

WIPP Quarterly Review May 1, 1997

Activities Update for NMED's RCRA Permits Program

1. Meetings, trips, training, etc.

- Met with Representative Heaton and Senator Kidd to discuss WIPP RCRA permitting schedule, February 17.
- Attended EPA hearings on Compliance Certification Application in Albuquerque and Santa Fe, February 20 - 21.
- Completed OSHA 40-hour HAZWOPER training, March 3 - 7.
- Met with EPA Region 6 staff to receive the preliminary draft HSWA module, March 11 - 12.
- Attended DOE/CAO audit of TRU waste characterization activities at INEEL, April 20 - 25.

2. External efforts to "expedite" the permit process

- Since the previous quarterly meeting, various parties have sought information on the permitting process and urged the State to eliminate delays in issuing a permit:
 - John Heaton/Don Kidd meeting with Kelley, Garcia, Zappe, 2/17
 - Bob Light meeting with Kelley, 2/26
 - Joe Skeen letter to Gov. Johnson, 3/6
 - WEC CEO Michael H. Jordan proposed meeting with Gov. Johnson, March (never held)
 - Carlsbad elected officials meeting with Gov. Johnson, 4/17 (?)
- In response to these inquiries, I prepared the following:
 - Letter, Kelley to Light, 3/10
 - Letter, Kelley to Skeen, 3/31 (cc: to Dials)
 - Internal Memo, Weidler to Gov. Johnson & Lt. Gov. Bradley, 4/17
- Approximately 5 weeks of permit development time was lost due to diverting my energies to respond to these requests.
- End result - permit issuance was delayed, not expedited.

3. RCRA Part B Permit - Development

- Requested a revised WIPP groundwater monitoring plan on 2/25, and received DOE submittal on 3/21.
- Informally (3/20) and formally (4/11) requested additional information on WIPP solid waste management units for consideration in developing HSWA module. Awaiting response from DOE/WID.
- Requested WIPP modeling and parameter selection information on 4/29. Also requested any other information necessary for administrative record.
- Draft Permit still under development:
 - Continuing work on the groundwater monitoring module.
 - Recent work on the HSWA module and Technical Support Document received from EPA Region 6.

4. Upcoming activities

- "Defusing The Irate Citizen" 1-day seminar next week in preparation for public comment period and hearing.
- Attend TRU Waste Characterization Audits
 - LANL, May 12 - 16
 - RFETS, June 2 - 6

58th WIPP Quarterly Review
May 1, 1997

<u>Name</u>	<u>Company & Address</u>	<u>Phone</u>
Sally Ballard	EEG	885-9675
Ann W. Kenney	EEG	885-9675
DON GRAY	EEG	885-9675
Gloria J. Barnes	WID	234-8383
Dennis Hurtt	CAO	234-7327
Michael H. McFadden	CAO	234-7486
COOPER H. WAYMAN	CAO	234-7329
Eliberto Seguinot	CAO	234-7354
Harold Johnson	CAO	234-7349
Steve Wagner	WID	234-8794
TOM GLEMO	EEG	828-1003
Ben Walker	EEG	885-9675
Bill Bartlett	EEG	828-1003
Lokesh Chaturvedi	EEG	828-1003
George Diabls	CAO	234-7300
MATTHEW SILVA	EEG	(505) 828-1003
LINDSAY LOVEJOY	NMATTY GENOFF.	827-6695
JIM CHANNELL	EEG	828-1003
CHRIS WENTZ	State of NM Rad. Waste Task Force	827-1372
Tom Tatkin	NMED/ AIP Oversight	827-1536
John Parker	NMED "	"
Tim Michael	NMED DOE Oversight	"
Steve Zappe	NMED / HRMB	827-1561
Craig Snider	CAO	

58th Quarterly

5/1/97

EEG

Discussion about K_D values & distribution - shouldn't be uniform, instead should be log normal or normal.

Bill Bartlett thought reused STAR looks very good.

DUEOB

Not much new to say - introduce Tim Michael.

John Parker

Tom Tutkin - discussed audit attendance.

Task Force

Including State Fire Marshall in emergency response & preparedness. Observed testing at halfpuck at SNL.

