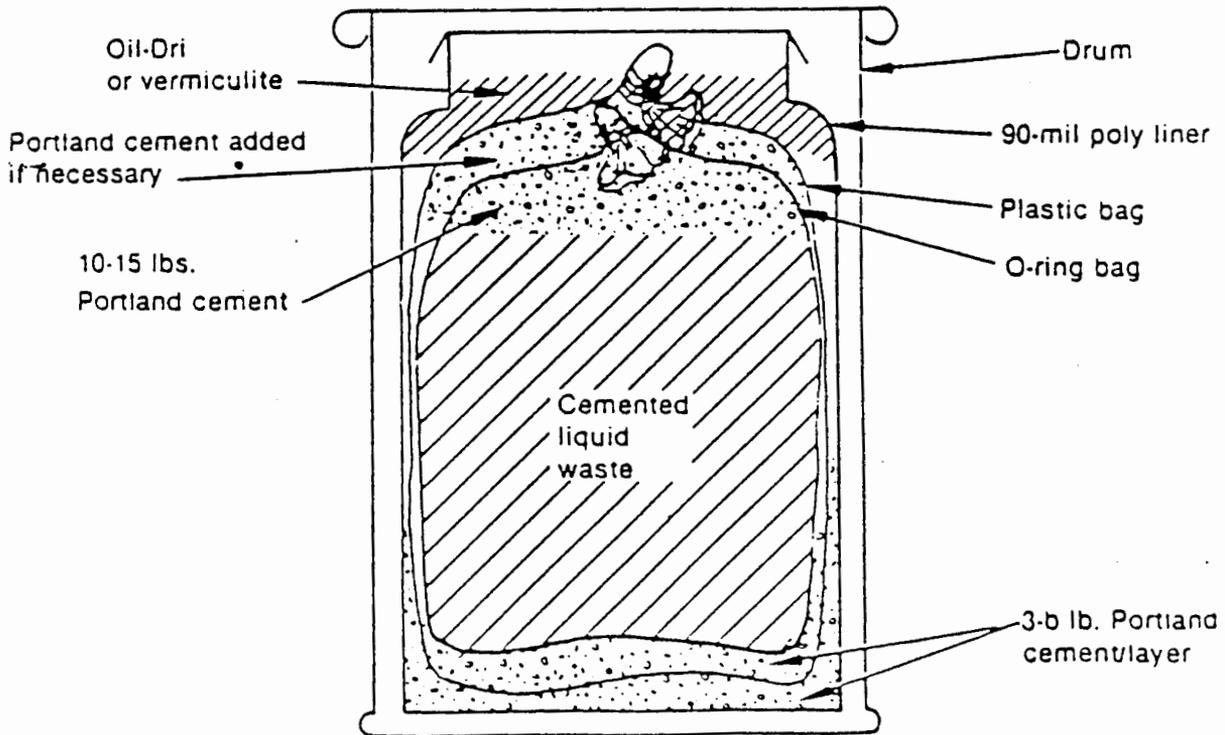
WIPP-CERTIFIABLE: YES

CONTENTS (LBS):	POLY DRUM BAG	1.0
	SLUDGE WITH INTERMIXED	
	PORTLAND CEMENT AND	
	HARDENED PORTLAND CEMENT	365.0
	(OIL DRY WEIGHT INCLUDED)	
	PORTLAND CEMENT (ABSORBENT)	37.0

1970-1972:



1972 - Present: Use of the 90-mil poly liner began in 1972.



CONTENT CODE 004 SPECIAL SET-UPS

WASTE FORM: CEMENTED SLUDGES

CONTENT CODE: 4

DESCRIPTION: SPECIAL SET UPS

CONTAINER I.D.: 744-2442

CONTAINER TYPE: DRUM

LINER: 90-MIL

ASSAY (GRAMS): 0.5

AGE: 12 YEARS

PHYSICAL STATE OF WASTE: DRY

PACKING EFFICIENCY: 90%

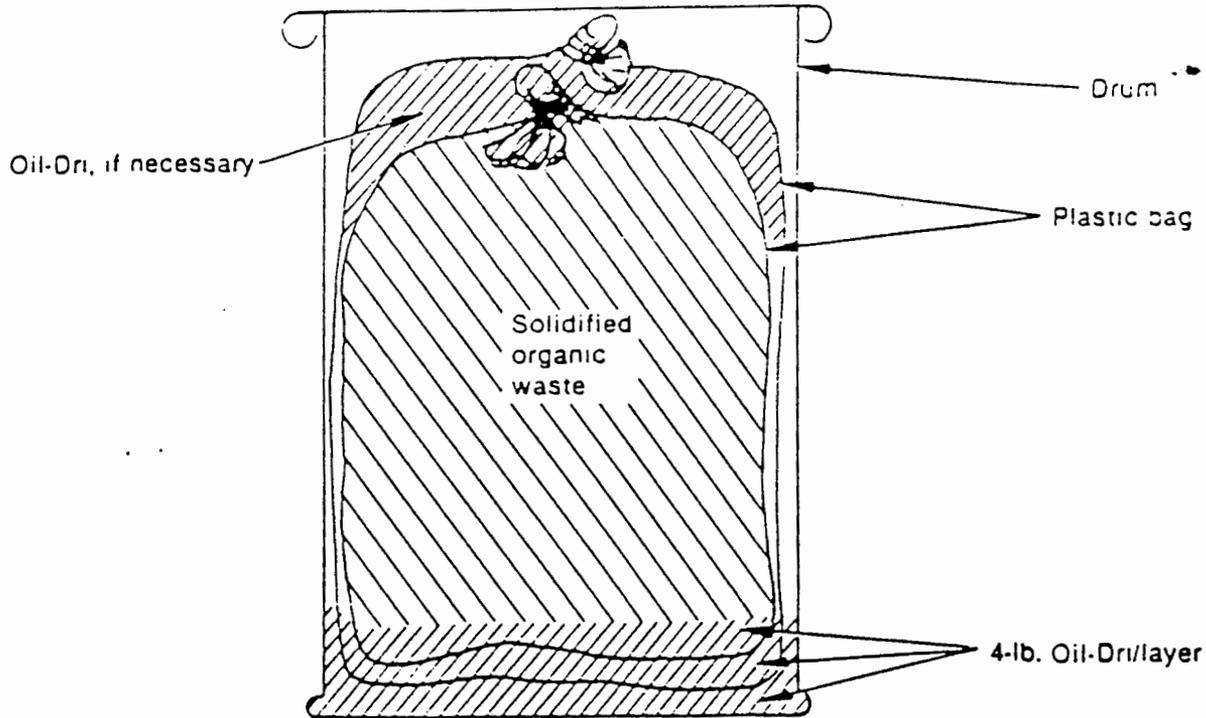
VOLUME PERCENT COMBUSTIBLES: 5%

FREE LIQUIDS: NONE

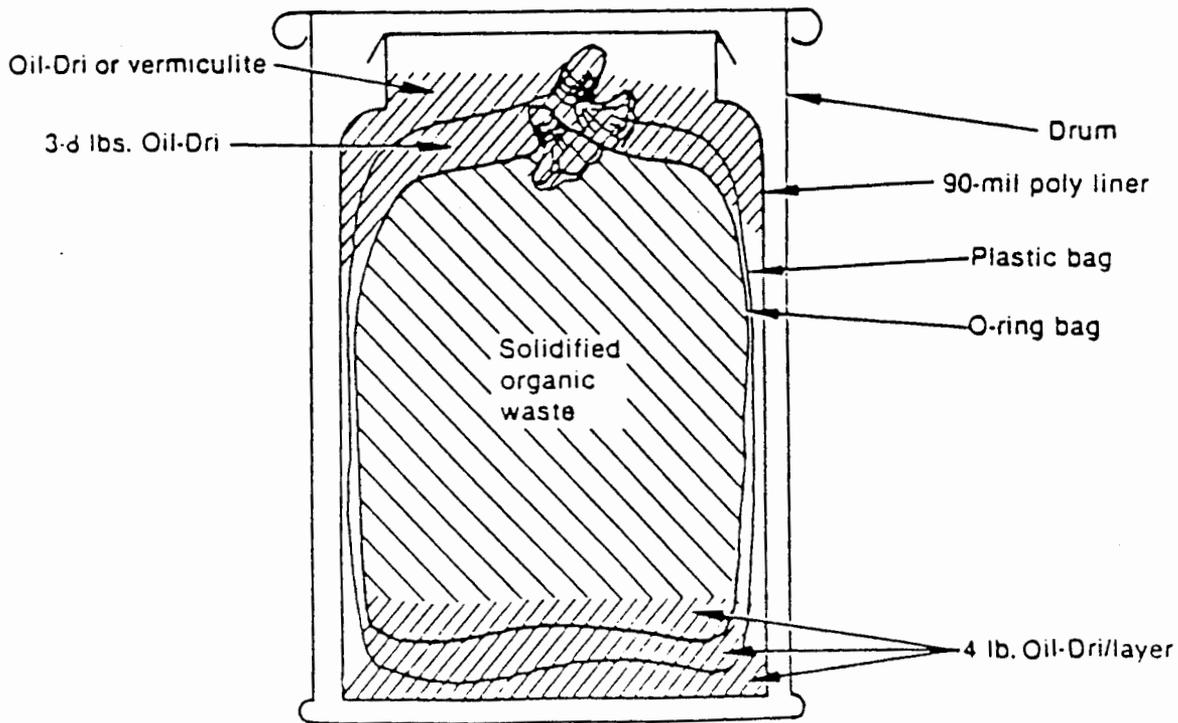
WIPP-CERTIFIABLE: YES

CONTENTS (LBS):	PVC BAG	3.0
	POLY BAG	1.0
	SPECIAL SET UP	353.0
	HARDENED PORTLAND	
	CEMENT ADSORBENT	5.0
	OIL DRY	10.0

1970 - 1972: In most waste drums, approximately 10-20 lbs. of Oil-Dri was mixed in with the organic wastes and calcium silicate.



1972 - Present: Use of the 90-mil polyethylene drum liner began. The inner plastic bag was replaced with an O-ring bag. Oil-Dri is usually mixed in with the waste.



CONTENT CODE 003 ORGANIC SLUDGE

WASTE FORM: UNCEMENTED SLUDGES

CONTENT CODE: 3

DESCRIPTION: ORGANIC SET UPS

CONTAINER I.D.: 743-11682

CONTAINER TYPE: DRUM

LINER: 90-MIL

ASSAY (GRAMS): 2.41

AGE: 12 YEARS

PHYSICAL STATE OF WASTE: DAMP

PACKING EFFICIENCY: 95%

VOLUME PERCENT COMBUSTIBLES: 50%

FREE LIQUIDS: 130 ML, pH 5.0 (?)

WIPP-CERTIFIABLE: YES

CONTENTS (LBS): PVC BAG

3.0

GREASE (OIL DRY WEIGHT
INCLUDED)

490.5

TWELVE-YEAR-OLD WASTE FROM INEL

ID NUMBER	WASTE FORM	CONTENT CODE	VOLUME PERCENT							HYDRO C1 & C2	TRICHL	HYDRO >C3	OTHER HYDRO-CARBONS	PRESS GUAGE (MM H ₂)	VOIL VOLUME (L)
			H ₂	O ₂	N ₂	Ar	CO ₂	CO	NO _x						
89-04114	GLASS	441	2.63	0.21	93.90	1.10	1.90	0.00	0.00	0.26	0.05	0.01	TRCETHY	-145.0	147.0
02-10288	RESINS	432	9.97	0.08	83.80	0.94	0.13	0.00	4.70	0.44	0.03	0.01	TRCETHY	-3.0	136.0
01-08083	CONCRETE & BLOCK	374	0.41	0.15	98.30	1.20	0.02	0.00	0.00	0.00	0.00	0.00		-182.0	
746-2906	COMBUSTIBLE	900	0.15	16.70	82.10	0.97	0.10	0.00	0.00	0.00	0.00	0.00		-172.0	
389-85743	COMBUSTIBLE	337													
742-21594	UNCEMENTED SLUDGE	2	0.01	20.40	78.50	0.93	0.12	0.00	0.00	0.00	0.00	0.04	TRCETHY	-51.0	
744-2442	CEMENTED SLUDGE	4	0.25	0.12	94.10	1.20	0.02	0.00	0.00	1.30	0.06	0.02	TRCETHY	-76.0	98.0
743-11682	UNCEMENTED SLUDGE	3	4.18	0.14	92.40	1.00	0.06	0.00	0.00	0.22	0.00	2.00	CCL ₄ , TRCETHY, FREON	27.0	135.0

**WIPP Library WASTE ACCEPTANCE CRITERIA
FOR WIPP, REVISION 4**

SESSION 1

**WASTE ACCEPTANCE CRITERIA SEMINAR
NEW MEXICO ENVIRONMENT DEPARTMENT
FEBRUARY 3, 1993**

**PAUL DREZ
TECHNICAL SUPPORT GROUP
WIPP PROJECT INTEGRATION OFFICE**

AGENDA

- SESSION 1**
- **BACKGROUND**
 - **LOGIC AND METHODOLOGY FOR REVISION 4**
- SESSION 2**
- **MAJOR CHANGES IN DOCUMENT**
 - **WASTE CONTAINER AND WASTE FORM REQUIREMENTS/CRITERIA**

AGENDA

- SESSION 3 - TRU MIXED WASTE REQUIREMENTS/CRITERIA**

- SESSION 4 - DATA PACKAGE AND OTHER REQUIREMENTS/CRITERIA**

- SUMMARY**

- FUTURE REVISIONS TO THE WAC DOCUMENT**

SESSION 1 - SUMMARY

- **HISTORICAL DEVELOPMENT OF THE WASTE ISOLATION PILOT PLANT (WIPP) WASTE ACCEPTANCE CRITERIA (WIPP-WAC)**
- **KEY DEVELOPMENTS SINCE THE RELEASE OF REVISION 3**
- **WHY REVISION 4 IS REQUIRED**
- **METHODOLOGY FOR PREPARING REVISION 4**
- **SUMMARY OF TRANSURANIC (TRU) WASTE CERTIFICATION PROCESS**

BACKGROUND

- **WIPP-WAC INITIALLY DEVELOPED BY DEPARTMENT OF ENERGY (DOE) STEERING COMMITTEE**
 - **GENERATED THE DOCUMENT WIPP-DOE-069 (MAY 1980)**
 - **PURPOSE OF WIPP-DOE-069**
 - **PROVIDE PERFORMANCE REQUIREMENTS TO ENSURE PUBLIC SAFETY**
 - **ENSURE SAFE HANDLING OF TRU WASTE AT WIPP DURING OPERATIONS**

- **SUBSEQUENT REVISIONS WERE: REVISION 1 (SEPTEMBER 1981), REVISION 2 (SEPTEMBER 1985), AND REVISION 3 (JANUARY 1989)**
 - **THESE REVISIONS OF THE WIPP-WAC ADDRESSED ONLY WIPP OPERATIONS AND SAFETY CRITERIA**

BACKGROUND

(Continued)

- **WASTE ACCEPTANCE REQUIREMENTS/CRITERIA HAVE SINCE EVOLVED (OR ARE BEING DEVELOPED) FROM OTHER ASPECTS OF THE WIPP PROGRAM**
 - **TRANSPORTATION REQUIREMENTS**
 - **RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) REQUIREMENTS**
 - **PERFORMANCE ASSESSMENT (PA) CRITERIA**

