


**ENTERED**

\*\*\* FINAL AGENDA \*\*\*

**73rd WIPP QUARTERLY REVIEW MEETING**

January 16, 2001

North Atrium, Harold Runnels Building  
New Mexico Environment Department  
1190 St. Francis Drive  
Santa Fe, NM

9:00 AM	Welcome, Announcements	15 min.	Steve Zappe, NMED
9:15 AM	DOE Carlsbad Area Office Update	30 min.	Roger Nelson, CBFO
9:45 AM	Environmental Evaluation Group Update	30 min.	Matthew Silva, EEG
10:15 AM	N.M. Radioactive Waste Task Force Update	30 min.	Bill Mackie, NMEMNRD
10:45 AM	BREAK	15 min.	
11:00 AM	NMED Haz/Rad Materials: RCRA Permit Update (audits, permit mods, etc.)	30 min.	Steve Zappe, NMED/HWB
11:30 AM	LUNCH	90 min	
1:00 PM	Upcoming Permit Modifications - on-site characterization - RH waste - <del>PCB wastes</del> - other (including tentative schedule)	30 min.	Jody Plum, CBFO
1:30 PM	Transportation Issues - corrective action for off-route truck - expected shipments for 2001 - estimate of lifetime shipments - status of TRANSCOM 2000	30 min.	John Vanderkraats, CBFO
2:00 PM	Update on Status of Panel 1	15 min.	Jack Gilbert, CBFO
2:15 PM	Contamination incidents at WIPP (TRUPACT lid, radon on workers, etc.)	15 min.	Roger Nelson, CBFO
2:30 PM	Status of Environmental Assessment for Astrophysics Experiments	15 min.	Roger Nelson, CBFO
2:45 PM	Action Item Commitments/Closeout	15 min.	Steve Zappe, NMED
3:00 PM	Adjourn		

010111.7



January 16, 2001

## Attendance Sheet

Name/Affiliation	Address	Phone/Fax/E-Mail
STEVE ZAPPE / NMED HWB	SANTA FE	827-1560 X1013 Steve - zappe@nmemhv.state.nm.us
William B MacCie / NMEMNRD	Santa Fe	(V) 476-3224 (F) 476-3220 bmaccie@state.nm.us
JOHN VANDEKRAATS / DOE CBFO	CARLSBAD	234 7478 VANDEKRAATS@WIPP.CARLSBAD.NM.US
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JIM CHANNELL / EEG	" " " " "	828-1003 jchannell@eeq.org
WILLIAM FETNER / NMED HWB	SANTA FE	827-1558, Rt. 1038 William.Fetner@nmemhv.state.nm.us
Roger A. Nelson / DOE CBFO	Carlsbad	827-7213 rnelson@wipp.carlsbad.nm.us
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LINDSEY LOVEJOY	NMAGO - P.O. Drawn 1508/87504	505-827-6675 llovejoy@ag.state.nm.us
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Delmarh Rude	117 Duran St. Santa Fe NM 87501	926-9284

01-18-01

Question

How many radiological swipes are  
taken on an empty TRUPAC II  
prior to a declared DOE releasable  
limit before sending the device  
to a site?

1/16/08

# 73<sup>rd</sup> WIPP Quarterly

## Transportation Issues

John  
Undersomnats  
DUC

Park deviation - missed the turn in the dock  
Response DOE suspended TRI state WIPP operation, CMR commenced 100% monitoring, TCC instituted procedure - monitoring route change  
Corrective actions - procedure change, LANT alarm system for deviation, <sup>(requires CMR response)</sup>  
dry runs from INEEL <sup>Tri state</sup> will resume shipping this week. Currently only shipping from INEEL.

Shipment Schedules - site mgt "signed up" to specific # of shipments, not at direction or coercion by CBO. Indicates intent to budget for characterization, ship, etc. Planned drop off reflects lack of driver + budget. SRS jump to 8 reflects mobile vendor <sup>char</sup> input/loading.  
RFETS - will do 10 shipments/wk, but realistically this might be tough. ~~RFETS~~ believe new loading dock & characterization capabilities (counting on compositing HSGs samples) will allow speed up. CBO is skeptical about RFETS, but must remain flexible. # of TRUPACTS always an issue, but fabrication expected to keep pace w/ shipments. Currently 19 in service, 2 more constructed but not yet certified

Long term CH schedule estimated FY03 & beyond, 01 & 02 site sign up so should be reasonable

TRANSCOM2000 - web based, not modern, behind ALB Ops office  
firewall

Jack Gilbert Panel 1 - all depends on waste receipt, safety of room itself  
Objectives - use as much of room as possible without jeopardizing safety.  
Trade off between filling panel 1 at expense of letting panel 2 age. NO RH into panel 1.

Roper Nelson Westinghouse TRU solutions, 5 yr contract, nominal \$1m/yr  
 CBFU New GM - Hank Herrera  
 In transition period, writing performance based incentives  
 CTAC transition - Portage Environmental (subs include <sup>sto/bo, ETE/le</sup> True Solutions)  
 Pgm mgr: Vernon Davis

132 shipments as of Jan 8, 2001 Room 7 ~ half full.  
 Matt Silva Lokash retired, Jim Channell now deputy director.  
 ECG Some changes to web site  
 Review of audits & current activities  
 Science in the underground - comments that congress should be notified,  
 authorize non-waste activities, space/ventilation  
 Concern/Comments on Parcel 1/2 submitted 11/29/00. <sup>see</sup> Handout  
 Various PA issues - actinide solubility, fluid injection, solution mining, Colston  
 transport, shallow hydrology, Cestilo brine, non-radiation waste emplacement, etc.

Bill Mackie WIPP Working Group - regular meetings, some special meetings  
 need to meet w/ CBFU regarding ~~bad~~ weather & safe parking  
 Handout

Steve Handout

Jody Plum Major Pending Mods  
 - DAC varying times to achieve 90% steady state depending  
 upon packaging configurations  
 - DR/CT - alternative method to QC of radiography. Option  
 to visual examination.  
 - Centralized confirmation program - increase storage by 25% (2150  
 drums), increase 60 days to 1 yr storage time, additional storage  
 areas, confirmation analyses @ WIPP  
 note that mobile vendors will be audited for Argonne E (+  
 SRS) to support WIPP on site characterization.