Homepage created. Mail-outs to over 400 local & tribal govts to make them aware of training. Comments on SEIS & CCA. Rad waste shipments - Pantex to LANL ^{discuss container use} SNL spent fuel.

Outreach now coordinated with other scheduled events where responders would meet.

RH-72B - on the docket, expect NRC approval end '98
Pipe overpack certified as part of TRUPACT SARP

Santa Fe WIPP committee - looking at mechanisms to prevent ^{or restrict} shipments down St. Francis, & seek additional funding for bypass.

Land use joint powers agreement - include tracking of oil & gas exploration activities.

CAO
Diels

DDP Draft 4 April 97. EPA Cert/UMED permit issued 4/98. Changes besides cert. - Oper. Readiness Review in early 3/98, declared 4/98. Sites have committed to shipping more waste. Site cert should be modified to allow more thorough assessments.

Budget reduction in '98. FY97 budget includes \$20m assistance to state. (\$195.8 '97 → 170.3 '98) Shortfall \$16m in '98. DDP schedule will be met regardless of budget.

St Relief Pt - remaining portion in planning & design stage. Cost in August \$30m. Funding is avail. to complete it will initially be a 2 lane road. Prefer to have relief route completed, but will ship regardless.

Operations! Demonstration schedule for August - compliance criteria lawsuit - oral arguments given.

Decision expected this summer

Harold Johnson
 CAO will not discuss responses to ETC comments.

SGS-II

would give appearance of favoritism, potential for litigation. Major comments - legal issues - DUE has prejudiced its decision on WPP, some alternatives are unreasonable, failed to analyze ~~alternatives~~ alternatives, DUE wouldn't be able to fulfill Idaho's agreements

lack of consistency (CA, RCRA, SAA) - lack of consistency in PIA, disposal of WPP more perfect than surface storage, transportation analysis overly conservative.

Offer - ~~should be~~ consider surface storage

Final SGS take July/early Aug, Rod late Aug/early Sept. Provided working schedule for certification, responses to ETC requests for info.

Jim McKinney

Re-evaluating original screen out of blind injection test.

Kent Hunter

Waste Char/Treatment. Generator site audit schedule. ^{Fall - 97} ^{cost} ^{11/97}

INTER

Oct 27-31

Aug 48

LAND

Nov 7-21

9/98

RFS

6/1-5

INTER RA, RTR should be operational by 9/97. Waste cost to begin in 9/97

LANL certified for debris only, 55 drums certified by 9/97, 1000 certified FY 98

RFCES also certified for debris only. Throughput limited until mobile systems come on line

Sites ^{certified} next year - Hanford 8/98, SRS 3/98, ORNL 8/98

Mike McFadden ~~Spillings~~ Peer Review/Expert Judgment

Spillings - determine if predicted volumes were reasonable. Developed new model. Lensite failure is primary failure mechanism. provides ^{more} response missing from previous model. Conclude spillings model inadequate, but volumes may overestimate actual waste volumes released by spillings

MgO Breakfall - conclusion that MgO will fracture as assumed in CCA & that model is accurate.

Expert elicitation will be done with probability distr. for waste particle diameters. Selection committee & criteria

Jim Newberry Comments on CCA

From EPA 12/19/96 Request to DOE - 5 patch response
2/18/97

3/19/97 Request to DOE - ~~no~~ one response yet

4/17-25/97 EPA parameter test request

From EEG - to Task Force on KOs, letters & comments.

From NMAC comments to EPA, utall to Branner

Currently responding to all comments from EPA & others

George Basabivazo Int'l Peer Review report.

Looked at appropriateness, technical sound, conformity w/ international stds & practices. Seven members from 10/96-4/97 Renewed volume I & selected appendices

Report forthcoming soon - also to appear on the home page.

West
Windsor

Advanced Mixed Waste Treatment Facility

Contract let to British Nuclear Fuels Ltd 0012/56

AMWTF startup 2003, complete in 15 yrs.

Call for processing all d-emitting waste @ INEA

or ~65,000 m³ - reduced volume after treatment ~20,000 m³

AMWTF to include repackaging, sorting, segregating,

& thermal processing.