REGULATIONS GOVERNING TRU WASTE DISPOSAL AT THE WIPP

<u>REGULATION</u>	<u>ISSUE</u>	<u>REGULATORY AGENCY</u>
WIPP Operations and Safety	Waste Acceptance at the WIPP	WACCC
10 CFR Part 71	Transportation	NRC
40 CFR Part 191 Subpart A	Management and Storage of TRU Waste Prior to Disposal	EPA-ORIA
40 CFR Part 191 Subpart B	Disposal of TRU Waste	EPA-ORIA
40 CFR Part 264	Standards for Owners and Operators of Hazardous Waste TSD Facilities	NMED
40 CFR Part 265	Interim Status Standards for Owners and Operators of Hazardous Waste TSD Facilities	NMED
40 CFR Part 268	Land Disposal Restrictions	EPA-OSW and EPA Region VI

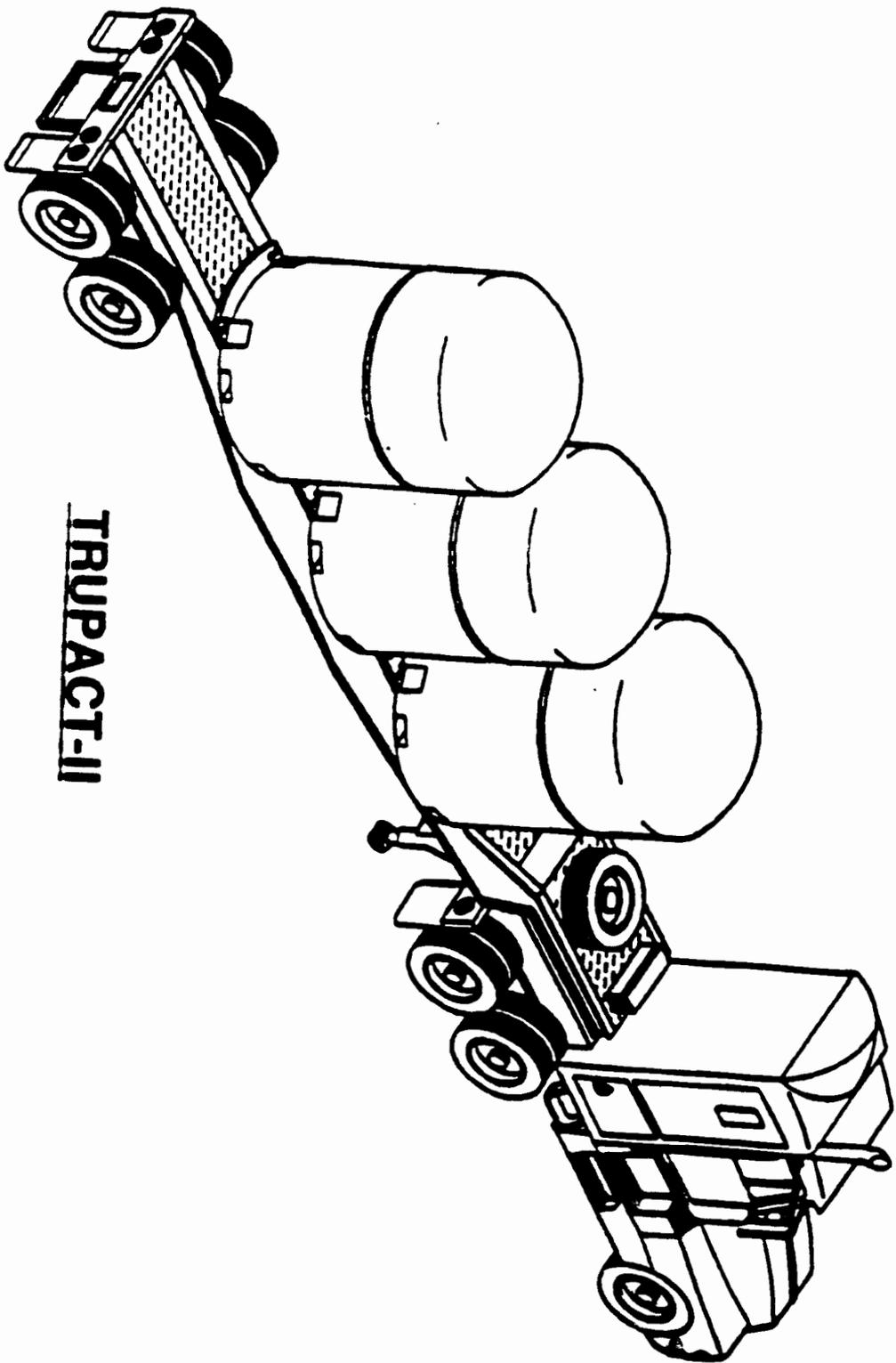
REGULATIONS GOVERNING TRU WASTE DISPOSAL AT THE WIPP
(Continued)

<u>REGULATION</u>	<u>APPLICABLE DOCUMENT</u>
WIPP Operations and Safety	WIPP-WAC, Revision 3
10 CFR Part 71	TRUPACT-II SARP and Certification of Compliance
40 CFR Part 191	Technical Needs Assessment Document (TNAD) Bin-Scale and Alcove Test Plans and Associated Documents
40 CFR Part 264 40 CFR Part 265	WIPP RCRA Part A and Part B Permit Applications
40 CFR Part 268	No-Migration Determination

SUMMARY OF KEY DEVELOPMENTS SINCE REVISION 3 OF THE WIPP-WAC (JANUARY 1989)

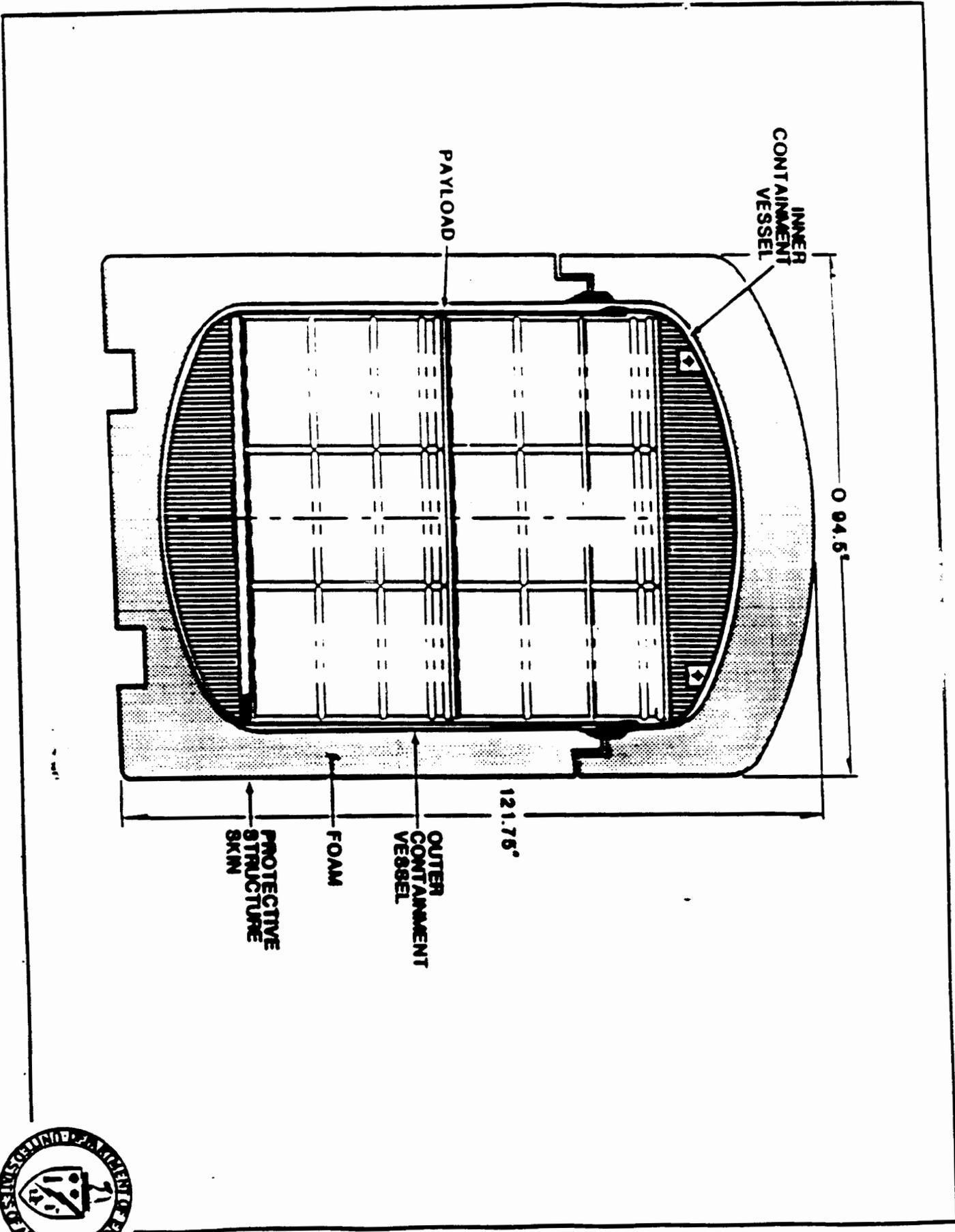
- **CERTIFICATE OF COMPLIANCE (C OF C) ISSUED BY
THE NUCLEAR REGULATORY COMMISSION (NRC) FOR THE
TRUPACT-II PACKAGE TO BE USED FOR THE TRANSPORTATION
OF CONTACT-HANDLED TRANSURANIC (CH-TRU) WASTE**
 - **INITIALLY ISSUED AUGUST 1989 (REV. 0), CURRENT
REVISION IS NOVEMBER 1992 (REV. 4)**
 - **TRANSPORTATION REQUIREMENTS SUMMARIZED IN THE
C OF C, THE TRUPACT-II SAFETY ANALYSIS REPORT
(SARP), AND RELATED DOCUMENTS (e.g., TRUCON)**

- **PRELIMINARY NEGOTIATIONS WITH NRC ON PAYLOAD
REQUIREMENTS FOR RH-TRU WASTE**



TRUPACT-II





**SUMMARY OF KEY DEVELOPMENTS SINCE
REVISION 3 OF THE WIPP-WAC (JANUARY 1989)
(Continued)**

- **WIPP TEST PHASE PLAN: PERFORMANCE ASSESSMENT,
ISSUED BY DOE IN APRIL 1990**
 - **TEST PLANS FOR THE BIN-SCALE AND ALCOVE TESTS
DEVELOPED BY SANDIA NATIONAL LABORATORIES (SNL)**
 - **PRETEST WASTE CHARACTERIZATION REQUIREMENTS
FOR THE TEST WASTE ARE SUMMARIZED IN THE
WASTE CHARACTERIZATION PROGRAM PLAN (WCPP)**

**SUMMARY OF KEY DEVELOPMENTS SINCE
REVISION 3 OF THE WIPP-WAC (JANUARY 1989)
(Continued)**

- **A NO-MIGRATION VARIANCE PETITION (NMVP) FOR WIPP WAS SUBMITTED TO THE EPA/OSW IN MARCH 1990 TO ADDRESS COMPLIANCE WITH 40 CFR 268**

- **A NO-MIGRATION DETERMINATION (NMD) HAS BEEN ISSUED BY THE EPA IN NOVEMBER 1990 IN RESPONSE TO THE NMVP**
 - **WASTE CHARACTERIZATION REQUIREMENTS FOR THE WASTE ARE DEFINED IN THE NMD AND SUMMARIZED IN THE WCPP**

**SUMMARY OF KEY DEVELOPMENTS SINCE
REVISION 3 OF THE WIPP-WAC (JANUARY 1989)**

(Continued)

- **A RCRA PART B PERMIT APPLICATION HAS BEEN PREPARED (AND IS CURRENTLY BEING REVISED) FOR RESUBMITTAL TO THE NEW MEXICO ENVIRONMENT DEPARTMENT (NMED)**
 - **SPECIFIC RCRA REQUIREMENTS WILL BE DEFINED IN THIS PERMIT APPLICATION**
 - **THESE REQUIREMENTS ARE NOT IN REVISION 4, BUT WILL BE INCLUDED IN REVISION 5**
 - **WILL INDICATE RCRA REQUIREMENTS (AS PROPOSED) THROUGHOUT THIS PRESENTATION**

**SUMMARY OF KEY DEVELOPMENTS SINCE
REVISION 3 OF THE WIPP-WAC (JANUARY 1989)**

(Continued)

- **THE RESPONSIBILITIES OF THE DOE WIPP PROJECT OFFICE
HAVE BEEN DISTRIBUTED BETWEEN THE DOE WIPP PROJECT
INTEGRATION OFFICE (DOE/WPIO) AND THE DOE WIPP PROJECT
SITE OFFICE (DOE/WPSO)**

NEED FOR WIPP-WAC REVISION 4

- **RECOMMENDATION OF THE BLUE RIBBON PANEL**
- **CLARIFY EXISTING CRITERIA/REQUIREMENTS**
- **CONSOLIDATE EXISTING CRITERIA/REQUIREMENTS INTO ONE DOCUMENT**
- **PROVIDE GENERATOR/STORAGE SITES WITH**
 - **A SUMMARY OF ALL EXISTING CRITERIA/REQUIREMENTS**
 - **THE IDENTIFICATION OF THE LIMITING (MOST RESTRICTIVE) CRITERIA/REQUIREMENTS**

NEED FOR WIPP-WAC REVISION 4

(Continued)

- **CONSOLIDATE AS MANY EXISTING DOCUMENTS AS POSSIBLE INTO REVISION 4 OF WIPP-DOE-069**
- **REWORD DISCUSSIONS IN REVISION 3 TO REFLECT AN EXISTING PROGRAM, RATHER THAN ONE IN CONCEPTUAL DESIGN STAGE**
- **CONDENSE TECHNICAL DISCUSSIONS**
- **MAKE THE DOCUMENT "USER FRIENDLY"**

METHODOLOGY FOR PREPARING REVISION 4

- **AN INDEPENDENT PEER REVIEW PANEL (IPRP) TASKED BY THE WASTE ACCEPTANCE CRITERIA CERTIFICATION COMMITTEE (WACCC) TO PRODUCE REVISION 4**
 - **MEMBERS OF THE IPRP WERE DERIVED FROM DIFFERENT BACKGROUNDS AS NEEDED**
 - **RCRA**
 - **TRANSPORTATION (TRUPACT-II/RH CASK)**
 - **GENERATOR SITE EXPERIENCE IN WASTE OPERATIONS**
 - **EXPERIENCE WITH NMVP AND OTHER IMPORTANT WIPP DOCUMENTS**

METHODOLOGY FOR PREPARING REVISION 4 (Continued)

- **DRAFT VERSIONS OF THE DOCUMENT WERE SUBJECT TO EXHAUSTIVE INTERNAL AND EXTERNAL REVIEW**
 - **DOE/WIPP, DOE/AL, DOE/HQ, WASTE GENERATOR AND STORAGE SITES, THE NMED, AND THE ENVIRONMENTAL EVALUATION GROUP (EEG)**
- **COMMENTS RECEIVED WERE RESOLVED AND INCORPORATED INTO THE FINAL REVISION 4 OF THE WIPP-WAC**