(3)

- RH ① Facility/Process Mod ② WAP Mod

DR/CT, Centralized Confirmation submitted by end of January pending internal review, (Cent. Conf. will assume DR/CT is granted). RH planned submittal in April

- Question about Amoupeck - 2 pathways ① Directed loaded into TRUPACT to overcome criticality concerns ② Develop Type B packaging. Mid summer have some idea whether it will fly. Macroencapsulation is treatment, not just a doll <sub>container</sub>
- Workshop in (started on concept of developing TRUPACT-III (larger container, preclude repackaging)

Roger Nelson - Contamination incidents ③ WIPP

June 99 - outside of

12/00, 1/01 swipe ~ 200-300 dpm Actinide source

Radon - naturally occurring, ubiquitous. Interferes w/ detection of Pu. Increased frequency result of greater rigor in assessing

Astrophysics - NSF assessing whether this is necessary  
Evaluating WIPP, Homestake, <sup>(SD)</sup> Soudan, <sup>(MN/iron mine)</sup> Soudan, <sup>(CA)</sup> San Jacinto are 4 candidate sites. Formal report to congress in 4/01

### Experiment Status

- LANL Astrophysics Project
- Triangle Universities Nuc Lab (TUNL) Majorana Project
  - installation planned to start early 2/01
- OMNISite project - may start early 3/01

Some activities will require additional excavation, probably also require modification of WIPP LWA

4

Action items - How many swipes taken on TRUPACT

# **Transportation Issues**

**John Vandekraats**

**Department of Energy**

**Carlsbad Field Office**

*Jan 16, 2001*



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## **Transportation Issues - Route Deviation Background**

- **1st TRI-State Shipment**
- **Dispatched from INEEL on Nov. 20, 2000**
- **There was a route plan in the truck**
- **Off-route event occurred on Nov. 21 about  
7:30 pm**

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## **Transportation Issues - Route Deviation Event Activities**

- **Driver misses the U.S. 285 turn-off in the dark**
- **Deviation picked up by NMSP D-1**
- **D-1 contacts TRANSCOM Control Center (TCC)**
- **TCC contacts drivers**
- **Routing is corrected**

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• **Transportation Issues - Route  
Deviation DOE Immediate  
Response**

- **CBFO suspends TRI-State WIPP Operations**
- **WIPP CMR commences dedicated monitoring**
- **TCC implements procedure change**

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## **Transportation Issues - Route Deviation Major Findings**

- **Drivers failed to exit I-25 to U.S. 285**
- **Drivers neglected to make proper notifications**
- **TRI-State failed to ensure drivers were familiar with the routing plan**
- **TRI-State failed to ensure that drivers were properly trained in correct notification procedures**
- **CMR Operators did not recognize the deviation**

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## **Transportation Issues - Route Deviation Corrective Actions**

- **TCC institutes a procedure change for monitoring at route changes**
- **LANL alarm system installed on TRANSCOM**
- **“Dry runs” of the INEEL shipping route**
- **Transportation management plan training held**
- **Training of log maintenance**
- **Training on CVSA inspections held**

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# Shipment Schedule Calendar Year 2001

							Monthly
	HR	INEEL	LANL	RFETS	SRS	NTS	Shipments
Months							Baseline
Jan-01	0	13 <sub>10</sub>	X	10			24
Feb-01	0	13	01	11	1		25
Mar-01	1	14	2	12	0		29
Apr-01	0	17	2	16	0		35
May-01	1	17	2	20	1		41
Jun-01	0	17	2	20	8		47
Jul-01	1	18	1	20	8		48
Aug-01	0	18	2	20	8		48
Sep-01	0	18	3	20	8		49
Oct-01	0	18	4	42	8		72
Nov-01	0	18	4	42	8	1	73
Dec-01	0	18	3	42	8	2	73

# Shipment Schedule

## WIPP CH Shipment Baseline

FISCAL YEAR	SHIPPING SITE										TOTAL
	ANL-E	Hanford	INEEL	LANL	LLNL	Mound	NTS	ORNL	RFETS	SRS	
FY01	0	5	170	19	0	0	0	0	175	34	403
FY02	15	6	216	46	0	0	33	0	480	68	864
FY03	0	22	199	61	0	0	0	0	480	12	774
FY04	0	48	408	91	13	30	0	56	480	12	1,138
FY05	0	61	508	122	7	0	71	32	480	12	1,293
FY06	0	63	501	161	7	0	0	3	90	12	837
FY07	0	58	570	177	10	0	0	3	0	12	830
FY08	0	59	685	168	8	0	0	3	0	12	935
FY09	0	60	565	162	3	0	8	1	0	12	811
FY10	3	60	623	166	3	0	0	1	0	12	868
FY11-15	0	454	3,427	114	11	0	0	5	0	108	4,119
FY16-20	4	411	1,211	114	11	0	0	5	0	300	2,056
FY21-25	0	304	317	114	11	0	0	5	0	480	1,231
FY26-30	4	144	221	114	11	0	0	5	0	600	1,099
FY31-34	0	46	0	114	11	0	0	5	0	143	319
Total	26	1,801	9,621	1,743	106	30	112	124	2,185	1,829	17,577

# Shipment Schedule

## WIPP RH Shipment Baseline

FISCAL YEAR	SHIPPING SITE							TOTAL
	ANL-E	BCL	ETEC	Hanford	INEEL	LANL	ORNL	
FY02	0	40	6	0	0	0	0	46
FY03	28	0	0	0	0	0	71	99
FY04	0	0	0	0	0	0	126	126
FY05	0	0	0	0	0	0	33	33
FY06	0	0	0	0	0	0	33	33
FY07	0	0	0	0	33	0	33	66
FY08	0	0	0	0	41	0	24	65
FY09	0	0	0	0	41	0	5	46
FY10	21	0	0	0	41	0	8	70
FY11-15	0	0	0	110	99	111	28	348
FY16-20	30	0	0	250	0	0	28	308
FY21-25	0	0	0	250	0	0	28	278
FY26-30	30	0	0	250	0	0	28	308
FY31-34	0	0	0	60	0	0	28	88
Total	109	40	6	920	255	111	473	1914





## TRANSCOM2000 Project Update

January 9, 2001

What is left to be done?

Security Plan - OMB-A-130 requires an approved and tested security plan in place for all major applications. Final draft in progress. Expect to have final submission and approval for test plan by January 29, 2001.

Final server and firewall configuration and testing at DOE/AL. Presently underway. Expected completion January 22, 2001.

TRANSCOM Communications Center staffed and operational in DOE/AL. Presently Underway. Expected completion January 29, 2001



## **TRANSCOM2000 Project Update**

**January 9, 2001**

**be done?**

User Training - All users must receive TRANSCOM2000 specific training by the NTPA. There are over 125 users nationally that support the Tru-waste to WIPP, Foreign Research Reactor and University Spent Fuel campaigns.

Training is being set-up regionally presently being tested at:  
Salt Lake City UT, Springfield IL, Albuquerque NM,  
DOE/CAO/WIPP NM, Harrisburg PA, Oak Ridge TN.

User training is expected to begin with the WIPP/CMR and State of New Mexico, then prioritized to focus on those shipment campaigns that are ongoing.



## TRANSCOM2000 Project Update

January 9, 2001

### Implementation Plan

*proposed implementation*

User Training - All users must receive TRANSCOM2000 specific training by the NTPA. There are over 125 users nationally that support the Tru-waste to WIPP, Foreign Research Reactor and University Spent Fuel campaigns.