Discussion of mobile characterization - critical to DOE's waste management plan

AGENDA**58th WIPP QUARTERLY REVIEW MEETING
May 1, 1997**

Department of Energy
Carlsbad Area Office
101 E. Greene Street
Carlsbad, NM 88220
505-234-7303

8:00 a.m.	Welcome and Opening Remarks	10 min.	George Dials, Manager, CAO
8:10 a.m.	Environmental Evaluation Group Status/Activity Report	30 min.	Robert Neill, Director, EEG
8:40 a.m.	NMED DOE Oversight Status/Activity Report	15 min.	John Parker, NMED
8:55 a.m.	NMED Haz/Rad Materials Status/Activity Report	15 min.	Steve Zappe, NMED
9:10 a.m.	N.M. Radioactive Waste Task Force Status/Activity Report	20 min.	Chris Wentz, NMEMNRD
9:30 a.m.	U.S. Department of Energy Status/Activity Report	30 min.	George Dials, Manager, CAO
10:00 a.m.	BREAK	15 min.	
10:15 a.m.	Status of EPA Compliance Criteria Lawsuits	15 min.	Lindsay Lovejoy, NMAG
10:30 a.m.	SEIS-II Update	15 min.	Harold Johnson, CAO
10:45 a.m.	Responses to EPA Formal Requests (Schedule/Status)	20 min.	Jim Mewhinney, CAO
11:05 a.m.	Waste Characterization/Treatment	30 min.	Kent Hunter, CAO
11:35 a.m.	Lunch	85 min.	
1:00 p.m.	Compliance Certification Application Update	45 min.	Jim Mewhinney, CAO
1:45 p.m.	Spallings Model, Fluid Injection Scenario, MgO Control of Waste Room Chemistry	60 min.	Mike McFadden, CAO
2:45 p.m.	BREAK	15 min.	
3:00 p.m.	International Peer Review	20 min.	George Basablivazo, CAO
3:20 p.m.	Q&A/Discussions	60 min.	ALL
4:20 p.m.	Action Item Commitments/Closeouts	15 min.	Pat Kilgore, CAO
4:35 p.m.	Adjourn		

Post-It® Fax Note	7671	Date	4-25	# of pages	1
To	Steve Zappe	From	Pat Kilgore		
Co./Dept.		Co.			
Phone #		Phone #	234-7302		
Fax #	827-1544	Fax #			

WIPP 58th Quarterly Review

George E. Dials, Manager
Carlsbad Area Office
United States Department of Energy

May 1, 1997



CARLSBAD AREA OFFICE

- **Compliance is the challenge**
 - **Within schedule**
 - **Within budget**
- **Disposal/cleanup - the goal**



ACTION ITEMS
57th WIPP QUARTERLY REVIEW
February 13, 1996

4/28/97

Action Items	Action By
Conduct briefing for NMEMNRD on new transportation containers, i.e. pipe overpack, HALFPACK, RH-72B.	Kent Hunter, CAO Briefing to be included in the next WGA meeting.
Demonstrate practical emplacement of MgO.	Kent Hunter, CAO Demonstration will be performed as part of the scope of the contractor ORR. Tentative start date for the ORR is 6/2/97. (Letter to EEG 3/21/97)
Rip Anderson, SNL, requested a copy of John Bredehoff's fluid injection report referenced by L. Lovejoy in his presentation.	Lindsay Lovejoy, NMAG Provided to Mr. Anderson during meeting.
Conduct technical meeting before March 17 to discuss actinide retardation and Kds	Jim Mewhinney, CAO On February 11, a meeting was held with the NAS WIPP sub-panel in Albuquerque. The dominant topic presented was the DOE Kd values used in the 96 PA. EEG and others (public) were participants. On March 7, DOE provided an analysis of the comments made by EEG (made on November 14, 1996) to the State (NM Rad Waste Task Force), wherein EEG detailed its concerns regarding DOE's 96 PA values for Kds. The March 7, 1997 CAO letter dismissed the EEG concerns on the basis of sound and defensible arguments. The CAO did not send the March 7 letter to anyone except the State.
The EEG requested that they receive, via FedEx, CAO responses to EPA 12/19/96 letter.	Mike McFadden, CAO CAO provided its response to EPA's request as responses were developed (in the interest of time). All responses were contained in five "batches" extending over the period from January through March, 1997. The EPA placed these materials in the docket as they were received. When all submittals were available, CAO compiled the responses into a single compendium. This was sent to EEG on April 25, 1997.