DOCUMENTS SUPERSEDED BY REVISION 4 OF THE WAC

- "TRU (TRANSURANIC) WASTE CERTIFICATION COMPLIANCE REQUIREMENTS FOR ACCEPTANCE OF NEWLY-GENERATED CONTACT-HANDLED WASTES TO BE SHIPPED TO WIPP" (WIPP-DOE-114, REV. 2)
- "QUALITY ASSURANCE REQUIREMENTS FOR CERTIFICATION OF TRU WASTE FOR SHIPMENT TO THE WASTE ISOLATION PILOT PLANT" (WIPP-DOE-120, REV. 2)
- "TRU (TRANSURANIC) WASTE CERTIFICATION COMPLIANCE REQUIREMENTS FOR ACCEPTANCE OF CONTACT-HANDLED WASTES RETRIEVED FROM STORAGE TO BE SHIPPED TO THE WASTE ISOLATION PILOT PLANT" (WIPP-DOE-137, REV. 2)
- "DATA PACKAGE FORMAT FOR CERTIFIED TRANSURANIC WASTE FOR THE WASTE ISOLATION PILOT PLANT" (WIPP-DOE-157, REV. 2)

**DOCUMENTS SUPERSEDED BY REVISION 4 OF THE WAC
(Continued)**

- **"TRU (TRANSURANIC) WASTE CERTIFICATION COMPLIANCE REQUIREMENTS FOR REMOTE-HANDLED WASTES FOR SHIPMENT TO THE WASTE ISOLATION PILOT PLANT" (WIPP-DOE-158, REV. 1)**
- **"QUALITY ASSURANCE GUIDANCE FOR TRUPACT-II (TRANSURANIC PACKAGE TRANSPORTER-II) PAYLOAD CONTROL" (DOE/WIPP 89-007, REV. 0)**
- **"WASTE ACCEPTANCE CRITERIA FOR THE WASTE ISOLATION PILOT PLANT" (WIPP-DOE-069, REV. 3)**

**DOCUMENTS REFERENCED (NOT SUPERSEDED)
BY REVISION 4 OF THE WAC**

- **"QUALITY ASSURANCE PROGRAM PLAN FOR THE WASTE ISOLATION PILOT PLANT EXPERIMENTAL-WASTE CHARACTERIZATION PROGRAM" (DOE/EM/48063-1, REV. 1)**
- **"WASTE CHARACTERIZATION PROGRAM PLAN FOR WASTE ISOLATION PILOT PLANT EXPERIMENTAL WASTE" (DOE/WIPP 89-025, REV. 1)**
- **"SAFETY ANALYSIS REPORT FOR THE TRUPACT-II SHIPPING PACKAGE (SARP)" (DOCKET NO. 71-9218, REV. 12)**
- **"FINAL SAFETY ANALYSIS REPORT" (FSAR) (WP 02-9, REV. 0)**
- **"QUALITY ASSURANCE (QA) PLAN FOR THE TRANSPORTATION AND RECEIPT OF TRANSURANIC (TRU) WASTE" (DOE/WIPP 89-012)**

REVISION 4 OF WAC - DEFINITIONS

CRITERIA: LIMITING PARAMETERS SPECIFIED BY DOE

**REQUIREMENTS: PARAMETERS IMPOSED BY REGULATIONS AND
STATUTES FROM EXTERNAL ORGANIZATIONS**

**TABLE 3-2
SUMMARY OF WASTE ACCEPTANCE CRITERIA AND REQUIREMENTS¹**

WASTE CONTAINER REQUIREMENTS/CRITERIA					
WAC Criterion/ Requirement & Section	CH or RH	WIPP Operations and Safety Criteria	Transportation: Waste Package Requirements: TRAMPAC/RH-Cask²	RCRA Requirements	Performance Assessment Criteria
Waste Containers 3.2.1	CH	<i>Type A, Noncombustible</i>	<i>55-gal drums, SWBs, or SWB Overpack of 55-gal Drums or Test Bin</i>	No Additional Requirements	Same as Transportation
	RH	<i>Type A, Noncombustible</i>	<i>RH Canister</i>	No Additional Requirements	None
Waste Package Size 3.2.2	CH	Maximum dimension specified	<i>55-gal Drums in Two Seven Packs, or Two SWBs</i>	None	Same as Transportation
	RH	<i>RH Canister</i>	RH Canister	None	None
Waste Package Handling 3.2.3	CH	Drum and Box Handling Attachments	<i>Seven Packs, or SWBs</i>	None	No Additional Requirements
	RH	<i>Axial Pintle</i>	Axial Pintle	None	None
WASTE FORM REQUIREMENTS/CRITERIA					
WAC Criterion/ Requirement & Section	CH or RH	WIPP Operations and Safety Criteria	Transportation: Waste Package Requirements: TRAMPAC/RH-Cask²	RCRA Requirements	Performance Assessment Criteria
Immobilization 3.3.1	CH & RH	<i>≤ 1% Below 10 Microns, ≤ 15% Below 200 Microns</i>	None	No Additional Requirements	Same as WIPP Operation
Liquids 3.3.2	CH & RH	<i>Only Residual Liquids (see definitions in Section 3.3.2.1)</i>	< 1 Volume Percent	No Additional Requirements	< 1 Volume Percent
Pyrophoric Materials 3.3.3	CH & RH	<i>≤ 1% Radionuclides, No Non-Radionuclide Pyrophorics</i>	<i>< 1% Radionuclides, No Non-Radionuclide Pyrophorics</i>	<i>See Section 3.3.5.3</i>	Same as Transportation
Explosives and Compressed Gases 3.3.4	CH & RH	Not Permitted, 49 CFR 173 Subpart C and G	<i>Explosives and compressed gases are not permitted</i>	<i>See Section 3.3.5.3</i>	No Additional Requirements
TRU Mixed Wastes 3.3.5	CH & RH	<i>Hazardous Waste must be Reported</i>	<i>Corrosives are not permitted</i>	<i>WIPP RCRA Parts A & B Permit Applications, WAP, NMD</i>	No Additional Requirements
Specific Activity of Waste 3.3.6	CH	<i>> 100nCi/g TRU</i>	Same as WIPP Operations	None	Same as WIPP Operations
	RH	<i>> 100nCi/g TRU ≤ 23 Ci/liter total</i>	Same as WIPP Operations	None	Same as WIPP Operations

1 - Limiting parameters are shown in bold italics, and are the basis for Table 3-1.
2 - RH Cask limits have not been finalized.

TABLE 3-2 (CONT.)
SUMMARY OF WASTE ACCEPTANCE CRITERIA AND REQUIREMENTS¹

WASTE PACKAGE REQUIREMENTS/CRITERIA					
WAC Criterion/ Requirement & Section	CH or RH	WIPP Operations and Safety Criteria	Transportation: Waste Package Requirements: TRAMPAC/RH-Cask ²	RCRA Requirements	Performance Assessment Criteria
Waste Package Weight 3.4.1	CH	< 21,000 lbs	<i>1000 lbs per drum, 4000 lbs per SWB, 7265 lbs per TRUPACT-II payload 19,250 lbs per TRUPACT-II, 80,000 lbs GVW (DOT)</i>	None	None
	RH	< <i>8,000 lbs</i>	RH-Cask TBD	None	None
Nuclear Criticality (Pu-239 FGE) 3.4.2	CH	See List in 3.4.2.1	< <i>200 g/drum, 325 g/SWB, or 325 g/TRUPACT-II</i>	None	Same as Transportation
	RH	≤ 600 g	< <i>325 g/cask</i>	None	Same as Transportation
Pu-239 Equivalent Activity 3.4.3	CH & RH	≤ <i>1000 PE-Ci/ package</i>	None	None	None
Surface Dose Rate 3.4.4	CH	≤ <i>200 mrem/hr</i>	≤ <i>200 mrem/hr, DOT Package Limits, and Shielded Packages per SARP</i>	None	Same as WIPP Operations
	RH	<i>95% ≤ 100 rem/hr. 5% ≤ 1000 rem/hr.</i>	RH-Cask TBD and DOT Package Limits	None	None
Removable Surface Contamination 3.4.5	CH & RH	≤ <i>50 pCi/100 cm² alpha, 450 pCi/100 cm² beta-gamma</i>	None	None	Same as WIPP Operations
Thermal Power 3.4.6	CH	No Limit Report if >0.1 watts/ft ³	<i>Refer to Limits in TRUPACT-II SAR Section 1.2.3.3</i>	None	Same as Transportation
	RH	≤ <i>300 watts/canister</i>	RH-Cask TBD	None	None
Gas Generation 3.4.7	CH	Vented	<i>TRAMPAC Limits; See requirements in Section 3.4.7.2, ≤ 500 ppm Flammable VOCs; Chemical compatibility study; all trace chemicals < 5 weight percent</i>	NMD Requirements Apply	<i>SNL Test Plan</i>
	RH	Vented	RH-Cask TBD	None	Same as CH
Labeling 3.4.8	CH	<i>ID Number, DOT</i>	<i>ID Number and Waste Shipping Category</i>	Same as DOT	None
	RH	<i>ID Number, DOT</i>	RH-Cask TBD	TBD	None

1 - Limiting parameters are shown in bold italics, and are the basis for Table 3-1.
2 - RH Cask limits have not been finalized.

**TABLE 3-2 (CONT.)
SUMMARY OF WASTE ACCEPTANCE CRITERIA AND REQUIREMENTS¹**

DATA PACKAGE REQUIREMENTS/CRITERIA					
WAC Criterion/ Requirement & Section	CH or RH	WIPP Operations and Safety Criteria	Transportation: Waste Package Requirements: TRAMPAC/RH-Cask²	RCRA Requirements	Performance Assessment Criteria
Data Package/ Certification 3.5.1	CH	<i>Certification, WWIS Information, Data Format</i>	<i>Tables 13.1 to 13.3 in Appendix 1.3.7 (TRAMPAC)</i>	<i>Hazardous Waste Manifest per 40 CFR Part 262 NMD and QAPP Requirements</i>	<i>PA Data Package, QAPP Requirements</i>
	RH	<i>Certification, WWIS Information, Data Format</i>	RH-Cask TBD	TBD	None
OTHER REQUIREMENTS/CRITERIA					
Additional Requirements 3.6.1	CH	None	<i>One Shipping Category per TRUPACT-II, Authorized TRUCON Content Codes, Waste Aspirated per SARP, Payload Control Procedures</i>	Regulations or Permit Conditions as Determined by NMED	None
	RH	None	RH-Cask TBD	TBD	None

1 - Limiting parameters are shown in bold italics, and are the basis for Table 3-1.
2 - RH Cask limits have not been finalized.

**TABLE 3-1
SUMMARY OF WAC LIMITING PARAMETERS FOR CH-TRU WASTE**

WASTE CONTAINER REQUIREMENTS/CRITERIA		
CRITERION/ REQUIREMENT AND SECTION	LIMITING PARAMETER(S)	SOURCE(S) OF LIMIT(S)
Waste Containers 3.2.1	• Containers shall be noncombustible and meet DOT Type A packaging requirements.	1
	• Current TRUPACT-II requirements limit acceptable containers to 55-gallon drums, standard waste boxes (SWBs), or SWB overpack of 55-gallon drums or test bins.	2
Waste Package Size 3.2.2	• Current TRUPACT-II limits are 55-gallon drums in two seven-packs, or two SWBs.	2
Waste Package Handling 3.2.3	• All packages shall be configured as specified in the TRUPACT-II SARP (see 3.2.2 above).	2
WASTE FORM REQUIREMENTS/CRITERIA		
Immobilization 3.3.1	• Waste materials shall be immobilized if >1% by weight is particulate material < 10 microns in diameter, or if >15% by weight is particulate material < 200 microns in diameter.	1
Liquids 3.3.2	• Only residual liquids; as a guideline, residual liquid in well-drained internal containers to be restricted to approximately 1 volume % of the internal container; aggregate amount of residual liquid < 1 volume % of external container.	1
Pyrophoric Materials 3.3.3	• No non-radionuclide pyrophorics permitted. Radionuclides in pyrophoric form are limited to <1% by weight in each waste package.	2,3
Explosives and Compressed Gases 3.3.4	• No explosives (49 CFR Part 173, Subpart C) are permitted.	1,2,3
	• No compressed gases are permitted.	2
TRU Mixed Wastes 3.3.5	• TRU wastes shall contain no hazardous wastes unless they exist as co-contaminants with transuranics.	1
	• Waste generators must determine if their waste is regulated by RCRA, and meet the requirements in the WIPP RCRA Part A and Part B Permit Applications.	3

**TABLE 3-1 (CONT.)
SUMMARY OF WAC LIMITING PARAMETERS FOR CH-TRU WASTE**

WASTE FORM REQUIREMENTS/CRITERIA (Continued)		
CRITERION/ REQUIREMENT AND SECTION	LIMITING PARAMETER(S)	SOURCE(S) OF LIMIT(S)
TRU Mixed Wastes (Cont.) 3.3.5	<ul style="list-style-type: none"> Generators must document procedures for sampling, analytical protocols, QA/QC guidelines, and other information called for in 40 CFR § 264.13 and 265.13 in a site-specific QAPjP. 	3
	<ul style="list-style-type: none"> Characteristic ignitable (D001), corrosive (D002), and reactive (D003) wastes are not acceptable at WIPP. 	1,2,3
	<ul style="list-style-type: none"> Any waste container sent to WIPP or loaded into a bin destined for WIPP must meet the two times (2X) the maximum comparability requirement for 5 nonflammable VOCs as specified in the NMD. 	3
	<ul style="list-style-type: none"> Any waste container sent to WIPP must meet the ten times (10X) the average comparability requirement for 3 nonflammable VOCs as specified in the NMD. 	3
	<ul style="list-style-type: none"> Sludges shall be analyzed for total VOCs and toxic metals specified in the NMD. 	3
Specific Activity of Waste 3.3.6	<ul style="list-style-type: none"> Waste shall be greater than 100 nanocuries of TRU per gram of waste, exclusive of added shielding, rigid liners, and the waste containers, including alpha contaminated wastes handled as TRU under DOE Order 5820.2A. 	1
WASTE PACKAGE REQUIREMENTS/CRITERIA		
Waste Package Weight 3.4.1	<ul style="list-style-type: none"> Current waste package limits are 1000 lbs per 55-gallon drum, or 4000 lbs per SWB. 	2
	<ul style="list-style-type: none"> TRUPACT-II payload is limited to 7265 lbs. 	2
	<ul style="list-style-type: none"> TRUPACT-II is limited to 19,250 lbs total gross weight, with a total shipment GVW of 80,000 lbs. 	2