Training is being set regionally presently being tested at: Salt Lake City UT, Springfield IL, Albuquerque NM, DOE/CAO/WIPP NM, Harrisburg PA, Oak Ridge TN.

User training is expected to begin with the WIPP/CMR and State of New Mexico in the late January timeframe. Then prioritized to focus on those shipment campaigns that are ongoing. State and Tribal training to begin February, 2001.



## TRANSCOM2000 Project Update

January 9, 2001

	<u>TRANSCOM</u>	<u>TRANSCOM2000</u>
Application deployment	pseudo client server	client server with application served via the web
System Configuration	16 bit, multiple versions of application with multiple copies of data	Web enabled with one version of application and one copy of the data
Security	Username and password	Multiple security schemes from data encryption, to firewall between the database and webserver, username and password, SQL*Net access via one port, distinct users, access rights controlled.
Maintenance/Upgrades	Multiple clients applications	One application running on web server
Positional Interface	Hybrid communications package. 5-7 minute updates.	State of the art QTRACS software, fine tunable to 2-5 minute position updates. Macro messaging capable.
Map Interface	Custom maps package	Off the shelf product with state of the art functionality.
User Interface	Not very user friendly,	User friendly, Windows-like, Intuitive.
Portability with other DOE Transportation Systems	Not available without extensive system updates	System is designed by transportation systems experts. Database elements are compatible with ATMS, TRAGIS, etc. "Hooks" can be easily developed for other spatial transportation information systems such as emergency response elements, medical facilities, e

# Carlsbad Field Office

*Jack Gilbert*

*1/16/01*



## Waste Isolation Pilot Plant Panel One Utilization



# Objectives



- Maximize cost effective utilization of Panel 1
- Minimize program risk by eliminating potential waste handling interruptions
- Maximize program flexibility (RH, CH receipt rate, permitting modifications, etc) by maintaining options as long as possible



# Evaluation of Panel 1

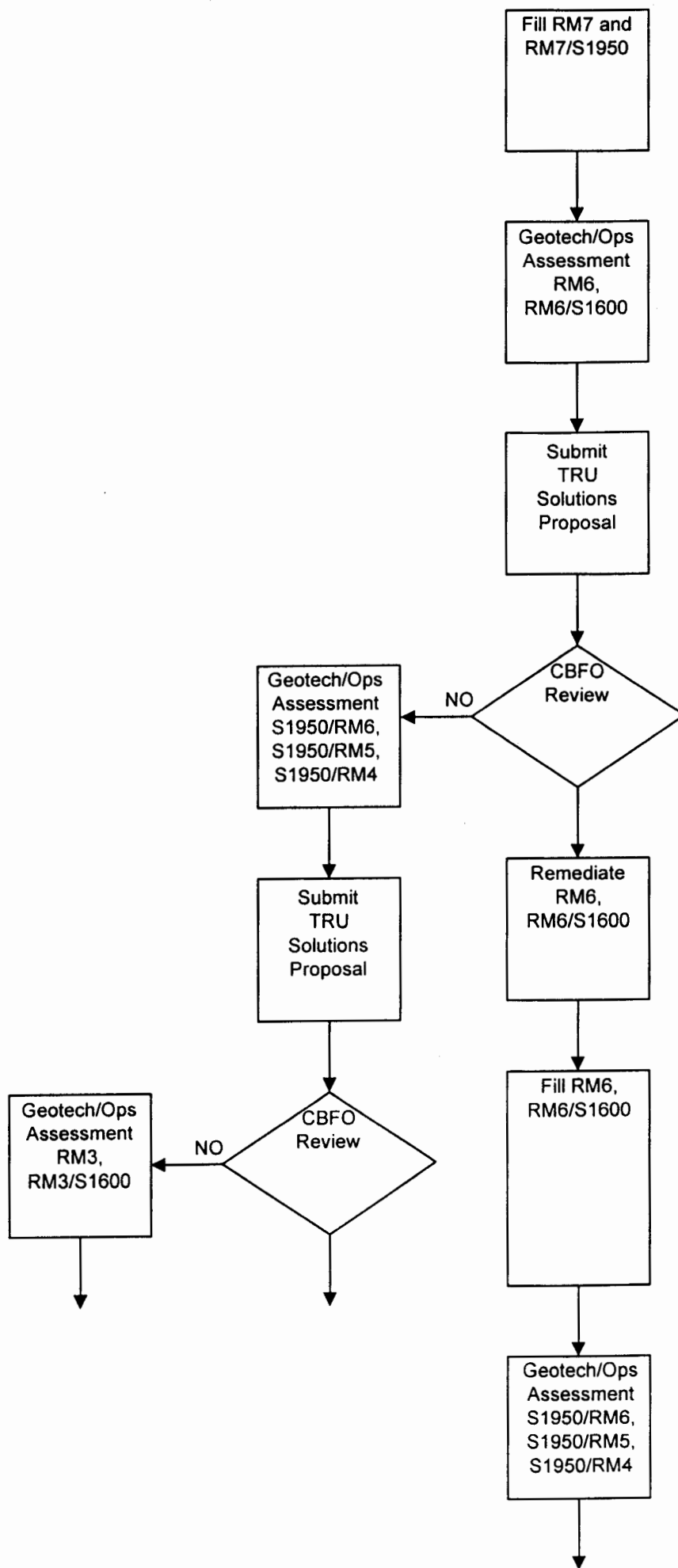


Evaluation of Panel 1 consists of:

- Geotechnical Assessment
- Physical Dimensions
- Current Waste Receipt Rates
- Regulatory and Safety Impacts

Geotechnical Assessment consists of:

- Current ground conditions
- Anticipated ground condition
- The effectiveness of the present ground control support system
- The useful life of the present ground control support system
- The time required to renovate and install the ground support system



