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|-------------------|--------------|---------|--------------|------------|----|
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| To                | ZATTE        | From    | RW           |            |    |
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8/23/00

STEVE \_\_\_\_\_

HERE ARE THE OVERHEADS.

I BELIEVE THEY ARE ACCURATE.

CALL BOB AND ME TO DISCUSS THE VOC ISSUE.

WE CAN DISCUSS THE PCB ISSUE TO, BUT IT IS  
FACTUAL INFORMATION.

Jody

505 827 7462 (O)

505 481 9034 (P)



# Requirements to Ship to the Waste Isolation Pilot Plant

## WIPP Waste Acceptance Criteria

Kerry Watson

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National TRU Program

# WIPP Waste Acceptance Criteria

- Revision 7 released November 8, 1999
- Derived from several source documents
  - **WIPP Safety Analysis Report**
  - **TRUPACT-II Certificate of Compliance**
  - **WIPP Land Withdrawal Act**
  - **WIPP Hazardous Waste Facility Permit**
  - **EPA Certification Decision**
- Six Sets of Properties for Waste Acceptance
  - **Payload Container**
  - **Radiological**
  - **Physical**
  - **Chemical**
  - **Gas Generation**
  - **Data Package Contents**

# Payload Container Criteria

- Type of container must be acceptable (Minimum DOT Type 7A or equivalent for management and disposal)
- Weight limits meet DOT Type A and TRUPACT-II limits
- Removable surface contamination below limits
- Container properly labeled/identified
- Dunnage containers meet transportation requirements
- All payload containers vented with filters to release hydrogen gas and VOCs and prevent pressurization or release of radioactive particulates

# Radiological Criteria

- Documentation of radionuclides that constitute 95% of activity
- Fissile material quantity of Pu-239 fissile gram equivalent limited to:
  - $\leq 200$  grams for each drum
  - $\leq 325$  grams for each standard waste box or ten-drum overpack
- Alpha activity concentration of TRU isotopes:  $> 100$  nCi per gram of waste
- Plutonium-239 equivalent curie limits meet operations and safety requirements
- Radiation dose rates:
  - $\leq 200$  mrem/hr at surface
  - $\leq 10$  mrem/hr at 2 meters of surface

# Gas Generation Criteria

- Payload containers assigned to approved shipping category (notation for gas generation potential)
- Payload container meets hydrogen gas generation rate limit
  - Decay heat  $\leq$  shipping category limit (analytical category waste)
  - Gas generation rate  $\leq$  shipping category limit (test category waste)
- Flammable VOCs  $\leq$  500 ppm
- Containers appropriately vented to ensure equilibration of gases prior to transport

# Physical Properties

- Free liquids  $<$  1 volume percent
- Sealed containers greater than 4 liters prohibited

# Hazardous Waste Codes Not Acceptable at WIPP

## **“D” Codes—Wastes Exhibiting Hazardous Characteristics**

- D001—Ignitable
- D002—Corrosive
- D003—Reactive
- D012—Endrin
- D013—Lindane
- D014—Methoxychlor
- D015—Toxaphene
- D016—2,4-D
- D017—2,4,5-TP (Silvex)
- D020—Chlordane
- D023—o-Cresol
- D024—m-Cresol
- D025—p-Cresol
- D031—Heptachlor (& epoxide)
- D033—Hexachlorobutadiene
- D041—2,4,5-Trichlorophenol
- D042—2,4,6-Trichlorophenol

## **“F” Codes—Wastes From Non-Specific Sources**

- F008, F010, F011, and F012—Plating baths with cyanides
- F019 through F028—Various wastes from the production of chlorinated hydrocarbons
- F032, F034 and F035—Waste from wood preservative operations
- F037 and F038—Petroleum refinery waste
- F039—Hazardous waste landfill leachate

## **“K” Codes—Wastes From Specific Sources**

WIPP cannot accept any of the “K” codes

## **“P” and “U” Codes—Commercial Chemical Products**

- WIPP can only accept one “P” code:
  - P015—Beryllium powder
- WIPP cannot accept any “U” codes

# Chemical Criteria (continued)

- Pyrophoric materials
  - Radioactive pyrophorics < 1 weight percent
  - Nonradioactive pyrophorics prohibited
- Waste materials and transportation containers must be mutually compatible
- Explosives, corrosives, and compressed gases are prohibited
- VOC headspace gas sampling for all containers
- Asbestos waste subject to DOE guidance
- Wastes with PCBs  $\geq 50$  ppm prohibited (but will change...)