<p>The EEG requested a copy of the 12/14/96 Stoezel & O'Brian memo.</p>	<p>Mike McFadden, CAO</p> <p>This memo is a part of the records package with the screening argument to eliminate water flooding (NS-7a which is CCA Reference No. 611). In all DOE responses to comments concerning the water flooding issue, CAO has referenced this document and indicated its availability at the Docket locations. CAO did not specifically make a copy of the records package (about 300 pages) and send it to EEG. This records package has been, and continues to be, available in the Sandia records center.</p>
<p>Schedule a National TRU Update meeting.</p>	<p>CAO</p> <p>If one is held, it will be in Fall 1997 in Carlsbad.</p>
<p>Schedule 58th Quarterly to be hosted by the CAO in Carlsbad.</p>	<p>CAO</p> <p>Scheduled for May 1 in the CAO's 2nd floor conference room.</p>

Disposal Decision Plan Changes

- DOE Operational Readiness Review expected in early March 1998 and readiness declared early April 1998.
- Sites have committed to having more certified waste available to ship.
- Site certification schedule modified to allow for more thorough assessment.
- INEEL will be the first site to ship in May 1998, followed by LANL and RFETS.

CARLSBAD AREA OFFICE BUDGET PROFILE

(Millions)

Program	FY95	FY96	FY97	FY98
WIPP	147.5	154.3	165.2	148.9
NTP	22.3	23.4	24.4	14.2
Subtotal	169.8	177.7	189.6	163.1
Program direction	5.1	5.5	6.2	7.2
Total	174.9	183.2	195.8	170.3
Privatization				29.2
CAO Programs				199.5



CARLSBAD AREA OFFICE PARTICIPANTS SUPPORT

Program/participant	FY97	FY98
WID/WIPP (Site operations)	85929	81617
SNL/WIPP (Experimental) LANL/ANL-W	38984	32192
CTAC/WIPP (Tech support) PNL/ETC.	10686	7726
Generator sites	5496	1602
TRU integration	15614	9760
Management/stakeholders	32881	30164
Subtotal	189590	163061
Program direction	6202	7171
Total program	195792	170232
Privatization	-	29,200
Total	195,792	199,432

Note: FY97 represents current budget authority, FY98 is the President's Budget



**CARLSBAD AREA OFFICE
FY97/98 Contractor Support
Change**

Program/Participant	FY97 \$000	FY98 \$000	Change \$000
WID/WIPP (Site Ops)	85929	81617	-4312
SNL/WIPP (Exp) LANL/ANLW	38984	32192	-6792
CTAC/WIPP (Tech Spt)/PNL/ETC	10686	7726	-2960
TRU Waste Sites	5496	1602	-3894
TRU Integration	15614	9760	-5854
Mgmt/Stakeholders	32881	30164	-2717
Subtotal	189590	163061	-26529
Program Direction	6202	7171	969
Total	195792	170232	-25560

NOTE: FY97 Represents Current Budget Authority, FY98 is the PRESIDENT'S BUDGET

**CARLSBAD AREA OFFICE
FY95/98 Contractor Support
Mgmt/Stakeholders**

Program/Participant	FY95 \$000	FY96 \$000	FY97 \$000	FY98 \$000	CUM
WIPP	-436	2285	29615	27394	58858
Other CAO Institutional	-2370	446	2601	819	1496
NM Impact Assistance			20000	20000	40000
EEG	1434	1534	1748	1301	6017
NAS		250	266	274	790
CERMC		0	4500	4500	9000
DoD Training Center	500	0	500	500	1500
CH		55			55
NTP	664	1926	3266	2770	8626
WGA	103	535	1400	1160	3198
Indian Tribes	85	75	570	309	1039
SSEB	105	148	163	168	584
NM Emergency Response	371	793	1133	1133	3430
AL/RAP	0	375	0	0	375
SUB TOTAL	228	4211	32881	30164	67484

NOTE: FY97 Represents Current Budget Authority, FY98 is the PRESIDENT'S BUDGET

Budget Impacts in FY1998

- CAO is \$16M short in FY1998 budget needs.
- DDP schedule will be met regardless of budgetary impacts.
- CAO is “forward planning” in FY1997 to off-set FY1998 budget shortfalls.
- Cost shortfalls in FY1998 are not completely covered by schedule delay. CAO budget is still short.