PANEL 1 UTILIZATION  
DECISION TREE

Sample Decision Block



# PANEL 2

ROOM 7

ROOM 6

ROOM 5

ROOM 4

ROOM 3

ROOM 2

ROOM 1

## Mining Activities

for week ending 1/05/01

1. Mining in W-30 Drift / Ramp Complete
2. Probe Hole Drilling in W-170 Drift

S-2180

S-2520

E-300

E-140

W-30

W-170

## Legend

Panel 2 Outline

○ Probe Hole Drilling Locations

▨ Initial Cut Complete

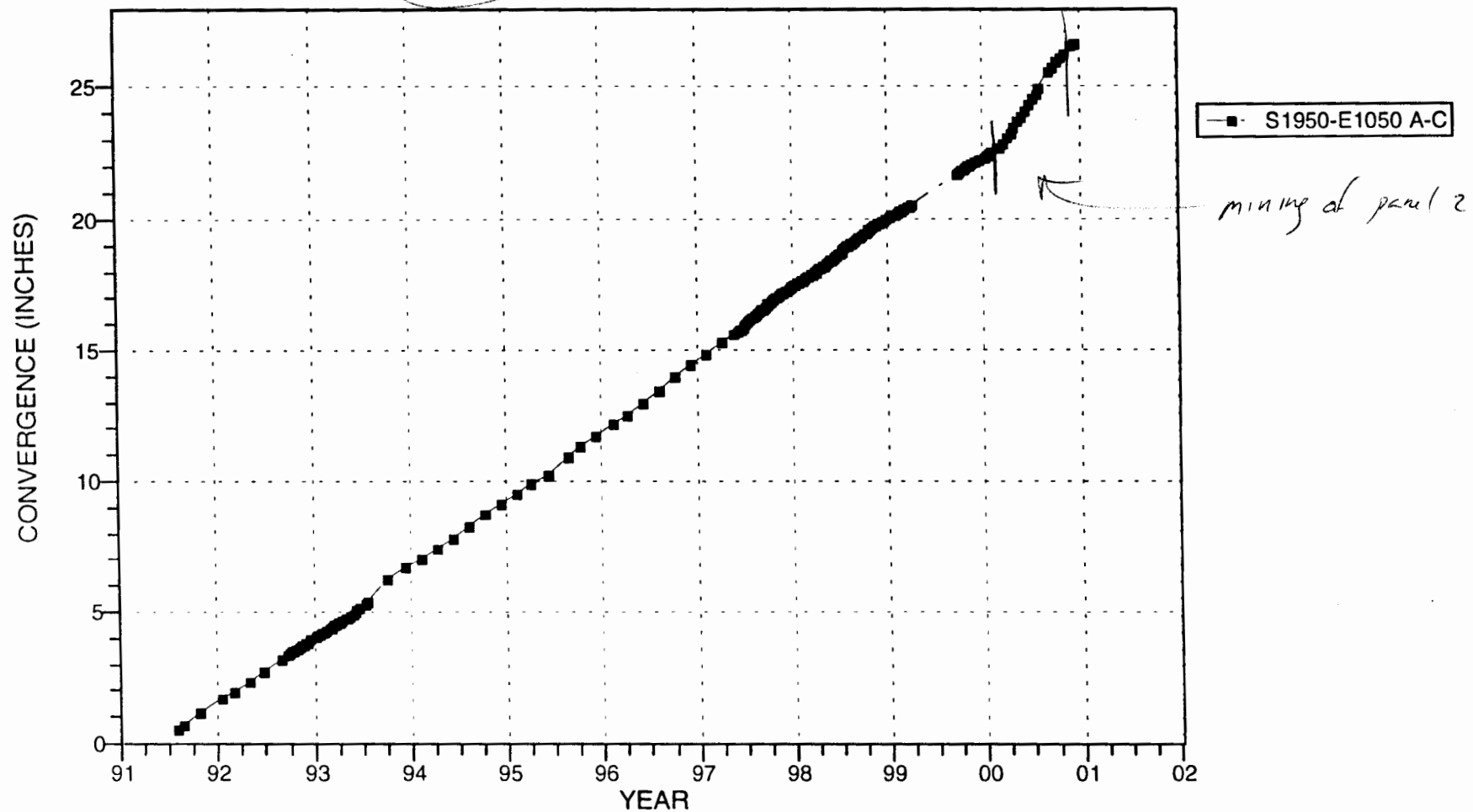
▩ Final Tolerance Cut Complete

Date 1/04/01

Weekly Mine Stat

*panel 1 access drift*

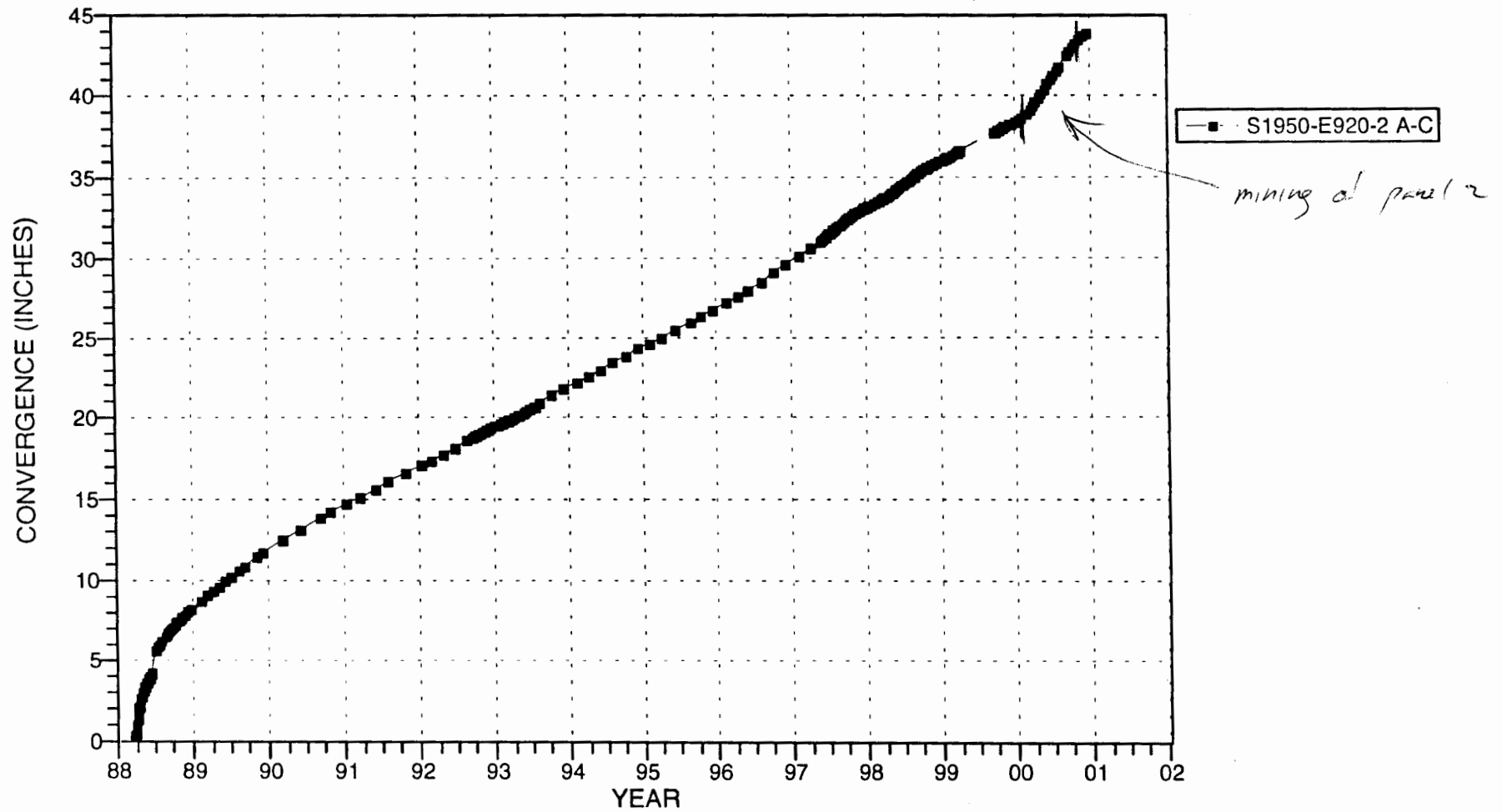
# CONVERGENCE POINTS S1950 DRIFT-E1050



## NOTES:

1. EXCAVATION DATE: JULY 25, 1986.

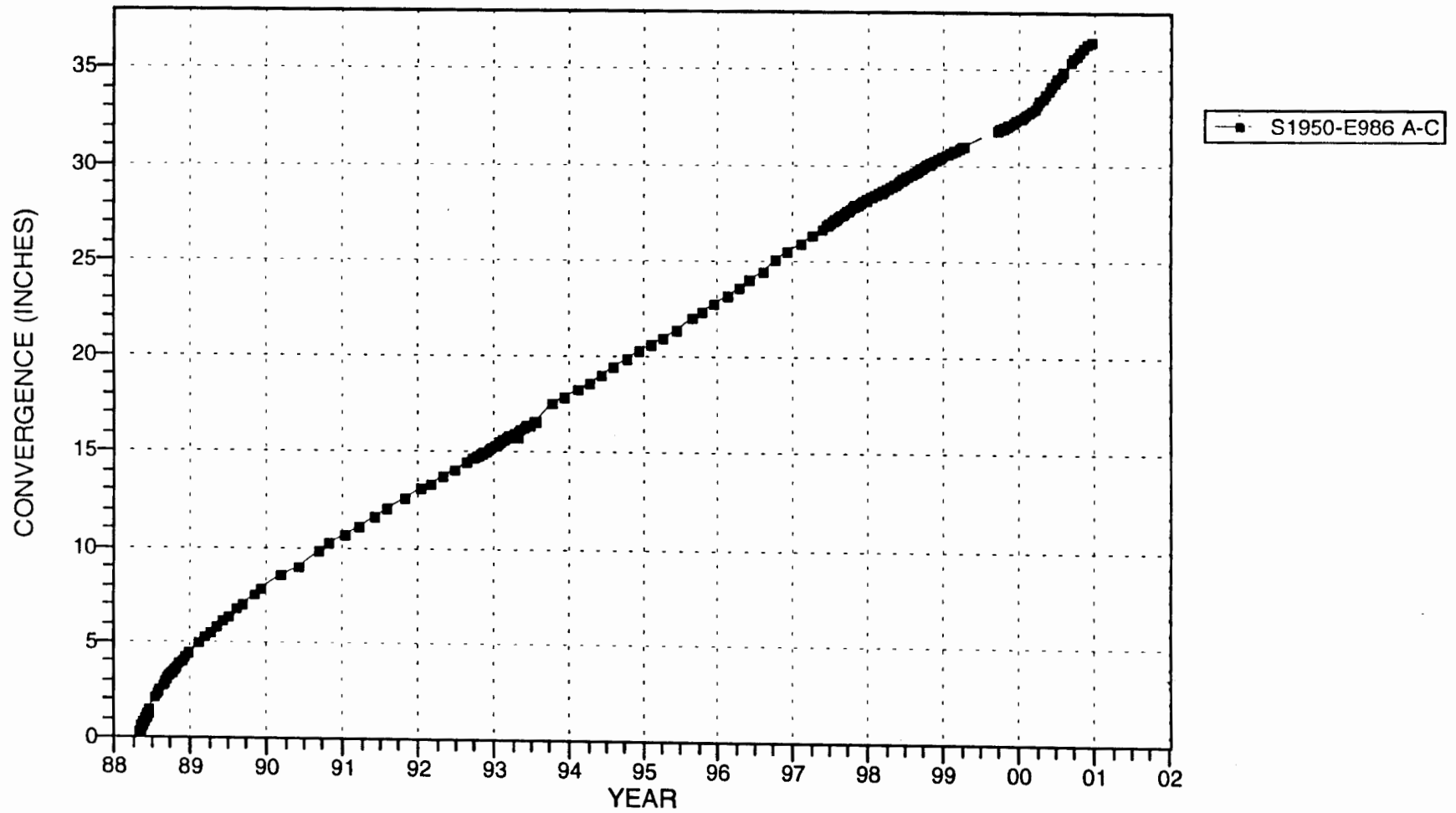
# CONVERGENCE POINTS S1950-E920 DRIFTS INTERSECTION