**TABLE 3-1 (CONT.)
SUMMARY OF WAC LIMITING PARAMETERS FOR CH-TRU WASTE**

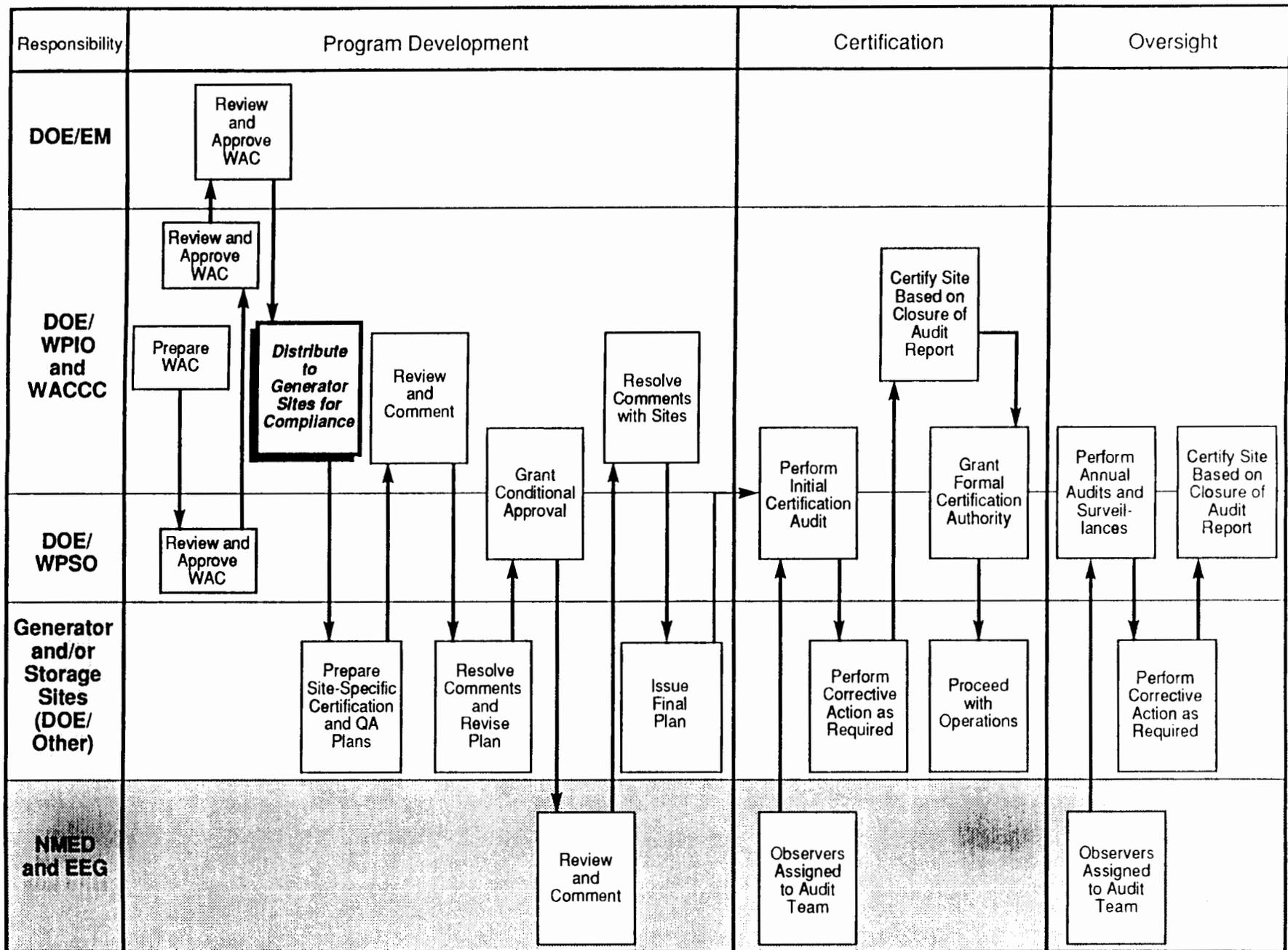
WASTE PACKAGE REQUIREMENTS/CRITERIA (Continued)		
CRITERION/ REQUIREMENT AND SECTION	LIMITING PARAMETER(S)	SOURCE(S) OF LIMIT(S)
Nuclear Criticality (Pu-239 FGE) 3.4.2	<ul style="list-style-type: none"> Accepted package limits, including two times the error, are: <ul style="list-style-type: none"> < 200g/55-gallon drum < 325g/SWB 	2
	<ul style="list-style-type: none"> The sum of the FGE of all packages in a TRUPACT-II payload shall be < 325g. 	2
Pu-239 Equivalent Activity 3.4.3	<ul style="list-style-type: none"> Waste packages shall not exceed 1000 Ci of Pu-239 equivalent activity (PE-Ci). 	1
Surface Dose Rate 3.4.4	<ul style="list-style-type: none"> Drums or SWBs shall not exceed 200 mrem/hr surface reading, or 10 mrem/hr at 2 m. 	1,2
	<ul style="list-style-type: none"> Shielded containers are allowed for ALARA purposes only. 	2
	<ul style="list-style-type: none"> Neutron contributions of >20 mrem/hr shall be separately documented. 	1
	<ul style="list-style-type: none"> External dose rates on the loaded TRUPACT-II shall not exceed 200 mrem/hr surface, or 10 mrem/hr at 2 m. 	2
Removable Surface Contamination 3.4.5	<ul style="list-style-type: none"> Removable package surface contamination shall not be >50 pCi/100 cm² alpha, and not >450 pCi/100 cm² beta/gamma. 	1
Thermal Power 3.4.6	<ul style="list-style-type: none"> Thermal (wattage) limits for individual waste packages, including the error, are contained in the TRUPACT-II SARP. 	2
	<ul style="list-style-type: none"> TRUPACT-II load limits are contained in the TRUPACT-II SARP. 	2
	<ul style="list-style-type: none"> TRUPACT-II design limit is 40 watts. 	2

TABLE 3-1 (CONT.) SUMMARY OF WAC LIMITING PARAMETERS FOR CH-TRU WASTE		
WASTE PACKAGE REQUIREMENTS/CRITERIA (Continued)		
CRITERION/ REQUIREMENT AND SECTION	LIMITING PARAMETERS(S)	SOURCE(S) OF LIMIT(S)
Gas Generation 3.4.7	<ul style="list-style-type: none"> • All confinement layers, such as bags, shall be closed only by a twist-and-tape or fold-and-tape method. 	2
	<ul style="list-style-type: none"> • No sealed containers > 1 gallon may be in the waste. 	2
	<ul style="list-style-type: none"> • The maximum number of confinement layers shall be known. 	2
	<ul style="list-style-type: none"> • Waste packages emplaced in WIPP during the experimental period shall not exceed 50% of the lower explosive limit in any layer of confinement for hydrogen and methane. 	3
	<ul style="list-style-type: none"> • Total flammable VOCs are limited to 500 ppm in the headspace gas of waste packages. 	2
	<ul style="list-style-type: none"> • If total flammable VOCs are > 500 ppm in headspace, a flame test must be performed prior to emplacement in the WIPP. 	3
	<ul style="list-style-type: none"> • If total flammable VOCs are > 500 ppm in headspace, a Le Chatelier calculation is necessary. 	3
	<ul style="list-style-type: none"> • All chemicals/materials > 1% by weight must be evaluated for compatibility within the waste form and with TRUPACT-II materials of construction. 	2
	<ul style="list-style-type: none"> • Trace chemicals (<1 weight % limit) must total < 5% by weight of the waste in any package. 	2
	<ul style="list-style-type: none"> • Chemicals/materials present in concentrations greater than one weight percent, shall conform to the allowable chemicals in each waste material type. 	2
	<ul style="list-style-type: none"> • Real-time radiography or equivalent examination. 	4
	<ul style="list-style-type: none"> • Visual characterization of solid waste for 10 waste material categories listed in QAPP. 	4
	<ul style="list-style-type: none"> • Analysis of sludges for pH and major cations and anions listed in SNL Bin-Scale Test Plan. 	4
<ul style="list-style-type: none"> • Total alpha activity of waste on a container basis using methodology listed in QAPP. 	4	

TABLE 3-1 (CONT.) SUMMARY OF WAC LIMITING PARAMETERS FOR CH-TRU WASTE		
WASTE PACKAGE REQUIREMENTS/CRITERIA (Continued)		
CRITERION/ REQUIREMENT AND SECTION	LIMITING PARAMETERS(S)	SOURCE(S) OF LIMIT(S)
Gas Generation 3.4.7 (Cont.)	<ul style="list-style-type: none"> All waste packages shipped in TRUPACT-II shall be vented with one or more filters that meet specifications listed in the TRUPACT-II SARP. 	2
	<ul style="list-style-type: none"> All rigid liners shall be punctured or vented. 	2
Labeling 3.4.8	<ul style="list-style-type: none"> A unique identification barcode label reasonably expected to last 10 years shall be affixed. 	1,2
	<ul style="list-style-type: none"> Each package shall have appropriate DOT labels. 	1,2,3
	<ul style="list-style-type: none"> Each package shall be marked with the shipping category. 	2
DATA PACKAGE REQUIREMENTS/CRITERIA		
Data Package/ Certification 3.5.1	<ul style="list-style-type: none"> A data package with certification shall be transmitted prior to shipment. 	1
	<ul style="list-style-type: none"> Documentation for certification of individual packages or a group of packages for shipment in each TRUPACT-II unit shall be submitted. 	2
	<ul style="list-style-type: none"> A hazardous waste manifest shall be utilized for each shipment of TRU mixed waste. 	3
	<ul style="list-style-type: none"> Information required by the WCPP shall be provided. 	4
OTHER REQUIREMENTS/CRITERIA		
Additional Requirements 3.6.1	<ul style="list-style-type: none"> All packages in a single TRUPACT-II shall belong to the same shipping category. 	2
	<ul style="list-style-type: none"> Each package shipped shall belong to one of the content codes defined in TRUCON. 	2
	<ul style="list-style-type: none"> Retrievably stored waste that has been unvented shall be vented and aspirated per the TRUPACT-II SARP. 	2
	<ul style="list-style-type: none"> Payload control procedures outlined in Section 7.4.3 of the TRUPACT-II SARP shall be followed. 	2

Source(s) of Limit(s):

- 1 - WIPP Operations and Safety Criteria
- 2 - Transportation: Waste Package Requirements: TRAMPAC
- 3 - RCRA Requirements
- 4 - Performance Assessment Criteria



Waste Acceptance Criteria Certification Process Flowchart

WIPP CRITERIA/REQUIREMENTS INCLUDED IN REVISION 4 OF THE WAC

- **WIPP OPERATIONS AND SAFETY CRITERIA**
 - **REVISION 3 OF WIPP-DOE-069**
 - **OTHER WAC SUPPORTING DOCUMENTS**

- **TRANSPORTATION: WASTE PACKAGE REQUIREMENTS**
 - **TRUPACT-II SARP**
 - **REMOTE-HANDLED (RH) CASK (AS SUBMITTED
TO DOE-HQ FOR REVIEW)**

WIPP CRITERIA/REQUIREMENTS INCLUDED IN REVISION 4 OF THE WAC

(Continued)

- **RCRA REQUIREMENTS**

- **NO-MIGRATION DETERMINATION (NMD)**

- **RCRA PART B PERMIT APPLICATION**

- **SPECIFIC REQUIREMENTS ARE NOT INCLUDED IN REV. 4,
SINCE THESE HAVE NOT BEEN APPROVED BY THE
NEW MEXICO ENVIRONMENT DEPARTMENT (NMED)**

- **REQUIREMENTS IN SUBMITTAL INCLUDED IN PRESENTATION**

- **PERFORMANCE ASSESSMENT CRITERIA**

- **SANDIA TEST PLANS**

- **SUMMARIZED IN THE WCPP**

TWO-STAGE CERTIFICATION PROCESS INCLUDED IN REVISION 4 OF THE WAC

- **"WASTE PACKAGE CERTIFICATION" - FIRST STAGE**
 - **CERTIFICATION IS FOR EVERY WASTE CONTAINER**
 - **WIPP OPERATIONS AND SAFETY CRITERIA**
 - **TRANSPORTATION: WASTE PACKAGE REQUIREMENTS**

- **"WASTE-STREAM SPECIFIC CERTIFICATION" - SECOND STAGE**
 - **CERTIFICATION IS ON A WASTE STREAM/CONTENT-CODE/
IDC BASIS**
 - **RCRA REQUIREMENTS (INCLUDING NMD)**
 - **PERFORMANCE ASSESSMENT CRITERIA**

 - **ALL REQUIREMENTS ARE NOT KNOWN AT PRESENT**

IMPLEMENTATION OF CERTIFICATION PROCESS

- **SITES ARE ADVISED TO WORK TOWARD WASTE PACKAGE CERTIFICATION**
- **WASTE CHARACTERIZATION PROGRAM PLAN (WCPP) IS CURRENTLY BEING REVISED TO PROVIDE SITES WITH GUIDANCE ON SECOND STAGE CERTIFICATION (WASTE-STREAM-SPECIFIC CERTIFICATION)**

CERTIFICATION PROCESS

- **GENERATOR/STORAGE SITES DELIVERABLES**
 - **WAC CERTIFICATION PLAN**
 - **QUALITY ASSURANCE (QA) PLAN**
 - **SITE-SPECIFIC TRAMPAC AND QA PLANS**
 - **QUALITY ASSURANCE PROJECT PLAN (QAPjP)**

- **SITE-SPECIFIC CERTIFICATION DOCUMENTS WILL BE APPROVED BEFORE THE SITES ARE GRANTED CERTIFICATION AND/OR TRANSPORTATION AUTHORITY**

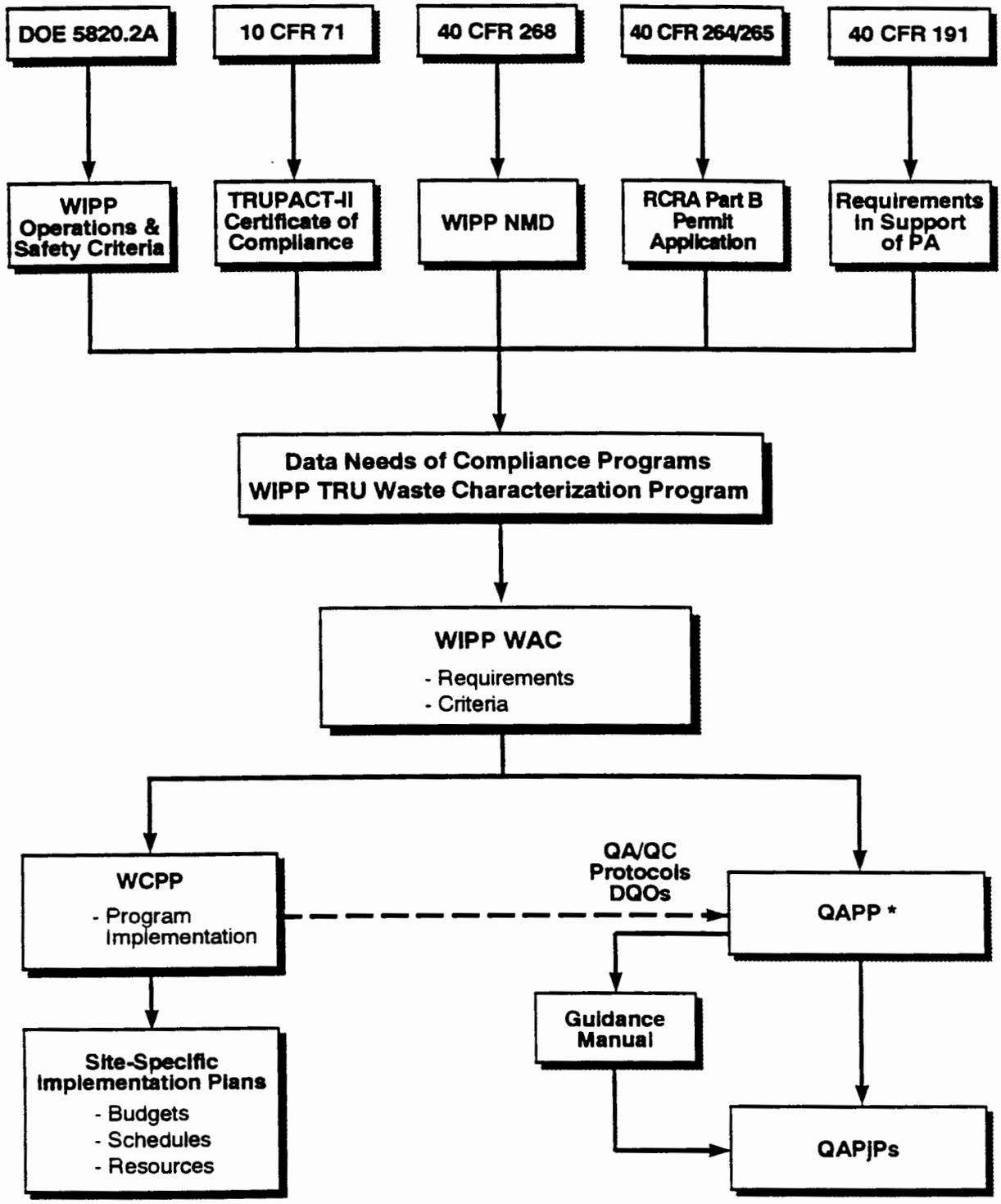
- **INITIAL CERTIFICATION AUDIT, PERIODIC RE-AUDITS AND SURVEILLANCES**
 - **NMED AND EEG REPRESENTATIVES**

- **SITE CERTIFICATION OFFICIAL**

CERTIFICATION DOCUMENTATION

- **FOR WASTE PACKAGE CERTIFICATION, THE CERTIFICATION AND QA PLANS CAN BE IN THE SAME OR IN DIFFERENT DOCUMENTS**
- **CERTIFICATION PROCESS IN REVISION 4 OF THE WAC DOES NOT INVALIDATE WASTE CERTIFIED TO THE OPERATIONS AND SAFETY CRITERIA AND/OR TRANSPORTATION**
- **QA REQUIREMENTS APPLICABLE TO ALL ASPECTS OF CERTIFICATION MAY (IN THE FUTURE) BE COMBINED IN A SINGLE QAPjP AT A GIVEN SITE**

REGULATIONS
REQUIREMENTS/
CRITERIA



* Does not include transportation requirements or Operations and Safety criteria.