FINAL CCA

- Submitted October 29, 1996
- Nine chapters, 58 appendices, 716 references
- Text over 24,000 pages in length
- Over 65,000 reference pages

Chapter 1: Introduction

Chapter 2: Site Description

Chapter 3: Facility Description

Chapter 4: Waste Description

Chapter 5: Quality Assurance

Chapter 6: Containment Requirements

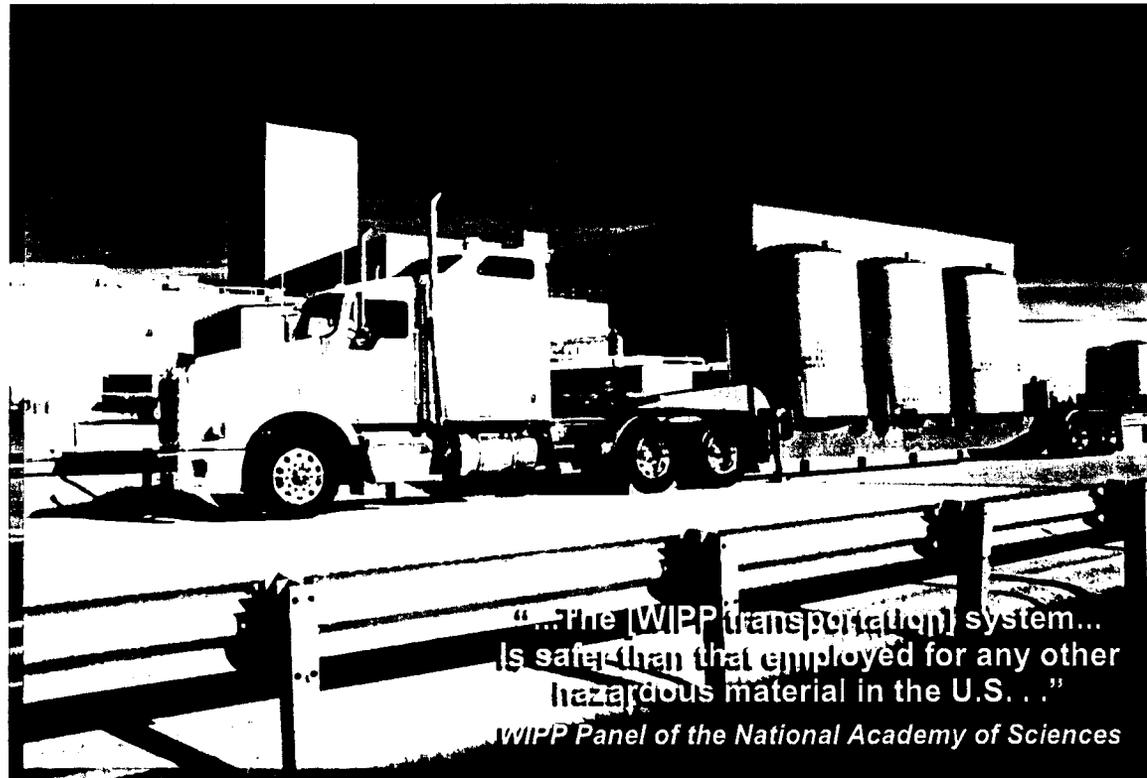