## NOTES:

1. EXCAVATION DATE: JULY 1, 1986.

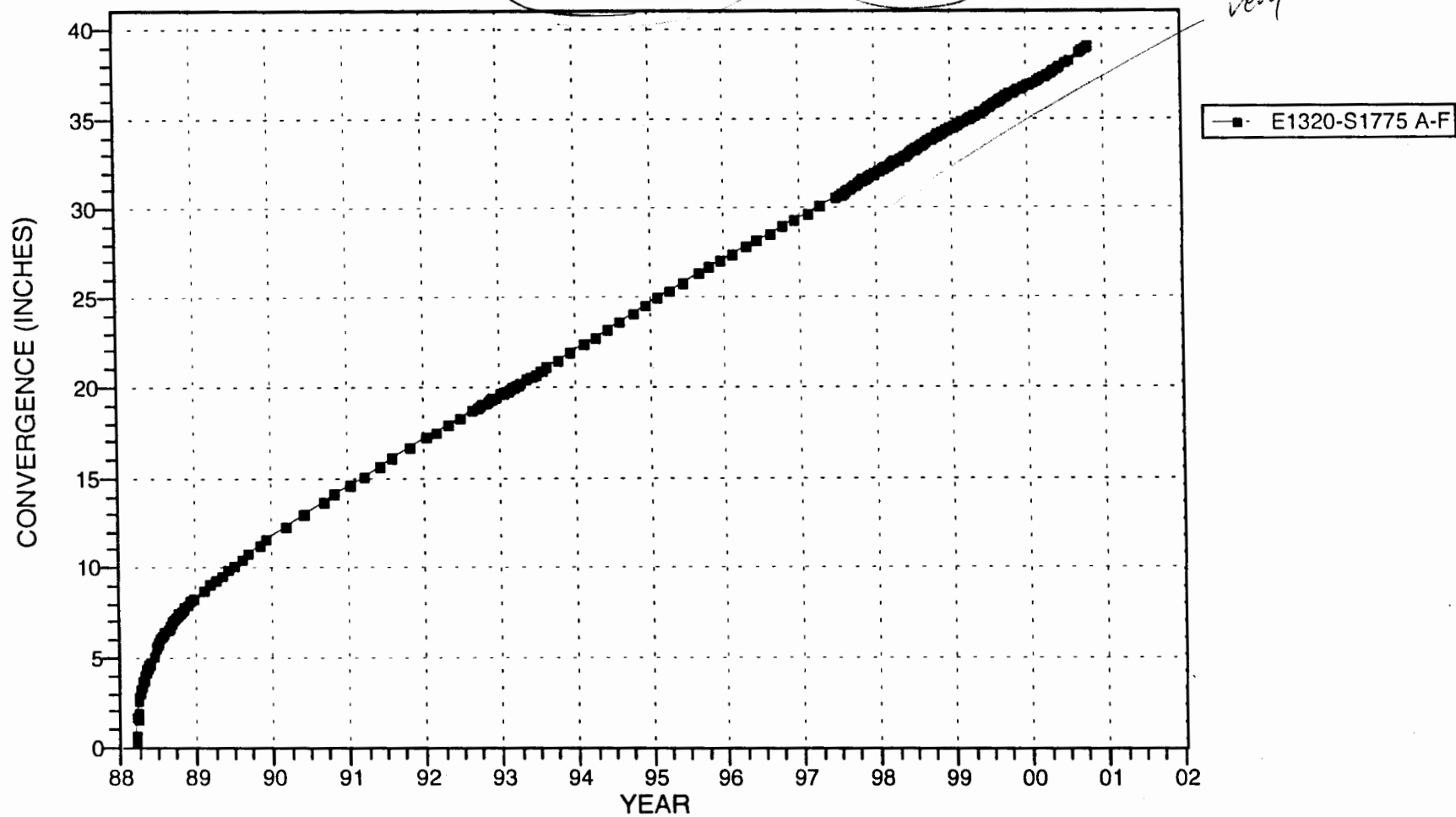
# CONVERGENCE POINTS S1950 DRIFT-E986



## NOTES:

1. EXCAVATION DATE: JULY 3, 1986.

CONVERGENCE POINTS  
E1320 DRIFT-S1775 ROOM 7, PANEL 1-CENTER



NOTES:

1. EXCAVATION DATE: MARCH 10, 1988.
2. A-E REPLACES A-F POINTS JUNE 1997

# Conclusions



- Cost effective utilization of Panel 1 will be achieved by using as much storage volume as possible while maintaining safe operating conditions
- Availability of Panel 2 minimizes program risk by establishing alternative courses of action without interrupting waste stream
- Early south main development enhances respository flexibility with reduced mining periods for subsequent panels and decreased reliance on salt hoist





## ENVIRONMENTAL EVALUATION GROUP

AN EQUAL OPPORTUNITY / AFFIRMATIVE ACTION EMPLOYER

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SUITE F-2  
ALBUQUERQUE, NEW MEXICO 87109  
(505) 828-1003  
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# LXIII QUARTERLY MEETING

**U.S. Department of Energy  
N.M. Energy, Minerals, and Natural Resources Dept.  
N.M. Environmental Evaluation Group  
N.M. Environment Department  
N.M. Attorney General**

**Matthew Silva  
Environmental Evaluation Group**

**January 16, 2001  
Santa Fe, NM**

## **AUDITS OBSERVED BY EEG**

<b>Oct 22-25</b>	<b>NRC inspection of TRUPACT II construction.</b>
<b>Oct 23-25</b>	<b>CAO surveillance of RFETS NDA equipment (PADC).</b>
<b>Nov 6-17</b>	<b>CAO audit of SRS waste characterization program.</b>
<b>Dec 4-8</b>	<b>CBFO certification audit of INEEL solid waste.</b>
<b>Jan 9-10</b>	<b>EPA audit of CBFO.</b>

## **ACTIVITIES**

<b>Nov 22</b>	<b>Submitted comments on Draft EA for science in the underground.</b>
<b>Nov 29</b>	<b>Submitted comments on Panel 1 use, received reply Jan 5, 01.</b>
<b>Dec 7</b>	<b>Class 2 permit mod of Drum Age Criteria by DOE to NMED. EEG reviewing.</b>
<b>Jan 3</b>	<b>Received draft RH-SAR. EEG will comment by Feb 28.</b>



## **SCIENCE IN THE UNDERGROUND**

**EEG November 22, 2000 comments on the Draft EA.**

- **Authorization to use WIPP**
- **Space and ventilation requirements**
- **Hoisting needs**
- **Geotechnical considerations**
  - **Room maintenance**
  - **Floor loading analysis**
- **Handling large volumes of liquids**

## **EEG NOVEMBER 29, 2000 COMMENTS ON PANEL 1 - PANEL 2 USE**

### **Panel 1**

- **Ground control structures that will exceed two years.**
- **Two drum roof fall scenarios not conservative.**
- **Delay of CH and loss of RH-TRU emplacement.**
- **Radiological consequence of roof-fall acceptable, but public perception might not be.**

### **Panel 2**

- **Newly excavated, starting to age.**
- **RH-TRU inventory does not require Panel 2.**

**\*\*\*\***

- **Evaluating DOE 1/02/01 response.**

## **RECERTIFICATION – FIVE YEAR CYCLES (60 MONTHS)**

- **Clock started March 1999.**
- **Precedent setting recertification application due November 2003 (EPA Guidance).**
  - **22 months have passed.**
  - **34 months left.**

## **TECHNICAL ISSUES IDENTIFIED BY EEG**

- **Mar 99 Waste Management Conference.**
- **Oct 99 Risk Analysis Journal.**
- **Sep 00 Spectrum Conference.**

## **PERFORMANCE ASSESSMENT ISSUES**

- **Actinide solubility**
- **Fluid injection**
- **Solution mining**
- **Culebra transport**
- **Shallow hydrology**
- **Pressurized Castile brine reservoir**
- **Microbial degradation**
- **Spallings**
- **Non-random waste emplacement**
- **Backfill effectiveness**

## **AIR MONITORING UPDATE**

- **EEG about to issue report, “WIPP Air Monitoring Status” by Jim Kenney. Recommendation for sampling improvements based on observations from CY 2000.**
- **Today WID will begin collecting samples from D-1-2 and D-1-3. EEG has been collecting and weighing filters from all three legs since August and will continue for Leg D-1-1.**
- **EEG continues to download and disseminate data for Stations A & D.**
- **Jan 8 probe inspection found heavily encrusted probe on skid A-3 and light deposits on skid A-1.**

## **EEG RADIOLOGICAL LAB UPDATE**

- **EEG continues collaboration with Westinghouse and CEMRC on concerns and developments. Next meeting January 24 at CEMRC.**
- **EEG investigating new  $\beta$ - $\gamma$  x-ray coincidence counting system for Sr-90 measurements.**

# 73rd WIPP Quarterly Review

Presented by

William B. Mackie

Coordinator, NM Radioactive Waste Consultation  
Task Force

Energy, Minerals and Natural Resources  
Department

January 16, 2001

Santa Fe, NM

# Task Force Activities

- WIPP Working Group:
  - Regular monthly meetings held with focus on:
    - Safe Transportation
    - Emergency Response Preparedness
    - Training Development
  - Special meetings held to focus on:
    - Training: Updating of FY-2001 State Wide Training Plan
    - WGA WIPP Transportation Protocols