WIPP Library

**WASTE ACCEPTANCE CRITERIA
FOR WIPP, REVISION 4**

SESSION 2

**WASTE ACCEPTANCE CRITERIA SEMINAR
NEW MEXICO ENVIRONMENT DEPARTMENT
FEBRUARY 3, 1993**

**PAUL DREZ
TECHNICAL SUPPORT GROUP
WIPP PROJECT INTEGRATION OFFICE**

SESSION 2 - SUMMARY

- **LAYOUT OF WAC REVISION 4 DOCUMENT**
- **SUMMARY OF KEY WIPP-WAC REVISIONS AND MAJOR CHANGES**
- **WASTE CONTAINER LIMITING REQUIREMENTS/CRITERIA**
- **WASTE FORM LIMITING REQUIREMENTS/CRITERIA (EXCEPT TRU MIXED WASTE REQUIREMENTS/CRITERIA)**

LAYOUT OF DOCUMENT

- **EXECUTIVE SUMMARY**
- **INTRODUCTION (CHAPTER 1)**
- **RESPONSIBILITIES (CHAPTER 2)**
 - **TO BE BETTER DEFINED IN REVISION 5**
- **WIPP WASTE ACCEPTANCE CRITERIA (CHAPTER 3)**
 - **WASTE CONTAINER REQUIREMENTS/CRITERIA**
 - **WASTE FORM REQUIREMENTS/CRITERIA**
 - **WASTE PACKAGE REQUIREMENTS/CRITERIA**
 - **DATA PACKAGE REQUIREMENTS/CRITERIA**
 - **OTHER REQUIREMENTS/CRITERIA**
- **QUALITY ASSURANCE REQUIREMENTS (CHAPTER 4)**

LAYOUT OF DOCUMENT (Continued)

- **REFERENCES (CHAPTER 5)**

- **APPENDICES (CHAPTER 6)**
 - **CALCULATION OF Pu-239 EQUIVALENT ACTIVITY (APPENDIX A)**

 - **WIPP OPERATIONS AND SAFETY DATA PACKAGE REQUIREMENTS (APPENDIX B)**

 - **PAYLOAD ASSEMBLY CRITERIA, TRUPACT-II SARP, APPENDIX 1.3.7 (TRAMPAC) (APPENDIX C)**

 - **DEFINITIONS (APPENDIX D)**

 - **WASTE PROFILE FORM (APPENDIX E - REVISION 5)**

STRUCTURE OF CHAPTER 3

THE FOLLOWING SUBDIVISIONS APPEAR UNDER EACH REQUIREMENT/CRITERIA:

- **WIPP OPERATIONS AND SAFETY CRITERIA**
 - **CONTACT-HANDLED WASTE**
 - **REMOTE-HANDLED WASTE**
- **TRANSPORTATION: WASTE PACKAGE REQUIREMENTS**
 - **TRUPACT-II REQUIREMENTS**
 - **RH CASK REQUIREMENTS (PRELIMINARY)**
- **RCRA REQUIREMENTS**
- **PERFORMANCE ASSESSMENT CRITERIA**
- **COMPLIANCE**
- **TECHNICAL JUSTIFICATION**

SUMMARY OF REVISION 4

- **CONSOLIDATES EXISTING CRITERIA AND REQUIREMENTS INTO A SINGLE DOCUMENT**
 - **RCRA PART B PERMIT APPLICATION WASTE ANALYSIS PLAN (WAP) NOT INCLUDED**

- **ADDRESSES CRITERIA AND REQUIREMENTS IDENTIFIED TO DATE**
 - **RCRA PART B PERMIT APPLICATION WASTE ANALYSIS PLAN (WAP) NOT INCLUDED**

- **PROVIDES SUMMARY TABLE THAT COMPARES SIMILAR CRITERIA/REQUIREMENTS**

- **IDENTIFIES THE MOST RESTRICTIVE CRITERIA/REQUIREMENTS FOR EACH PARAMETER**

SUMMARY OF REVISION 4

(Continued)

- **CHAPTER 2, "RESPONSIBILITIES," INCORPORATES THE DISTRIBUTION OF RESPONSIBILITIES BETWEEN THE DOE/WPIO AND THE DOE/WPSO**
 - **TO BE BETTER DEFINED IN REVISION 5**
- **SELECTED DOCUMENTS SUPERSEDED BY REVISION 4 OF THE WIPP-WAC**
- **USER-FRIENDLY TO GENERATOR/STORAGE SITES**

DISCUSSION OF RH-TRU WASTE IN REVISION 4

- **WIPP OPERATIONS AND SAFETY CRITERIA FOR RH-TRU WASTE ARE INCLUDED IN REVISION 4**
- **PRELIMINARY TRANSPORTATION REQUIREMENTS HAVE BEEN INCLUDED BASED ON INITIAL DISCUSSION WITH THE NUCLEAR REGULATORY COMMISSION AND THE SARP UNDER DEVELOPMENT**
- **OTHER REQUIREMENTS/CRITERIA ARE PRESENTLY UNDER DEVELOPMENT FOR RH-TRU WASTE**
- **THIS PRESENTATION IS FOCUSED ON THE REQUIREMENTS/CRITERIA APPLICABLE TO CH-TRU WASTE**

MAJOR CHANGES IN REVISION 4 (FROM REVISION 3 CRITERIA)

- **RESTRICTION OF FREE LIQUIDS (SECTION 3.3.2)**
 - **MORE SPECIFIC GUIDANCE PROVIDED TO SITES**
 - **DEFINITIONS PROVIDED FOR THE TERMS "RESIDUAL LIQUIDS" AND "WELL-DRAINED CONTAINERS"**
- **ADDITIONAL DOCUMENTATION REQUIRED TO DEMONSTRATE COMPLIANCE WITH LIMIT ON PARTICULATES**

**MAJOR CHANGES IN REVISION 4
(FROM REVISION 3 CRITERIA)
(Continued)**

- **RESTRICTION ON CORROSIVES (SECTION 3.3.5)**
 - **TRANSPORTATION LIMITS MORE RESTRICTIVE**
 - **PRECLUDES PACKAGING OF CORROSIVE MATERIALS WITH A LINER FOR EMPLACEMENT AT WIPP**

- **WASTE CONTAINERS (SECTION 3.2.1)**
 - **20-YEAR DESIGN LIFE CRITERIA DELETED**
 - **TYPE A REQUIREMENT FROM TIME OF CERTIFICATION TO EMPLACEMENT AT WIPP**

**MAJOR CHANGES IN REVISION 4
(FROM REVISION 3 CRITERIA)
(Continued)**

- **QA PROGRAM AT SITES TO MEET REQUIREMENTS OF DOE ORDER 5700.6C**
- **THERE WILL BE A FORMAL CHANGE CONTROL PROCESS FOR UPDATING CONTROLLED COPIES OF WIPP-DOE-069. REVISED PAGES WILL BE SUPPLIED TO ALL HOLDERS OF CONTROLLED COPIES**
- **THE SPECIFIC ACTIVITY CRITERIA HAS BEEN REVISED TO APPLY TO WASTES MANAGED AS TRU UNDER THE PROVISIONS OF DOE ORDER 5820.2A (e.g., U-233 AND Ra-226)**

MAJOR CHANGES IN REVISION 4

(FROM REVISION 3 CRITERIA)

(Continued)

- **INITIALLY, THE EXPERIMENTAL BINS RECEIVED AT THE WIPP WILL UNDERGO ACCEPTANCE TESTS APPLICABLE ONLY TO BINS. IN THE EVENT A BIN DOES NOT MEET THESE SPECIAL ACCEPTANCE TESTS, THE ORIGINATING SITE SHALL HAVE PROCEDURES AND AGREEMENTS IN PLACE FOR RETURN OF THE WASTE.**
- **APPENDIX B HAS BEEN REVISED TO DELETE THE REQUIREMENT FOR REPORTING HAZARDOUS MATERIAL QUANTITIES. HAZARDOUS MATERIAL QUANTITIES SHOULD BE REPORTED ONLY IF ANALYTICAL DATA (OTHER THAN HEADSPACE ANALYSIS) ARE AVAILABLE.**

WIPP WASTE ACCEPTANCE CRITERIA

- • WASTE CONTAINER REQUIREMENTS/CRITERIA**
- WASTE FORM REQUIREMENTS/CRITERIA**
- WASTE PACKAGE REQUIREMENTS/CRITERIA**
- DATA PACKAGE REQUIREMENTS/CRITERIA**
- OTHER REQUIREMENTS/CRITERIA**

WASTE CONTAINER LIMITING REQUIREMENTS/CRITERIA

WASTE CONTAINERS

REQUIREMENTS/CRITERIA

- **WASTE CONTAINERS SHALL BE NONCOMBUSTIBLE AND MEET DOT TYPE A REQUIREMENTS**
 - **SOURCE OF REQUIREMENT IS WIPP-WAC (REV. 3)**

- **ACCEPTABLE CONTAINERS ARE 55-GALLON DRUMS, STANDARD WASTE BOXES (SWBs), OR SWB OVERPACK OF 55-GALLON DRUMS OR EXPERIMENTAL BINS**
 - **SOURCE OF REQUIREMENT IS TRAMPAC (APPENDIX 1.3.7 OF THE TRUPACT-II SARP)**

IMPACT ON SITES

- **TYPE A REPRESENTS NO IMPACT ON SITES SINCE THEY COMPLY WITH REQUIREMENTS UNDER REVISION 3**

- **OVERSIZED CONTAINERS AND BOXES MUST BE REPACKAGED**

WASTE CONTAINER LIMITING REQUIREMENTS/CRITERIA

WASTE CONTAINERS (Continued)

OTHER ISSUES

- **CRITERION TO ASSURE 20-YEAR WASTE CONTAINER LIFE WAS DELETED. THE TYPE A CRITERION IS SUFFICIENT FOR SAFE HANDLING OF THE WASTE IN THE WIPP.**

COMPLIANCE

- **FOR NEWLY-GENERATED WASTE, PROCUREMENT OR FABRICATION DOCUMENTATION IS REQUIRED**
- **WASTE PACKAGES RETRIEVED FROM STORAGE MUST BE EXAMINED TO DEMONSTRATE THAT PACKAGES MEET APPLICABLE TYPE A REQUIREMENTS**
- **GENERATOR/STORAGE SITES SHALL PACK, HANDLE, AND STORE CONTAINERS IN A MANNER THAT MAINTAINS THE TYPE A SPECIFICATION**

WASTE CONTAINER LIMITING REQUIREMENTS/CRITERIA

WASTE PACKAGE SIZE

REQUIREMENTS/CRITERIA

- **WASTE PACKAGE ASSEMBLIES SHALL BE LIMITED TO 55-GALLON METAL DRUMS IN TWO SEVEN-PACK CONFIGURATIONS, OR TWO SWBs. AN EXPERIMENTAL BIN, OR UP TO FOUR DRUMS MAY BE OVERPACKED IN AN SWB.**
- **SOURCE OF REQUIREMENT IS TRAMPAC**

IMPACT ON SITES

- **CONTAINERS OTHER THAN 55-GALLON DRUMS AND SWBs WILL NEED OVERPACKING OR REPACKAGING**

WASTE CONTAINER LIMITING REQUIREMENTS/CRITERIA

WASTE PACKAGE SIZE (Continued)

COMPLIANCE

- WASTE PACKAGES OR PACKAGE ASSEMBLIES SHALL NOT EXCEED STATED DIMENSIONS
- NO CH-TRU WASTE PACKAGE SHALL BE SMALLER THAN A 55-GALLON DRUM OR EQUIVALENT

WASTE CONTAINER LIMITING REQUIREMENTS/CRITERIA

WASTE PACKAGE HANDLING

REQUIREMENTS/CRITERIA

- **ALL PACKAGES SHALL BE CONFIGURED AS SPECIFIED IN THE TRUPACT-II SARP**
 - **SOURCE OF REQUIREMENT IS TRAMPAC**

IMPACT ON SITES

- **WASTE PACKAGING HANDLING REQUIREMENTS OF THE TRUPACT-II OPERATIONS AND MAINTENANCE MANUAL MUST BE MET**

WIPP WASTE ACCEPTANCE CRITERIA

- **WASTE CONTAINER REQUIREMENTS/CRITERIA**
- • **WASTE FORM REQUIREMENTS/CRITERIA**
- **WASTE PACKAGE REQUIREMENTS/CRITERIA**
- **DATA PACKAGE REQUIREMENTS/CRITERIA**
- **OTHER REQUIREMENTS/CRITERIA**

WASTE FORM LIMITING REQUIREMENTS/CRITERIA

IMMOBILIZATION

REQUIREMENTS/CRITERIA

- **WASTE MATERIALS SHALL BE IMMOBILIZED IF:**
 - **> 1% BY WEIGHT IS PARTICULATE MATERIAL
< 10 MICRONS IN DIAMETER, OR**
 - **> 15% BY WEIGHT IS PARTICULATE MATERIAL
< 200 MICRONS**
 - **SOURCE OF REQUIREMENT IS THE WIPP-WAC (REV. 3)**

IMPACT ON SITES

- **REVISION 4 CALLS FOR MORE SPECIFIC DOCUMENTATION REQUIREMENTS TO VERIFY COMPLIANCE THAN REVISION 3**
- **THE ADDITIONAL DOCUMENTATION SHOULD HAVE MINIMAL IMPACT ON WASTE GENERATOR/STORAGE SITES**