Chapter 7: Assurance Requirements

Chapter 8: Individual and
Groundwater Protection
Requirements

Chapter 9: Peer Review



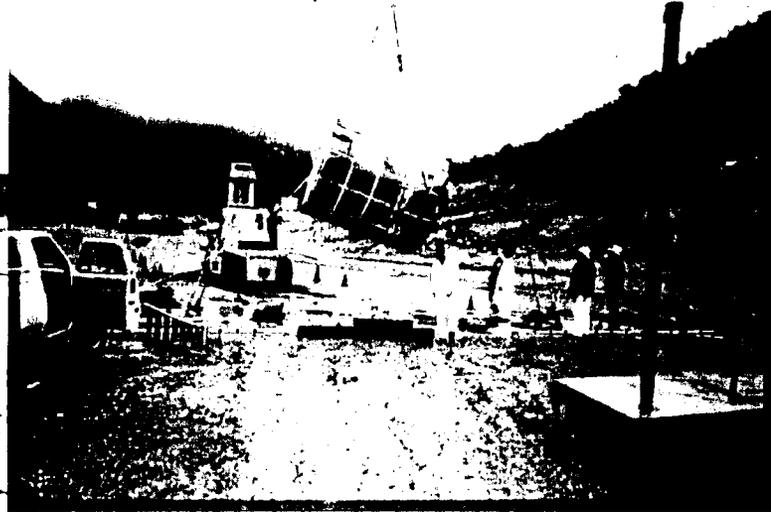
THE WIPP TRANSPORTATION SYSTEM IS SAFE



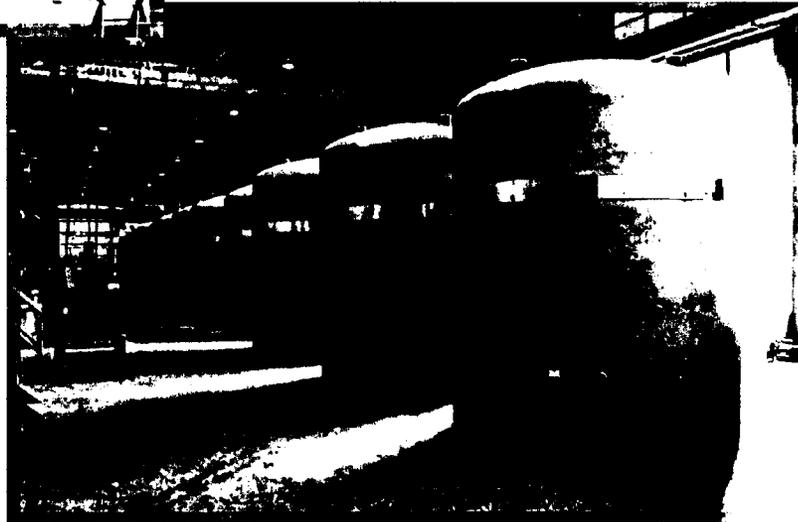
- Monitored by satellite tracking system
- Drivers are highly trained
- Procedures for accident prevention
- Emergency responders are trained