# Task Force Activities

## (Continued)

- Task Force Performance variances:
  - Meeting to be scheduled between New Mexico and the Carlsbad Field Office to discuss recent events associated with Bad Weather and Safe Parking and the interface between D-1 and CBFO
  - WIPPTRAX exercises schedules set for following:
    - Santa Fe County - May 2001
    - Cibola County - August 2001

# Task Force Activities

## (Continued)

- Participated in the following:
  - Meetings:
    - Radioactive Waste Consultation Task Force for discussions on ATMX and Small Quantity Sites Issues
    - WGA WIPP Technical Advisory Committee quarterly meeting (Las Vegas, NV)
    - LANL Packaging and Transportation 2000 Symposium (Santa Fe)
    - Public Information meetings on Environmental Assessment for Conducting Astrophysics and Other Basic Science Experiments at WIPP

# Task Force Activities

## (Continued)

### – Outreach Activities:

- Briefed Nevada Representative on New Mexico's Role in the WIPP Safe Transportation Program
- Public Outreach for Cibola County LEPC in Grants, NM (10 Attendees)
- Radio Interview with Will Simms of KMSR on the WIPP Transportation Program (One Hour)

# Task Force Activities

## (Continued)

### – Other Activities:

- Participated in DOE sponsored Conference Call on Transportation Protocol Topics
- Attended Ribbon Cutting Ceremony for opening of NM 599 (Veteran's Highway) in Santa Fe
- Attended orientation visit of NMSP Dispatch Center and DPS Emergency Management Center for John Vandekraats of CBFO

# WIPP Transportation Safety Program

- Responded to inquiries from Environmental Groups, the Media and the General Public (RWCTF, TESD, DOH)
- Provided advance notification, State Police chase vehicles, TRANSCOM monitoring and enroute inspections (radiological and safety) for 36 shipments during quarter (TESD, NMSP and MTD)

# WIPP Transportation Safety Program (Continued)

- Conducted public outreach at Rio Rancho Family Activity Day (100 Attendees) (Road Show Vehicle used) (TESD, DOH)
- Conducted public outreach for Cibola County (60 Attendees) (TESD, DOH)
- MTD WIPP Coordinator attended Cooperative Hazardous Materials Enforcement Development Fall Conference in Las Vegas, NV
- Presented HAZMAT Awareness Training for First Responders in Cibola County (30 Attendees) (TESD, DOH)

# WIPP Transportation Safety Program (Continued)

- Participated in New Mexico Hazardous Materials Safety Board meetings (TESD, MTD, NMSP, DOH, SFMO)
- Exchanged all Ludlum meters and evaluated educational and equipment needs at hospitals along WIPP Route (DOH, NMED)
- Conducted Hospital Course at Rehobeth McKinley Christian Hospital, Gallup, for Emergency Room Personnel (DOH, SFMO)

## WIPP Transportation Safety Program (Continued)

- SFMO distributed Joint Power Agreements for review and coordination to six counties and three cities along WIPP Routes
- NMED continued dosimetry program monitoring using Landauer J1 badges. Reported dosimetry data for MTD WIPP inspectors and Raton Port of Entry Personnel showed low exposures.



# EMNRD Relocation

New Address:

1220 South St. Francis Drive  
Santa Fe, NM 87505

Phone Numbers:

J. Salisbury - 476-3200

W. Mackie - 476-3224

FAX - 476-3220

# **WIPP Quarterly Review January 16, 2000**

## **Activities Update for NMED's RCRA Permits Program**

### **1. Ongoing Permitting Process**

- NMED received additional permit modification notifications from DOE/WID
  - November 6, 2000 - Class 1 (reorganize/edit B6 checklists, allow compositing of up to 20 HSG samples, correct errors on figures, etc.)
  - November 18, 2000 - Class 1 (modify drum age criteria) - WITHDRAWN
  - December 4, 2000 - Class 1 (various changes)
  - December 14, 2000 - Class 1 (allow airtight seal to sample HSG through existing vent hole)
- Drum Age Criteria (DAC) Class 2 modification request
  - DOE/WID submitted request on December 7, 2000
  - Request included Temporary Authorization Request to implement modified DAC at INEEL
  - NMED approved temporary authorization December 13, 2000, then subsequently rescinded that approval on December 22, 2000
  - Public meetings held in Carlsbad (January 9) and Santa Fe (January 11)
  - Public comment period ends on February 9, 2001
- WIPP Facility Work Plan, RCRA Facility Work Plan/Sampling and Analysis Plan
  - NMED issued approval with comments December 4, 2000
  - NMED received DOE's response to comments January 5, 2001
  - Response requires NMED to followup in next week or two
  - Next Facility Work Plan due February 23, 2001
- Groundwater Detection Monitoring Program
  - NMED received Groundwater Quality Baseline Update Report, Addendum 1 on November 6, 2000
  - Report currently undergoing review, comments will be submitted within a month

### **2. RCRA-related Audits**

- LANL, September 25 - 29, 2000
  - NMED received audit report November 3, 2000
  - NMED issued comments on audit report, withholding approval pending submittal of additional information January 8, 2001

- RFETS, September 18 - 22 and November 1 - 2, 2000
  - NMED received audit report November 28, 2000
  - Report addressed repackaged debris waste only
  - NMED completed preliminary review of audit report
- SRS Debris, November 7 - 16 and December 18, 2000
  - NMED observed first week, relevant parts of second week
  - NMED received audit report January 2, 2001
  - Undergoing preliminary review
- INEEL Homogenous Solids, December 4 - 8, 2000
  - Audit was terminated due to AK issues
  - Followup this week(?)
- Other tentatively scheduled audits
  - RFETS Recertification and Homogeneous Followup, January 29 - February 2, 2001
  - Hanford Recertification, April 2001
  - INEEL Recertification, April 2001
  - LANL Repackaging, April 26 - May 5, 2001

#### 4. Other activities

- Attend WWIS Working Group meeting in Santa Fe, December 6 - 8, 2000
- Attend meeting with Secretary Maggiore and citizen activist representatives, December 8, 2000
- Tour WIPP with HWB and AQB staff, January 10, 2001

# Permit Modification Status

Jody Plum

Department of Energy -  
Carlsbad Field Office

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## Major Pending Modifications

- Drum Age Criteria (DAC)
- Alternate Method for QC of Radiography (DR/CT)
- Centralized Confirmation Program (CCP)
- Remote Handled Waste (RH)

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# Modification Summary

## DAC

- Allow sites to use varying times to achieve 90% steady state headspace gas concentration depending upon packaging configurations.



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## Modification Summary DR/CT

- Allow the use of Digital Radiography and Computed Tomography as a optional method for the QC of radiography. The HWFP currently allows only visual examination as a QC of radiography.

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# Modification Summary

## RH

- WIPP Facility/Process Modification
  - Add waste handling process descriptions and facility drawings (based on canister transfer complex).
  - Update inspection requirements and the Contingency Plan.
- RH Waste Analysis Modification
  - Remove RH prohibition language
  - Define waste characterization requirements appropriate for RH waste.