WASTE FORM LIMITING REQUIREMENTS/CRITERIA

IMMOBILIZATION (Continued)

IMPACT ON SITES (Continued)

- **ADDITIONAL VERIFICATION IS MEANT TO MINIMIZE DISPERSION OF FINES DURING ANY ACCIDENTS**

COMPLIANCE

- **DOCUMENTED EVIDENCE OR PROCEDURES SHALL EXIST TO DEMONSTRATE THAT THE WASTE FORM DOES NOT EXIST IN EXCESS OF THE LIMITS**
- **DOCUMENTED EVIDENCE OR ANALYSIS SHALL DEMONSTRATE THE STABILITY AND DURABILITY OF WASTES CAPABLE OF FORMING PARTICULATES**
- **AS A MINIMUM, GENERATORS WILL PROVIDE A LETTER REPORT SUPPORTING THEIR CONCLUSIONS ON COMPLIANCE**

WASTE FORM LIMITING REQUIREMENTS/CRITERIA

LIQUIDS

DEFINITIONS:

- **RESIDUAL LIQUIDS - LIQUIDS IN QUANTITIES OF LESS THAN ONE VOLUME PERCENT OF THE WASTE CONTAINER THAT RESULT FROM LIQUID RESIDUES REMAINING IN WELL-DRAINED INTERNAL CONTAINERS, CONDENSATION OF MOISTURE, AND LIQUID SEPARATION RESULTING FROM SLUDGE OR RESIN SETTLING.**

WASTE FORM LIMITING REQUIREMENTS/CRITERIA

LIQUIDS (Continued)

DEFINITIONS (Continued):

- **WELL-DRAINED CONTAINER - AN INTERNAL RIGID CONTAINER, SUCH AS A BOTTLE OR CAN, IN WHICH LIQUID HAS BEEN REMOVED BY POURING, PUMPING, OR OTHERWISE REMOVING AS MUCH LIQUID AS POSSIBLE. THE ACTUAL QUANTITY OF LIQUID REMAINING IN WELL-DRAINED CONTAINERS WILL VARY DEPENDING UPON VISCOSITY OF THE LIQUID AND THE TYPE AND SIZE OF THE INTERNAL RIGID CONTAINER. AS A GUIDELINE, RESIDUAL LIQUID IN WELL-DRAINED CONTAINERS WILL BE RESTRICTED TO APPROXIMATELY ONE PERCENT OF THE VOLUME OF THE INTERNAL CONTAINER.**

WASTE FORM LIMITING REQUIREMENTS/CRITERIA

LIQUIDS (Continued)

REQUIREMENTS/CRITERIA

- **ONLY RESIDUAL LIQUIDS. RESIDUAL LIQUID IN WELL-DRAINED INTERNAL CONTAINERS RESTRICTED TO APPROXIMATELY 1 VOLUME %**
- **AGGREGATE AMOUNT OF RESIDUAL LIQUID < 1 VOLUME % OF EXTERNAL CONTAINER**

WASTE FORM LIMITING REQUIREMENTS/CRITERIA

LIQUIDS (Continued)

IMPACT ON SITES

- NO IMPACT ON SITES USING THE "NO LIQUIDS" CRITERIA
- GENERATOR SITES STRONGLY ENCOURAGED TO MINIMIZE FREE LIQUIDS IN WASTE FOR NEWLY-GENERATED WASTE
- STORAGE SITES WILL HAVE TO EVALUATE STORED WASTE AGAINST SPECIFIC GUIDANCE PROVIDED IN REVISION 4

COMPLIANCE

- FOR STORED WASTE, REAL-TIME RADIOGRAPHY (RTR) OR VISUAL EXAMINATION SHALL BE USED

WASTE FORM LIMITING REQUIREMENTS/CRITERIA

PYROPHORIC MATERIALS

REQUIREMENTS/CRITERIA

- **NON-RADIONUCLIDE PYROPHORICS ARE PROHIBITED**
- **RADIONUCLIDES IN PYROPHORIC FORM ARE LIMITED TO < 1 % BY WEIGHT IN EACH WASTE PACKAGE**
 - **SOURCE OF LIMITS ARE TRAMPAC AND RCRA REQUIREMENTS**

IMPACT ON SITES

- **NO IMPACT ON SITES SINCE RESTRICTIONS ARE ESSENTIALLY THE SAME AS THOSE IN REVISION 3 OF THE WIPP-WAC**

WASTE FORM LIMITING REQUIREMENTS/CRITERIA

PYROPHORIC MATERIALS (Continued)

OTHER ISSUES

- **WATTAGE AND CRITICALITY LIMIT SEVERELY RESTRICT PYROPHORIC RADIONUCLIDES IN TRU WASTE**

COMPLIANCE

- **DOCUMENTED PROCEDURES OR EVIDENCE SHALL DEMONSTRATE THAT THE WASTE PACKAGE CONTAINS NO NON-RADIONUCLIDE PYROPHORICS AND NO SIGNIFICANT QUANTITIES OF RADIO-NUCLIDE PYROPHORICS**
- **A VALIDATED PROCESS WILL BE USED TO CONVERT (OXIDIZE) PYROPHORIC COMPOUNDS IN WASTE TO A NON-PYROPHORIC FORM**

WASTE FORM LIMITING REQUIREMENTS/CRITERIA

EXPLOSIVES AND COMPRESSED GASES

REQUIREMENTS/CRITERIA

- **NO EXPLOSIVES (AS DEFINED IN 49 CFR 173, SUBPART C) OR COMPRESSED GASES ARE PERMITTED**
 - **SOURCES OF RESTRICTIONS ARE THE WIPP-WAC (REV. 3), TRAMPAC, AND RCRA REQUIREMENTS**

IMPACT ON SITES

- **NO IMPACT ON SITES SINCE THE RESTRICTIONS ARE THE SAME AS THOSE IN REVISION 3 OF THE WIPP-WAC**

WASTE FORM LIMITING REQUIREMENTS/CRITERIA

EXPLOSIVES AND COMPRESSED GASES (Continued)

COMPLIANCE

- **DOCUMENTED PROCEDURES OR RTR VERIFICATION WILL ENSURE THAT WASTE PACKAGES CONTAIN NO PRESSURIZED VESSELS (INCLUDING AEROSOL CANS)**

- **DOCUMENTED PROCEDURES WILL BE USED TO EXCLUDE EXPLOSIVE ITEMS, COMPOUNDS, OR COMBINATIONS OF MATERIALS THAT COULD FORM EXPLOSIVE COMPOUNDS**
 - **IF SUCH MATERIALS ARE PRESENT, THEY MUST BE TREATED OR DILUTED**

WASTE FORM LIMITING REQUIREMENTS/CRITERIA

SPECIFIC ACTIVITY OF WASTE

REQUIREMENTS/CRITERIA

- **WASTE SHALL BE > 100 NANOCURIES OF TRU RADIONUCLIDES PER GRAM OF WASTE, EXCLUSIVE OF ADDED SHIELDING, RIGID LINERS, AND WASTE CONTAINERS (DOE ORDER 5820.2A)**
 - **SOURCE OF RESTRICTION IS THE WIPP-WAC (REV. 3)**

IMPACT ON SITES

- **WASTE CLASSIFICATION AT SITES SHOULD BE CONSISTENT WITH THE DEFINITION FOR TRU WASTE**
- **NOT A NEW ISSUE DUE TO REVISION 4 OF THE WIPP-WAC**

WASTE FORM LIMITING REQUIREMENTS/CRITERIA
SPECIFIC ACTIVITY OF WASTE (Continued)

COMPLIANCE

- **DOCUMENTATION SHALL DEMONSTRATE THAT THE SPECIFIC ACTIVITY OF ANY TRU WASTE PACKAGE IS > 100 NANOCURIES PER GRAM OF WASTE**

WIPP Library

**WASTE ACCEPTANCE CRITERIA
FOR WIPP, REVISION 4**

SESSION 3

**WASTE ACCEPTANCE CRITERIA SEMINAR
NEW MEXICO ENVIRONMENT DEPARTMENT
FEBRUARY 3, 1993**

**PAUL DREZ
TECHNICAL SUPPORT GROUP
WIPP PROJECT INTEGRATION OFFICE**

SESSION 3 - SUMMARY

- **WASTE FORM LIMITING REQUIREMENTS/CRITERIA
(TRU MIXED WASTES)**
- **WASTE PACKAGE LIMITING REQUIREMENTS/CRITERIA**

WASTE FORM LIMITING REQUIREMENTS/CRITERIA

TRU MIXED WASTES

- **REQUIREMENTS/CRITERIA DISCUSSED IN THIS SECTION ARE PRIMARILY FROM THE NMD AND THE RCRA PART A AND PART B PERMIT APPLICATIONS**
- **REQUIREMENTS OF THE RCRA PART B PERMIT APPLICATIONS ARE PRESENT IN THE WASTE ANALYSIS PLAN (SECTION C OF THE PART B APPLICATION)**
 - **INFORMATION TO BE INCLUDED IN REVISION 5**
- **THE DOCUMENT DESCRIBING METHODS OF COMPLIANCE WITH THE TRU MIXED WASTE REQUIREMENTS/CRITERIA IS THE QAPP**

WASTE FORM LIMITING REQUIREMENTS/CRITERIA
TRU MIXED WASTES (Continued)

REQUIREMENTS/CRITERIA

- **TRU WASTES SHALL CONTAIN NO HAZARDOUS WASTES UNLESS THEY ARE CO-CONTAMINANTS**
- **CHARACTERISTIC IGNITABLE (D001), CORROSIVE (D002), AND REACTIVE (D003) WASTES (INCLUDING OXIDIZERS) ARE NOT ACCEPTABLE AT WIPP**
- **GENERATORS MUST DETERMINE IF WASTE IS REGULATED BY RCRA AND MUST MEET THE REQUIREMENTS IN THE WIPP RCRA PART A AND PART B PERMIT APPLICATIONS**

WASTE FORM LIMITING REQUIREMENTS/CRITERIA

TRU MIXED WASTES (Continued)

REQUIREMENTS/CRITERIA (Continued)

- **ANY WASTE CONTAINER SENT TO WIPP OR LOADED INTO A BIN DESTINED FOR WIPP MUST MEET THE COMPARABILITY REQUIREMENT THAT THE HEADSPACE CONCENTRATION WITHIN A PACKAGE DOES NOT EXCEED TWO TIMES THE MAXIMUM CONCENTRATION OF FIVE NON-FLAMMABLE VOCs**
 - **CARBON TETRACHLORIDE**
 - **METHYLENE CHLORIDE**
 - **1,1,1-TRICHLOROETHANE**
 - **TRICHLOROETHYLENE**
 - **1,1,2-TRICHLORO- 1,2,2-TRIFLUOROETHANE**

- **COMPLIANCE LIMITS ARE SET BY WASTE TYPE**

WASTE FORM LIMITING REQUIREMENTS/CRITERIA

TRU MIXED WASTES (Continued)

REQUIREMENTS/CRITERIA (Continued)

- ANY WASTE CONTAINER SENT TO WIPP MUST MEET THE NO-MIGRATION DETERMINATION REQUIREMENT THAT THE HEADSPACE WITHIN A PACKAGE DOES NOT EXCEED TEN TIMES THE AVERAGE CONCENTRATION OF THREE NON-FLAMMABLE VOCs
 - CARBON TETRACHLORIDE
 - METHYLENE CHLORIDE
 - TRICHLOROETHYLENE

WASTE FORM LIMITING REQUIREMENTS/CRITERIA

TRU MIXED WASTES (Continued)

REQUIREMENTS/CRITERIA (Continued)

- **SLUDGES SHALL BE ANALYZED FOR TOTAL VOCs AND TOXIC METALS**
 - **TOTAL ANALYSES**
 - **WAP STATES SEMI-VOLATILES AND PCBs (OILS ONLY)**
(TO BE INCLUDED IN REVISION 5)

- **OTHER SPECIFIC CHARACTERIZATION REQUIREMENTS MAY BE PRESENT IN THE WASTE ANALYSIS PLAN OF THE RCRA PART B PERMIT APPLICATION**
 - **NOT IN FINAL FORM**
 - **PRELIMINARY REQUIREMENTS ARE SUMMARIZED IN SESSION 4**

WASTE FORM LIMITING REQUIREMENTS/CRITERIA

TRU MIXED WASTES (Continued)

REQUIREMENTS/CRITERIA (Continued)

- **GENERATORS MUST DOCUMENT PROCEDURES FOR SAMPLING, ANALYTICAL PROTOCOLS, QA/QC GUIDELINES, AND OTHER INFORMATION IN A SITE-SPECIFIC QAPjP**
 - **QAPjPs SHOULD BE SITE-SPECIFIC IMPLEMENTATION PLANS FOR SYSTEM-WIDE QAPP**
 - **THESE QAPjPs WILL COVER SAMPLING REQUIREMENTS OF THE NMD, THE WASTE ANALYSIS PLAN, AND THE PRETEST WASTE CHARACTERIZATION REQUIREMENTS FOR PA**

WASTE FORM LIMITING REQUIREMENTS/CRITERIA

TRU MIXED WASTES (Continued)

IMPACT ON SITES

- **ALL SITES MUST DEVELOP A WASTE CHARACTERIZATION PROGRAM TO MEET APPLICABLE RCRA REQUIREMENTS (NMD AND RCRA PART B)**
 - **SOME SAMPLING METHODS ARE STILL UNDER DEVELOPMENT**
 - **HEADSPACE SAMPLING DEVELOPED IN QAPP**
 - **SLUDGE SAMPLING FOR ALL ANALYTES IS UNDER DEVELOPMENT**
 - **CURRENTLY, THE FOCUS OF WASTE CHARACTERIZATION IS ON INEL AND RFP WHICH ARE EXPECTED TO PROVIDE THE WASTE FOR THE TEST PHASE**

WASTE FORM LIMITING REQUIREMENTS/CRITERIA

TRU MIXED WASTES (Continued)

IMPACT ON SITES (Continued)

- **THE NMD REQUIREMENTS MAY BE RELAXED DURING THE OPERATIONAL PHASE, BUT SOME AMOUNT OF CHARACTERIZATION WILL STILL BE REQUIRED FROM ALL SITES**
 - **ONLY REQUIREMENT THAT MAY BE RELAXED IS INNER BAG SAMPLING**
 - **STILL REQUIRE INITIAL POPULATION OF WASTE CHARACTERIZED FROM EACH SITE**
 - **STATISTICAL SAMPLING WILL BE SUFFICIENT AFTER DEVELOPMENT OF INITIAL DATA**

WASTE FORM LIMITING REQUIREMENTS/CRITERIA

TRU MIXED WASTES (Continued)

IMPACT ON SITES (Continued)

- **REQUIREMENTS FROM THE RCRA PART B PERMIT APPLICATION WILL NOT BE IN FINAL FORM UNTIL THE APPLICATION IS APPROVED BY THE NMED (TO BE INCLUDED IN REVISION 5)**
 - **SOLIDIFIED WASTES MUST BE ANALYZED FOR TOTAL VOCs, TOXIC METALS, SELECTED SEMI-VOLATILES PER THE WASTE ANALYSIS PLAN (WAP)***
 - **OIL-BASED SLUDGES THAT MAY CONTAIN PCBs MUST BE ANALYZED PER THE WAP***

*** CONTAINED IN THE PROPOSED REVISION TO THE PART B PERMIT APPLICATION**

WASTE FORM LIMITING REQUIREMENTS/CRITERIA

TRU MIXED WASTES (Continued)