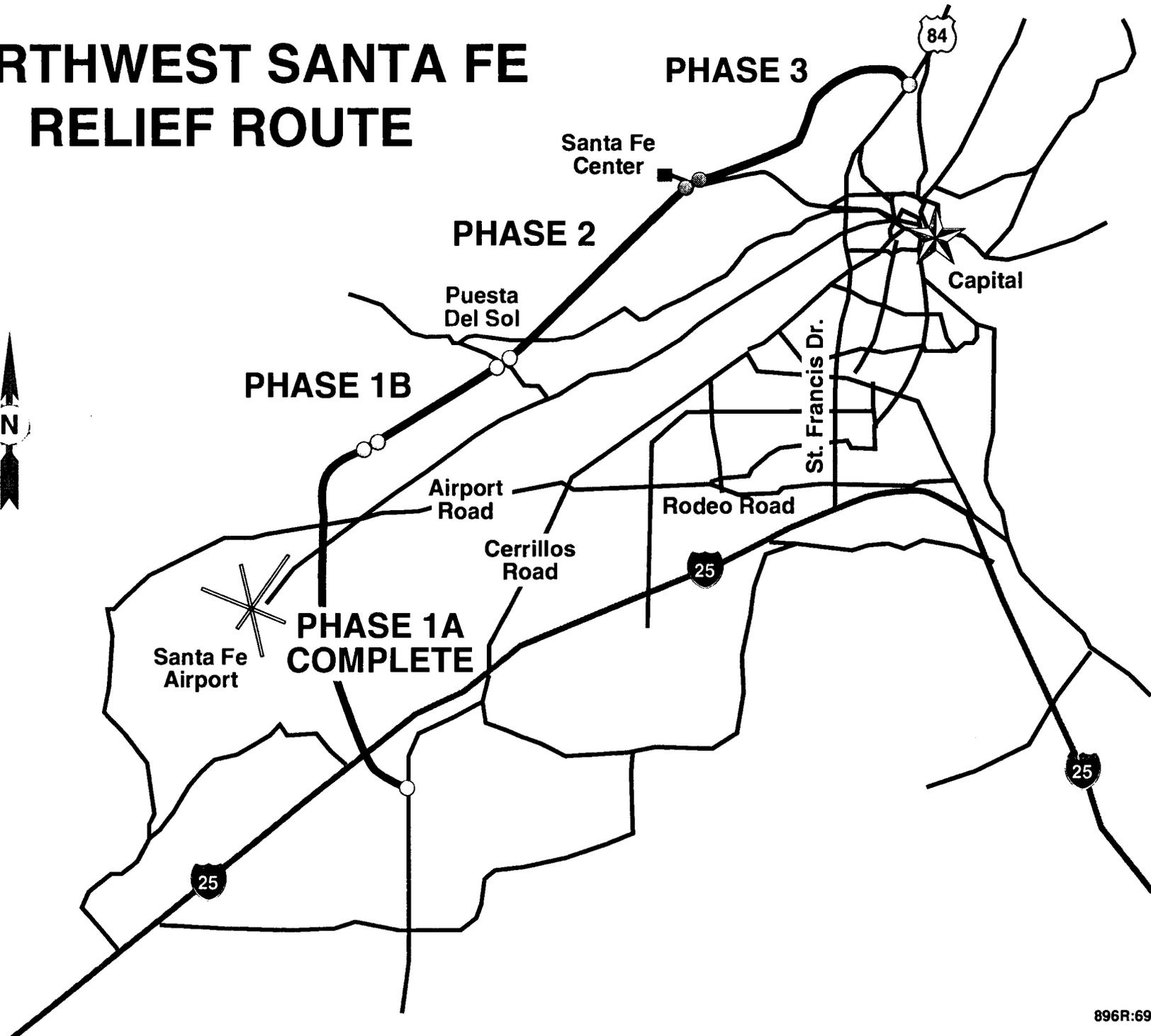
TRUPACT-II SHIPPING CONTAINER



- Built and maintained according to Nuclear Regulatory Commission standards
- Tested to ensure containment of radioactive materials



NORTHWEST SANTA FE RELIEF ROUTE



SANTA FE RELIEF ROUTE

Status

- One-third of the 14-mile Santa Fe relief route is completed
- Remaining portion is in planning and design stages
- Estimated cost to finish the project will be about \$30 million
 - \$5 million allocated to project last spring from special appropriation in the Energy and Water Act

Remaining Issues

- Land designated for route contains expensive real estate making right-of-way costs high
 - State Highway and Transportation Department indicates it has funding necessary to complete road



WHY IS WIPP ESSENTIAL?

- First critical step in solving nation's nuclear waste disposal problem
- Demonstrate DOE's ability to meet commitments to states and the people
- Key to cleanup and close out of DOE weapons complex sites (e.g. Rocky Flats, Mound, small quantity sites)
- Reduce or eliminate the risks to nearly sixty-one million people from long-lived radionuclides
- *The right time, the right place, the right thing to do!*

Where do you
want it in
100 years?



APPEALS COURT HEARS ARGUMENTS AGAINST WIPP

WASHINGTON April 21 (States) -- A panel of three federal judges listened to, interrupted, and occasionally berated a New Mexico assistant attorney general as he argued that the government's regulations for the Waste Isolation Pilot Plant should be rejected.

Tuesday's hearing was the third time the state's Attorney General has tried to stall the opening of the planned nuclear waste burial ground near Carlsbad -- a project that has been in the works since the 1970s.

The latest case revolves around the Environmental Protection Agency's regulations -- called compliance criteria -- for judging the Dept. of Energy's application to open WIPP. As the agency with the final authority over whether the waste dump can open, EPA developed a set of criteria in Jan. 1996.

Assistant attorney general Lindsay Lovejoy argued that several of the EPA's criteria are overly vague. Others were developed after closed-door meetings between the two agencies, excluding state and public participation, he said.

"This is a facility that should not be imposed on any community where there is not sufficient protections," Lovejoy told the U.S. Appellate judges. "These regulations are applied one time and one time only, and they have to be done right."