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## Classification

- DAC - Class 2
- DR/CT - Class 2
- CCP - Requesting determination of class by NMED with recommendation it be handled as a Class 2
- RH - Class 3

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## Schedule and Status

- DAC - Public meetings held January 9 & 11
- DAC - Public comment period closes February 10, 2001
- DR/CT - Under review at CBFO - submittal in January
- CCP - Internal review underway - submittal in January
- RH - Internal review underway - submittal in April

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# Contamination Incidents at WIPP

Date	Site	Method	Result	$\alpha/\beta$
June 16, 1999	RFETS <i>outside</i>	swipe ~120dpm	NORM	~1.2
Dec. 14, 2000	RFETS <i>outer part of inner lid</i>	swipe ~ 200dpm	Actinide	~30
Jan. 9, 2000	INEEL <i>bottom of drum</i>	swipe ~ 300dpm	Actinide	~40

In all cases, elevated counts were detected on a single swipe (100cm<sup>2</sup>)

Extensive supplemental surveys were done and adjacent area samples collected: no associated contamination was found

In all cases, radiochemical methods were used to identify the isotopic makeup of the activity

Follow up with RFETS/INEEL RadCon staff ongoing to eliminate recurrence

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## Issues and Events

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### January Issues and Events:

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### Enthusiasm Deepens for US Underground Physics Lab

A cross section of physicists has revived efforts to build a Gran Sasso-style underground facility in the US.

When US scientists want to shield their experiments from cosmic radiation, they usually head to the large underground labs in Italy and Japan. Now, a chance to take over the Homestake gold mine in South Dakota, plus an invitation from the Department of Energy to host experiments in its Waste Isolation Pilot Plant (WIPP), a nuclear waste repository near Carlsbad in southeastern New Mexico, has sparked a groundswell of enthusiasm for establishing a major subterranean lab in the US.



It's too early to say how the idea will stack up against competing physics projects. "There's no proposal on the table," says Brad Keister, NSF's program director for nuclear physics. "The community has our attention, and we are listening." In a few months, a committee of astro-, nuclear, and particle physicists will report to NSF and DOE on the need for a US underground facility, as well as on the cost, radioactivity, and technical features of possible sites—including WIPP, Homestake, and Mt. San Jacinto near Palm Springs, California.

#### Selling the idea

To be sure, the US has a scattering of underground experiments, including in both WIPP and Homestake. But scientists say they need a dedicated underground facility with shared infrastructure and better visibility--and funding--for their experiments. Says University of South Carolina particle physicist Frank Avignone, "I have worked at Homestake, and there's not enough room. The Soudan mine [in Minnesota] is not deep enough. . . . I've worked in Baksan in Russia, and in an iron mine in Argentina. Gran Sasso [National Laboratory] in Italy is beautiful, but there's no more room. I guess what I'm saying is that I can't find a home. In the US we ain't got nothing."

"We've gone from having no good possibilities to having a couple that are really outstanding," says Wick Haxton, a nuclear astrophysicist at the University of Washington and a member of the underground lab committee. "The real push for all this is not that sites are available, so much as the wonderful science."

A dozen or so experiments, at various stages of contemplation, construction,

R&D, and funding, are on the docket for a US underground lab. They include detectors for dark matter, proton decay, and double-beta decay, and for neutrinos from the Sun, the atmosphere, supernovas, and neutrino factories. There is also talk of putting in equipment to purify and store germanium, which cosmic rays make radioactive.

The debate over whether and where to open a national underground lab centers on the question, How deep will do? The answer depends on the particular experiment and is tangled up with costs and technical considerations ranging from excavation to elevator size. The details are fuzzy. Homestake is the US's deepest mine, at 2500 meters, while WIPP is about 650 meters deep. But there are other trade-offs, and both sites have advocates. "If the experimentalists come together and form a consensus and say, 'We should do X,' whatever X is, I will help sell their idea," says John Bahcall, a theoretical astrophysicist at the Institute for Advanced Study in Princeton, New Jersey, and chair of the underground lab committee.

### **Mining for sites**

The impending shutdown of the Homestake mine at the end of this year means the science community and funders have to act fast: Unless money is found to keep it open, the pumps will be turned off and the mine will flood. "We have a short time window," says University of Pennsylvania astrophysicist Ken Lande, who is leading the efforts to keep the 125-year-old mine open. "We either turn it into a scientific facility or [the company] will seal the shaft, and that option will disappear--once it's gone, the cost of reinventing would be huge. An opportunity for US scientists would die."

Homestake has the lowest cosmic-ray background levels of the potential US sites. For example, at 1475 meters (accounting for the mine's rock density, that's about 4000 mwe, or meters of water equivalent), where Ray Davis's original 1965 chlorine neutrino detector is still in use, the background is about 50 times lower than at 650 meters (2000 mwe) in WIPP. Homestake has some 600 miles of tunnels; dug-out levels every 50 meters; and electrical, communications, elevator, ventilation, and pumping systems.

Eager to save jobs and bring prestige to the area, South Dakota is negotiating to take over the mine. Maintaining Homestake will run \$4-5 million a year, estimates Sherry Farwell, dean of graduate education and research at the School of Mines and Technology in Rapid City, which would assume the day-to-day mine maintenance. The cost of converting it into a full-scale, multiexperiment lab will depend on what's installed. "You don't have to decorate, but you can," says Lande. "It's in move-in condition."

DOE, meanwhile, is keen to host experiments at WIPP. Intended as a permanent burial site for transuranic waste, WIPP has been controversial since digging began there more than 20 years ago (see *Physics Today*, May 1999, page 59). Setting up sensitive experiments would be good for public relations, says chief WIPP scientist Roger Nelson. "Listening for nature's secrets whispered across the galaxies, right next to megacuries of transuranic waste, would send

The biggest experiment on people's lips is UNO (Ultra Underground Nucleon Decay and Neutrino Observatory), a water Cherenkov detector scaled up an order of magnitude from the 50-kiloton Super-Kamiokande in Japan. UNO's main aim would be to look for proton decay. It would also detect neutrinos from

The physics successes are also behind the renewed interest in a US underground lab. "The scope of intellectual questions is broader than what can be answered with accelerators [alone]," says Barry Barish, a high-energy physicist at Caltech who is serving on the underground lab committee. "When you move out of accelerators, you cross fields—particle and nuclear physics and astrophysics."



Alfred Mann, a particle physicist at the University of Pennsylvania, spearheaded a failed effort to get a US underground lab in the early 1980s, around the same time that Gran Sasso opened in Italy. "There was not a great deal of interest--there never is when you want to do something new," he says. Things went as far as selecting a site. But when it came time to dole out money for large-scale equipment, says Mann, the idea for an underground lab lost out to accelerator physics.

If the idea has any viability this time, says Barish, "it's because it addresses fundamental questions in several different areas."

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