OTHER ISSUES

- REVISION 4 PRECLUDES PACKAGING OF CORROSIVE MATERIALS WITH A LINER
- ANY LABORATORY PERFORMING ANALYSIS FOR RCRA AND PA MUST PASS A PERFORMANCE DEMONSTRATION PROGRAM (PDP)* (TO BE INCLUDED IN REVISION 5)

* CONTAINED IN THE PROPOSED REVISION TO THE PART B PERMIT APPLICATION

WASTE FORM LIMITING REQUIREMENTS/CRITERIA

TRU MIXED WASTES (Continued)

COMPLIANCE

- **PROCESS KNOWLEDGE, SUPPLEMENTED BY SAMPLING, WILL BE USED TO DETERMINE THE TYPES AND QUANTITIES OF HAZARDOUS WASTES**

- **METHODS FOR DOCUMENTING COMPLIANCE WITH REQUIREMENTS:**
 - **VISUAL EXAMINATION OF THE WASTE**

 - **REAL-TIME RADIOGRAPHY (RTR) EXAMINATION**

 - **HEADSPACE GAS ANALYSIS FOR FLAMMABLE GASES**

 - **HEADSPACE GAS ANALYSIS FOR FLAMMABLE VOLATILE ORGANIC COMPOUNDS (VOCs)**

 - **HEADSPACE GAS ANALYSIS FOR SELECTED NON-FLAMMABLE VOCs**

 - **SLUDGE ANALYSIS FOR TOXIC METALS AND VOCs**

WIPP WASTE ACCEPTANCE CRITERIA

- **WASTE CONTAINER REQUIREMENTS/CRITERIA**
- **WASTE FORM REQUIREMENTS/CRITERIA**
- • **WASTE PACKAGE REQUIREMENTS/CRITERIA**
- **DATA PACKAGE REQUIREMENTS/CRITERIA**
- **OTHER REQUIREMENTS/CRITERIA**

WASTE PACKAGE LIMITING REQUIREMENTS/CRITERIA

WASTE PACKAGE WEIGHT

REQUIREMENTS/CRITERIA

- **CURRENT WASTE PACKAGE LIMITS ARE 1000 LBS. PER 55-GALLON DRUM, 1450 LBS. PER DRUM OVERPACKED IN AN SWB, OR 4000 LBS. PER SWB**
- **TRUPACT-II PAYLOAD IS LIMITED TO 7265 LBS.**
- **TRUPACT-II IS LIMITED TO 19,250 LBS. TOTAL GROSS WEIGHT, WITH A TOTAL SHIPMENT GVW OF 80,000 LBS.**
- **SOURCE OF THESE REQUIREMENTS IS TRAMPAC**

WASTE PACKAGE LIMITING REQUIREMENTS/CRITERIA
OTHER PAYLOAD WEIGHT CONSIDERATIONS

VEHICLE WEIGHT RESTRICTIONS				
OVER-THE HIGHWAY LIMIT IS 80,000 POUNDS (TRACTOR, TRAILER, LOADED TRUPACT-II)				
TRUPACT-II PER TRAILER	LIMITING FACTOR	MAXIMUM PAYLOAD WEIGHT (LBS.)	PAYLOAD CONTAINERS PER SHIPMENT	AVERAGE WEIGHT (LBS.)
3	VEHICLE	13,600	42 DRUMS	324
			6 SWBs	2,227
2	TRUPACT-II	12,900	28 DRUMS	460
			4 SWBs	3,225

WASTE PACKAGE LIMITING REQUIREMENTS/CRITERIA

WASTE PACKAGE WEIGHT (Continued)

IMPACT ON SITES

- **ERROR ESTIMATES MUST BE PROVIDED BY SITES**
- **OVERALL LIMITS WILL REDUCE ALLOWABLE PAYLOAD PER TRUPACT-II AND WILL REQUIRE PROPER LOAD MANAGEMENT**

COMPLIANCE

- **FOR CH-TRU WASTE PACKAGES, DOCUMENTED EVIDENCE SHALL EXIST THAT THE WASTE PACKAGE HAS BEEN WEIGHED AND THE WEIGHT OF THE WASTE PACKAGE OR PACKAGE ASSEMBLY MEETS THE REQUIREMENTS.**

WASTE PACKAGE LIMITING REQUIREMENTS/CRITERIA

NUCLEAR CRITICALITY (Pu-239 FGE)

REQUIREMENTS/CRITERIA

- **ACCEPTED PACKAGE LIMITS, INCLUDING TWO TIMES THE ERROR, ARE:**
 - **< 200g/55-GALLON DRUM**
 - **< 325g/SWB**
- **THE SUM OF THE Pu-239 FGE OF ALL PACKAGES IN A TRUPACT-II PAYLOAD SHALL BE < 325g**
- **SOURCE OF REQUIREMENTS IS TRAMPAC**

WASTE PACKAGE LIMITING REQUIREMENTS/CRITERIA

NUCLEAR CRITICALITY (Pu-239 FGE) (Continued)

IMPACT ON SITES

- **SITES MUST PROVIDE ERROR ESTIMATES (2X) FOR THE FGE MEASUREMENTS**
- **EXISTING ASSAY SYSTEMS MAY HAVE SIGNIFICANT ERROR MARGINS, ESPECIALLY FOR HETEROGENEOUS WASTE FORMS. MAY RESULT IN SOME REPACKAGING OF WASTES.**
- **A WORKING GROUP IS CURRENTLY EVALUATING EXISTING ASSAY SYSTEMS FOR TRU AND LOW-LEVEL WASTE. DEVELOPMENT OF SYSTEM-WIDE STANDARDS COULD REDUCE MAGNITUDE OF ERROR BARS.**

WASTE PACKAGE LIMITING REQUIREMENTS/CRITERIA

Pu-239 EQUIVALENT ACTIVITY

REQUIREMENTS/CRITERIA

- **WASTE PACKAGES SHALL NOT EXCEED 1000 Ci OF Pu-239 EQUIVALENT ACTIVITY (PECi)**
 - **SOURCE OF REQUIREMENT IS WIPP OPERATIONS AND SAFETY CRITERIA**

IMPACT ON SITES

- **NO IMPACT SINCE REQUIREMENT IS THE SAME AS REVISION 3**

WASTE PACKAGE LIMITING REQUIREMENTS/CRITERIA

SURFACE DOSE RATE

REQUIREMENTS/CRITERIA

- **DRUMS OR SWBs SHALL NOT EXCEED 200 mrem/hr SURFACE READING, OR 10 mrem/hr AT 2 M**
- **SHIELDED CONTAINERS ARE ALLOWED FOR ALARA PURPOSES ONLY**
- **NEUTRON CONTRIBUTIONS OF > 20 mrem/hr SHALL BE SEPARATELY DOCUMENTED**
- **SOURCE OF REQUIREMENTS ARE WIPP OPERATIONS AND SAFETY CRITERIA AND TRAMPAC**

WASTE PACKAGE LIMITING REQUIREMENTS/CRITERIA
SURFACE DOSE RATE (Continued)

REQUIREMENTS/CRITERIA (Continued)

- **EXTERNAL DOSE RATES ON THE LOADED TRUPACT-II SHALL NOT EXCEED 200 mrem/hr SURFACE, OR 10 mrem/hr AT 2 M**

IMPACT ON SITES

- **NO IMPACT SINCE SITES ROUTINELY COMPLY WITH APPLICABLE DOT RESTRICTIONS**

WASTE PACKAGE LIMITING REQUIREMENTS/CRITERIA

SURFACE DOSE RATE (Continued)

COMPLIANCE

- **DOCUMENTED PROCEDURES ARE TO BE USED FOR THE MEASUREMENT OF DOSE RATES ON EACH TYPE OF WASTE PACKAGE**
- **THE INSTRUMENTATION USED MUST BE PROPERLY CALIBRATED USING SOURCES TRACEABLE TO THE NATIONAL INSTITUTE OF SCIENCE AND TECHNOLOGY (NIST)**
- **THE RESULTS OF THESE MEASUREMENTS SHALL BE DOCUMENTED FOR EACH WASTE PACKAGE**

WASTE PACKAGE LIMITING REQUIREMENTS/CRITERIA

REMOVABLE SURFACE CONTAMINATION

REQUIREMENTS/CRITERIA

- **REMOVABLE PACKAGE SURFACE CONTAMINATION SHALL NOT BE $> 50 \text{ PCi}/100 \text{ CM}^2$ ALPHA, AND NOT $> 450 \text{ PCi}/100 \text{ CM}^2$ BETA GAMMA**
 - **SOURCE OF REQUIREMENT IS WIPP OPERATIONS AND SAFETY CRITERIA**

IMPACT ON SITES

- **NO IMPACT ON SITES IN COMPLYING WITH RESTRICTIONS WHICH ARE THE SAME AS REVISION 3**

WASTE PACKAGE LIMITING REQUIREMENTS/CRITERIA

REMOVABLE SURFACE CONTAMINATION

COMPLIANCE

- **THE GENERATOR MUST MEASURE THE DEGREE OF REMOVABLE SURFACE CONTAMINATION FOR EACH WASTE PACKAGE OR PACKAGE ASSEMBLY PRIOR TO ITS SHIPMENT**
- **THE SAMPLING METHODS ARE DESCRIBED IN 40 CFR 173.443**
- **THE RESULTS OF THESE SURVEYS MUST BE DOCUMENTED**

WASTE PACKAGE LIMITING REQUIREMENTS/CRITERIA

THERMAL POWER

REQUIREMENTS/CRITERIA

- **THERMAL (WATTAGE) LIMITS FOR INDIVIDUAL WASTE PACKAGES, INCLUDING THE ERROR, ARE CONTAINED IN THE TRUPACT-II SARP**
- **TRUPACT-II LOAD LIMITS ARE CONTAINED IN THE TRUPACT-II SARP**
- **TRUPACT-II DESIGN LIMIT IS 40 WATTS**
- **SOURCE OF REQUIREMENTS IS TRAMPAC**

WASTE PACKAGE LIMITING REQUIREMENTS/CRITERIA

THERMAL POWER (Continued)

IMPACT ON SITES

- **ERROR ESTIMATES ARE REQUIRED FOR THE DECAY HEAT MEASUREMENTS**
- **SITES MUST MEET APPLICABLE DECAY HEAT LIMITS FOR TRANSPORTATION PURPOSES**
- **THESE LIMITS IMPACT THE AMOUNT OF WASTE THAT CAN BE SHIPPED FROM EACH SITE**
- **SPECIFIC WASTE FORMS AFFECTED THE MOST ARE ORGANIC SLUDGES, AMERICIUM-ENHANCED INORGANIC SLUDGES, AND Pu-238 WASTES.**
- **GAS GENERATION TESTING PER TRUPACT-II SARP TO OBTAIN "REAL" GAS GENERATION RATES SHOULD ALLOW SHIPMENT OF A SIGNIFICANT PERCENTAGE OF "PROBLEM" WASTES**

WASTE PACKAGE LIMITING REQUIREMENTS/CRITERIA

THERMAL POWER (Continued)

OTHER ISSUES

- **ALL RADIOISOTOPES THAT COULD CONTRIBUTE SIGNIFICANTLY TO WATTAGE MUST BE ACCOUNTED FOR IN DECAY HEAT CALCULATIONS**

COMPLIANCE

- **DOCUMENTED EVIDENCE SHALL BE PRESENTED THAT EACH WASTE PACKAGE MEETS THE INDICATED LIMITS BASED ON THE RADIONUCLIDE DISTRIBUTION AND QUANTITY OF RADIOACTIVE MATERIAL PRESENT**

WASTE PACKAGE LIMITING REQUIREMENTS/CRITERIA

GAS GENERATION

REQUIREMENTS/CRITERIA

- **ALL CONFINEMENT LAYERS, SUCH AS BAGS, SHALL BE CLOSED ONLY BY A TWIST-AND-TAPE OR FOLD-AND-TAPE METHOD**
- **NO SEALED CONTAINERS > 1 GALLON MAY BE IN THE WASTE**
- **THE MAXIMUM NUMBER OF CONFINEMENT LAYERS SHALL BE KNOWN**
- **ALL WASTE PACKAGES SHIPPED IN TRUPACT-II SHALL BE VENTED WITH ONE OR MORE FILTERS THAT MEET THE SPECIFICATIONS LISTED IN THE TRUPACT-II SARP**
- **ALL RIGID LINERS SHALL BE PUNCTURED OR VENTED**
- **SOURCE OF REQUIREMENTS IS TRAMPAC**

WASTE PACKAGE LIMITING REQUIREMENTS/CRITERIA

GAS GENERATION (Continued)

IMPACT ON SITES

- **SITES CAN TRANSPORT ONLY THOSE WASTE CONTAINERS THAT MEET PACKAGING REQUIREMENTS SPECIFIED IN THE TRUPACT-II PACKAGE**
 - **IMPACT ON SOME GENERATOR SITES DUE TO THE USAGE OF HEAT-SEALED BAGS**
 - **SITES USING RIGID LINERS NEED TO ENSURE THAT THESE ARE PUNCTURED OR FILTERED**
- **SITES NEED ADEQUATE PROCESS KNOWLEDGE OF WASTE PACKAGING METHODS**

WASTE PACKAGE LIMITING REQUIREMENTS/CRITERIA

GAS GENERATION (Continued)

REQUIREMENTS/CRITERIA (Continued)

- **TOTAL FLAMMABLE VOCs ARE LIMITED TO 500 PPM IN THE HEADSPACE GAS OF WASTE PACKAGES**

- **ALL CHEMICALS/MATERIALS > 1% BY WEIGHT MUST BE EVALUATED FOR COMPATIBILITY WITHIN THE WASTE FORM AND WITH TRUPACT-II MATERIALS OF CONSTRUCTION**
 - **CHEMICALS/MATERIALS ARE LISTED IN THE TRUPACT-II CHEMICAL LISTS DOCUMENT**

 - **EVALUATION ALREADY PERFORMED FOR ALL WASTE CONTENT CODES IN THE TRUCON DOCUMENT**

- **SOURCE OF REQUIREMENTS IS TRAMPAC**

WASTE PACKAGE LIMITING REQUIREMENTS/CRITERIA

GAS GENERATION (Continued)

REQUIREMENTS/CRITERIA (Continued)

- **CHEMICALS/MATERIALS PRESENT IN CONCENTRATIONS GREATER THAN ONE WEIGHT PERCENT SHALL CONFORM TO THE ALLOWABLE CHEMICALS IN EACH WASTE MATERIAL TYPE**

- **SUM OF ALL TRACE CHEMICALS SHOULD NOT EXCEED 5% BY WEIGHT**
 - **SOURCE OF REQUIREMENT IS TRAMPAC**

 - **CHEMICALS/MATERIALS ARE LISTED IN THE TRUPACT-II CHEMICAL LISTS DOCUMENT**

 - **COMPLIANCE SHOWN FOR ALL CONTENT CODES IN THE TRUCON DOCUMENT**

WASTE PACKAGE LIMITING REQUIREMENTS/CRITERIA

GAS GENERATION (Continued)

REQUIREMENTS/CRITERIA (Continued)

- **WASTE PACKAGES EMPLACED IN WIPP DURING THE EXPERIMENTAL PERIOD SHALL NOT EXCEED 50% OF THE LOWER EXPLOSION LIMIT IN ANY LAYER OF CONFINEMENT FOR HYDROGEN AND METHANE (4% AND 5%, RESPECTIVELY)**
 - **SOURCE OF REQUIREMENT IS NMD**