# PCB Contaminated TRU Waste

- TSCA regulates disposal of PCBs in concentrations greater than 50 ppm
- HWFP also restricts disposal of PCBs at WIPP in concentrations greater than 50 ppm
- DOE requested disposal authorization from EPA Region 6 on August 8, 2000. EPA requested WIPP to formally submit “Request for Approval to Dispose”
- “Request for Approval to Dispose” expected within four months (December)
- DOE is preparing NEPA Supplemental Analysis in parallel, with revised ROD expected by December

# PCB Contaminated TRU Waste (continued)

- If approved, the following PCB contaminated TRU waste would be authorized for disposal:
  - Remediation waste
  - Bulk waste
  - PCB articles
  - Solidified liquids
- No PCB concentration limits for the above
- Risk Assessment has been drafted
- HWFP modification will be required
- Modification would probably be Class 2 (6-months)

# Disposal of CERCLA Remediated Waste at WIPP

- WIPP is seeking Determination of Acceptability pursuant to CERCLA off-site rule (40CFR 300.440)
- Request submitted to EPA in May 2000
- Response by EPA not anticipated before December
- DOE believes it meets all criteria for approval

# Contrast of Transportation and Disposal Requirements

| <u>Parameter</u>                 | <u>Transportation</u>                  | <u>Disposal</u>  |
|----------------------------------|--|--|
| Container Type and Weight Limits | As listed in TRUPACT-II SAR            | Type A   |
| Removable Surface Contamination  | None                                   | <20 dpm/100 cm <sup>2</sup> (alpha)<br><200 dpm/100 cm <sup>2</sup> (beta-gamma) |
| Filter Vents                     | Meet hydrogen gas release requirements | Meet RCRA requirements for VOC dispersion  |
| Alpha Activity Concentration     | None                                   | >100 nCi/g of waste  |

## Contrast of Transportation and Disposal Requirements (Cont'd)

| <u>Parameter</u>           | <u>Transportation</u> | <u>Disposal</u>                     |
|----------------------------|-----------------------|-------------------------------------|
| Pu-239 Equivalent Activity | None                  | Limits by container and waste form  |
| Hazardous Waste            | None                  | Restricted to allowable EPA Codes   |
| Headspace Gas VOC Sampling | None                  | All containers sampled and analyzed |
| Polychlorinated Biphenyl   | None                  | ≥ 50 ppm in waste not allowed       |
| Asbestos                   | None                  | Must inform CAO Manager             |

## Contrast of Transportation and Disposal Requirements (Cont'd)

| <u>Parameter</u>          | <u>Transportation</u>                              | <u>Disposal</u> |
|---------------------------|--|-----------------|
| Payload Shipping Category | Approved shipping category number                  | None            |
| Decay Heat                | < Limit for shipping category                      | None            |
| Test Category Waste       | Hydrogen gas release < limit for shipping category | None            |
| Flammable VOCs            | ≤ 500 ppm in container headspace                   | None            |
| Venting and Aspiration    | Ensure equilibration of gases prior to shipment    | None            |

# Contrast of Transportation and Disposal Requirements (Cont'd)

| <u>Parameter</u>                        | <u>Transportation</u>   | <u>Disposal</u>   |
|---|---|---|
| Characterization and Certification Data | None  | Waste Stream Profile Form submitted to WIPP Waste Information System        |
| Shipping Data                           | Payload Container and Payload Assembly Transportation Certification Documents | Uniform Hazardous Waste Manifest and Land Disposal Restriction Notification |