- **REAL-TIME RADIOGRAPHY OR EQUIVALENT EXAMINATION**
 - **SOURCE OF REQUIREMENT IS PERFORMANCE ASSESSMENT (FOR TEST PERIOD ONLY)**

- **VISUAL CHARACTERIZATION OF SOLID WASTE FOR TEN WASTE MATERIAL CATEGORIES LISTED IN THE QAPP**
 - **SOURCE OF REQUIREMENT IS PERFORMANCE ASSESSMENT (FOR TEST PERIOD ONLY)**

EXPECTED CONTROLLING VARIABLES FOR GAS GENERATION BY CH-TRU WASTES

- **CELLULOSIC MATERIALS**
- **PLASTICS**
- **RUBBER MATERIALS**
- **CORRODING METAL/STEELS**
- **CORRODING METAL/ALUMINUM**
- **"NON-CORRODING" METALS**
- **SOLID INORGANIC MATERIALS**
- **INORGANIC SLUDGES**
- **CEMENTS**
- **OTHER ORGANIC MATERIALS**

WASTE PACKAGE LIMITING REQUIREMENTS/CRITERIA

GAS GENERATION (Continued)

REQUIREMENTS/CRITERIA (Continued)

- **ANALYSIS OF SLUDGES FOR pH AND MAJOR CATIONS AND ANIONS LISTED IN SNL BIN-SCALE TEST PLAN**
 - **SOURCE OF REQUIREMENT IS PERFORMANCE ASSESSMENT (FOR TEST PERIOD ONLY)**

- **TOTAL ALPHA ACTIVITY OF WASTE ON A CONTAINER BASIS USING METHODOLOGY LISTED IN QAPP**
 - **SOURCE OF REQUIREMENT IS PERFORMANCE ASSESSMENT**

WASTE PACKAGE LIMITING REQUIREMENTS/CRITERIA

GAS GENERATION (Continued)

IMPACT ON SITES

- COMPLIANCE WITH ALL PERFORMANCE ASSESSMENT AND NMD REQUIREMENTS SHOULD BE AS DEFINED IN THE QAPP
- SPECIFIC SAMPLING AND ANALYSIS METHODS LISTED IN THE QAPP MAY HAVE IMPACTS ON SITES

WASTE PACKAGE LIMITING REQUIREMENTS/CRITERIA

LABELING

REQUIREMENTS/CRITERIA

- **A UNIQUE IDENTIFICATION BAR CODE LABEL REASONABLY EXPECTED TO LAST TEN YEARS SHALL BE AFFIXED**
 - **SOURCE OF REQUIREMENT IS WIPP OPERATIONS AND SAFETY CRITERIA AND TRAMPAC**

- **EACH PACKAGE SHALL HAVE APPROPRIATE DOT LABELS**
 - **SOURCE OF REQUIREMENT IS WIPP OPERATIONS AND SAFETY CRITERIA, TRAMPAC, AND NMD**

- **EACH PACKAGE SHALL BE MARKED WITH THE SHIPPING CATEGORY**
 - **SOURCE OF REQUIREMENT IS TRAMPAC**

WASTE PACKAGE LIMITING REQUIREMENTS/CRITERIA LABELING

IMPACT ON SITES

- **NO SIGNIFICANT IMPACTS**

COMPLIANCE

- **IN ADDITION TO DOT LABELING REQUIREMENTS, EACH WASTE PACKAGE SHALL BE LABELED WITH A UNIQUE PACKAGE IDENTIFICATION NUMBER CONSISTING OF A GENERATOR SITE IDENTIFICATION AND PACKAGING IDENTIFICATION**
- **THE BAR CODE IDENTIFICATION LABELS WILL BE PLACED AT THESE LOCATIONS ABOUT 120 DEGREES APART WITHIN FIVE INCHES OF THE BOTTOM, AND ONE LABEL ON THE TOP SURFACE OF EACH DRUM**
- **LABELS ARE REQUIRED ON ALL SIDES AND THE TOP OF RECTANGULAR CONTAINERS**

WIPP Library

**WASTE ACCEPTANCE CRITERIA
FOR WIPP, REVISION 4**

SESSION 4

**WASTE ACCEPTANCE CRITERIA SEMINAR
NEW MEXICO ENVIRONMENT DEPARTMENT
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SESSION 4

- **DATA PACKAGE REQUIREMENTS/CRITERIA**
- **OTHER LIMITING REQUIREMENTS/CRITERIA**
- **SUMMARY**
- **POTENTIAL ISSUES/IMPACTS FROM REVISION 4**
- **POTENTIAL CHANGES TO REVISION 4
REQUIREMENTS/CRITERIA**

DATA PACKAGE LIMITING REQUIREMENTS/CRITERIA

DATA PACKAGE/CERTIFICATION

REQUIREMENTS/CRITERIA

- **WIPP-WAC - A DATA PACKAGE WITH CERTIFICATION THAT THE WASTE PACKAGE MEETS THE CRITERIA OF THE WAC SHALL BE TRANSMITTED TO THE WIPP PRIOR TO SHIPMENT**
 - **APPENDIX B OF THE WAC CONTAINS THE OPERATIONS AND SAFETY DATA PACKAGE REQUIREMENTS**

- **TRAMPAC - DOCUMENTATION FOR CERTIFICATION THAT INDIVIDUAL WASTE PACKAGES OR A GROUP OF PACKAGES MEETS THE REQUIREMENTS OF THE TRAMPAC SHALL BE SUBMITTED**
 - **APPENDIX C OF THE WAC CONTAINS WASTE PACKAGE CERTIFICATION FORMS**

DATA PACKAGE LIMITING REQUIREMENTS/CRITERIA

DATA PACKAGE/CERTIFICATION (Continued)

REQUIREMENTS/CRITERIA (Continued)

- **RCRA - A GENERATOR MUST PREPARE A HAZARDOUS WASTE MANIFEST FOR EACH SHIPMENT OF TRU MIXED WASTE. THE LAND DISPOSAL RESTRICTION CERTIFICATION MUST ALSO ACCOMPANY THE MANIFEST**
 - **ADDITIONAL DATA REPORTING REQUIREMENTS MAY BE PRESENT IN THE WASTE ANALYSIS PLAN**
- **PERFORMANCE ASSESSMENT - SITES MUST PROVIDE A DATA PACKAGE OF THE INFORMATION REQUIRED BY THE WASTE CHARACTERIZATION PROGRAM PLAN (WCPP)**

DATA PACKAGE LIMITING REQUIREMENTS/CRITERIA

DATA PACKAGE/CERTIFICATION (Continued)

IMPACT ON SITES

- **NEED STANDARDIZATION OF DATA MANAGEMENT SYSTEMS AND DATA REPORTING FORMATS TO FACILITATE HANDLING OF WASTE CERTIFICATION INFORMATION BY WIPP**

COMPLIANCE

- **GENERATOR SHALL HAVE OPERATING PROCEDURES FOR DETERMINING THE REQUIRED DATA**
- **THE DATA PACKAGE AND A COPY OF THE SIGNED CERTIFICATION STATEMENT SHALL BE MAINTAINED BY THE SHIPPING SITE**

OTHER LIMITING REQUIREMENTS/CRITERIA
ADDITIONAL REQUIREMENTS

REQUIREMENTS/CRITERIA

- **ALL PACKAGES IN A SINGLE TRUPACT-II SHALL BELONG TO THE SAME SHIPPING CATEGORY**
- **EACH PACKAGE SHIPPED SHALL BELONG TO ONE OF THE CONTENT CODES DEFINED IN TRUCON**
- **RETRIEVABLY STORED WASTE THAT HAS BEEN UNVENTED SHALL BE VENTED AND ASPIRATED PER THE TRUPACT-II SARP**
- **SOURCE OF REQUIREMENTS IS TRAMPAC**

OTHER LIMITING REQUIREMENTS/CRITERIA
ADDITIONAL REQUIREMENTS (Continued)

REQUIREMENTS/CRITERIA (Continued)

- **PAYLOAD CONTROL PROCEDURES OUTLINED IN SECTION 7.4.3 OF THE TRUPACT-II SARP SHALL BE FOLLOWED**
 - **SOURCE OF REQUIREMENT IS TRAMPAC**

IMPACT ON SITES

- **SITES WILL NEED LOAD MANAGEMENT TO SELECT THE PAYLOAD**
- **SITES WILL NEED TO SUITABLY ASPIRATE RETRIEVABLY STORED WASTE**

REVISION 4 OF THE WIPP-WAC

- **REVISION 4 WAS PREPARED TO CONSOLIDATE AND CLARIFY THE EXISTING CRITERIA AND REQUIREMENTS FOR TRU WASTE**
 - **SAFE HANDLING**
 - **PREPARATION FOR TRANSPORTATION**
 - **EMPLACEMENT IN THE WIPP**

- **OBJECTIVE FOR CONSOLIDATION WAS TO PROVIDE GENERATOR/STORAGE SITES WITH:**
 - **A SUMMARY OF ALL EXISTING CRITERIA AND REQUIREMENTS**
 - **THE IDENTIFICATION OF THE LIMITING CRITERIA AND REQUIREMENTS**
 - **A SUMMARY OF AN EVOLVING PROGRAM AS IT CURRENTLY EXISTS**

- **REVISION 4 IS MORE "USER FRIENDLY"**

WIPP CRITERIA/REQUIREMENTS INCLUDED IN REVISION 4 OF THE WAC

- **WIPP OPERATIONS AND SAFETY CRITERIA**
 - **REVISION 3 OF WIPP-DOE-069**
 - **OTHER WAC SUPPORTING DOCUMENTS**
- **TRANSPORTATION: WASTE PACKAGE REQUIREMENTS**
 - **TRUPACT-II**
 - **RH CASK (AS SUBMITTED TO DOE-HQ FOR REVIEW)**
- **RCRA REQUIREMENTS**
 - **NO-MIGRATION DETERMINATION**
 - **RCRA PART B PERMIT APPLICATION**
 - **SPECIFIC REQUIREMENTS ARE NOT INCLUDED IN REV. 4,
SINCE THESE HAVE NOT BEEN REVIEWED OR APPROVED
BY THE NMED**
- **PERFORMANCE ASSESSMENT CRITERIA**
 - **SNL TEST PLANS**
 - **SUMMARIZED IN WCPP**

POTENTIAL ISSUES/IMPACTS FROM REVISION 4

- MINIMAL COMMENTS RECEIVED FROM SITES
- WASTE CHARACTERIZATION REQUIREMENTS WILL NEED IMPLEMENTATION AT SITES OTHER THAN RFP AND INEL
CAN ✓
- FORMAL CHANGE CONTROL PROCEDURE INCORPORATED FOR REVISIONS OF THE DOCUMENT

POTENTIAL CHANGES TO REVISION 4 REQUIREMENTS/CRITERIA

- **REVISIONS OF NON-CONTROLLED DOCUMENTS**
 - **THESE WOULD INCLUDE, FOR EXAMPLE, EPA, NRC,
AND NMED DOCUMENTS**
- **REQUIREMENTS FOR THE RH CASK ARE NOT YET
FINALIZED**
- **SECTION 2 WILL REQUIRE MODIFICATION WHEN THE
RESPONSIBILITIES CONCERNING THE MANAGEMENT OF
THE CERTIFICATION PROCESS ARE FINALIZED**

POTENTIAL CHANGES TO REVISION 4 REQUIREMENTS/CRITERIA (Continued)

RCRA PART B PERMIT APPLICATION

- **RCRA PART B PERMIT APPLICATION WAS INITIALLY SUBMITTED TO THE NMED IN FEBRUARY 1991**
- **THE WASTE ANALYSIS PLAN IN THE RCRA PART B PERMIT APPLICATION IS CURRENTLY BEING REVISED TO PROVIDE THE LOGIC FOR MEETING RCRA WASTE CHARACTERIZATION REQUIREMENTS**

WIPP RCRA PART B PERMIT APPLICATION

SUMMARY OF PROPOSED WASTE ANALYSIS PLAN

GROUP I WASTE CATEGORIES

COMBUSTIBLES AND NONCOMBUSTIBLES

COMBUSTIBLES

GRAPHITE

FILTERS

BENELEX AND PLEXIGLAS

FIREBRICK AND CERAMIC CRUCIBLES

LEADED RUBBER

METAL

GLASS

SUPERCOMPACTED WASTE

GROUP II WASTE CATEGORIES

INORGANIC SLUDGE

*Solidified/cemented
waste forms*

ORGANIC SLUDGE

SOLIDIFIED LIQUID

INORGANIC PROCESS SOLIDS

PYROCHEMICAL SALT * *except
may have toxic
metal*

ION EXCHANGE RESINS

WIPP RCRA PART B PERMIT APPLICATION SUMMARY OF PROPOSED WASTE ANALYSIS PLAN

CHARACTERIZATION REQUIREMENTS FOR GROUP I WASTE CATEGORIES

- REAL-TIME RADIOGRAPHY (RTR)
- RADIONUCLIDE ASSAY
- HEADSPACE SAMPLING FOR VOCs AND FLAMMABLE GASES

CHARACTERIZATION REQUIREMENTS FOR GROUP II WASTE CATEGORIES

- ALL REQUIREMENTS LISTED ABOVE FOR GROUP I
- RCRA REGULATED METALS^a Tc ?
- VOCs^a (FOR ALL CATEGORIES EXCEPT PYROCHEMICAL SALTS)
- SEMI-VOCs^{a,b} (FOR ALL CATEGORIES EXCEPT PYROCHEMICAL SALTS)
- ANALYSIS OF PCBs^a FOR SOLIDIFIED WASTE OILS IN ORGANIC SLUDGES

^aTotal Analysis Required

^bSelected group based on process knowledge

**WIPP RCRA PART B PERMIT APPLICATION
SUMMARY OF PROPOSED WASTE ANALYSIS PLAN**

(Continued)

- **REQUIREMENTS THAT ARE LIKELY TO AFFECT
GENERATOR/STORAGE SITES**
 - **INTENSIVE SAMPLING TO CONTINUE UNTIL THE
RESULTS OF SAMPLING CAN STATISTICALLY
DEMONSTRATE LIMITED VARIABILITY WITHIN THE
WASTE POPULATION**
 - **PCBs IN WASTE OILS LIMITED TO 50 PPM**

MAJOR IMPLICATIONS OF REVISION 4 ON WASTE GENERATOR/STORAGE SITES

- **WASTE CHARACTERIZATION ACTIVITIES SHOULD BE INITIATED AT SITES OTHER THAN INEL AND RFP**
 - **NEW REVISION OF THE WCPP WILL PROVIDE GUIDANCE TO ALL SITES ON THE IMPLEMENTATION OF A TRU WASTE CHARACTERIZATION PROGRAM**
- **RCRA REQUIREMENTS IN THE WASTE ANALYSIS PLAN ARE APPLICABLE TO ALL SITES AND WILL REQUIRE SPECIFIC DOCUMENTATION AND SAMPLING**
- **FOR NEWLY GENERATED WASTE, SITES SHOULD AGGRESSIVELY PURSUE:**
 - **MINIMIZATION OF FREE LIQUIDS**
 - **PROPER DOCUMENTATION OF PROCESS KNOWLEDGE**
 - **PROPER DOCUMENTATION OF PROCUREMENT AND ADMINISTRATIVE CONTROLS**
 - **PROPER DOCUMENTATION OF RCRA-RELATED INFORMATION**