The judges -- two Reagan appointees and one Carter appointee -- made a few off-the-cuff remarks that seemed to show they agreed with New Mexico that some of EPA's regulations are not specific enough.

At one point Judge Raymond Randolph mused whether the regulations mean that DOE "could just wrap this stuff in saran wrap and still qualify."

"As I said, it's not much of a rule," responded Lovejoy.

The judges seemed doubtful that any closed-door meetings between EPA and DOE would have violated the 1982 law governing WIPP. A decision in a prior case in which the Sierra Club sued EPA gave the okay to such inter-agency meetings.

"The fact of the meetings means nothing... The fact that the issues were discussed doesn't matter... It's hardly surprising in this context," noted Judge Harry Edwards, the chief justice of the court.

APPEALS COURT HEARS ARGUMENTS AGAINST WIPP

"We have a hard enough time getting the federal agencies to get the work done," he grumbled at another point.

But the judges said it would violated federal law if EPA made major changes to the regulations during those meetings, if the changes were

based on new, and publicly unavailable data. And, Lovejoy argued, EPA did just that in developing regulations to ensure that human intruders would be kept out of the WIPP site in the future.

"The court has ruled that these meetings can occur, but it has also said that the agencies can't just do anything they want at them," agreed Don Hancock, an anti-WIPP activist with the Southwest Research and Information Center in Albuquerque, who is a co-plaintiff in the suit.

Lovejoy also questioned whether DOE should be given "risk reduction credit" for devising markers warning future generations to keep out of the WIPP site.

DOE has contemplated building an extensive system of granite and earthen markers to keep future miners from drilling for oil or potash, and unwittingly releasing radioactive waste into the environment. As EPA weighs the safety of the plan, DOE has sought to make these markers count in its favor, as risk-reduction "credits."

Dept. of Justice attorney Alice Mattice said that EPA would make a qualitative judgment whether such marking systems could endure and be understood hundreds of years from now. She said that public comments had convinced EPA to scale back the time period for which DOE can get credit for the system from 10,000 years, to an outside limit of 700 years.

The judges seemed doubtful about the effectiveness of such a marking system.

Judge Randolph mused, "What assumptions have ever held true for 10,000 years?"

A decision in the case is not expected until this summer. A decision favoring New Mexico could force EPA to go back to the drawing board to redo the criteria. And DOE, which has already submitted its WIPP application based on the current criteria, would have to redevelop a plan to meet new standards.

That, Hancock said, would set back DOE's new target date of 1998 for opening WIPP.

By Barbara Ferry

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**STATE OF NEW MEXICO'S
RADIOACTIVE WASTE TASK FORCE:**

UPDATE ON WIPP ACTIVITIES

Presented to

58th WIPP QUARTERLY REVIEW MEETING

**Carlsbad, New Mexico
May 1, 1997**

By

**CHRIS J. WENTZ
COORDINATOR
N.M. RADIOACTIVE WASTE TASK FORCE**

TASK FORCE ACTIVITIES SINCE LAST MEETING

- CONTINUED MONTHLY MEETINGS OF THE TASK FORCE'S WIPP WORKING GROUP
 - TRIBAL REPRESENTATIVE FROM PUEBLO OF POJOAQUE PARTICIPATING PERIODICALLY IN WORKING GROUP MEETINGS AND OTHER ACTIVITIES
 - MET WITH REPRESENTATIVES OF THE PUEBLOS OF TESUQUE AND SAN ILDEFONSO ON WIPP EMERGENCY RESPONSE PREPAREDNESS

- PARTICIPATED AS OBSERVERS AT TESTING OF THE "HALFPACK" TRANSPORTATION CONTAINER PROTOTYPE AT SANDIA NATIONAL LABORATORY

- DEVELOPED A SUMMARY REPORT ON THE STATE OF NEW MEXICO'S WIPP PUBLIC AWARENESS ACTIVITIES DURING 1996

- DEVELOPED AN INTERNET HOMEPAGE FOR THE N.M. WIPP TRANSPORTATION SAFETY PROGRAM
(<http://www.emnrdsf.state.nm.us/wipp/>)

- DISTRIBUTED INFORMATION ON THE AVAILABILITY OF WIPP EMERGENCY RESPONSE TRAINING TO OVER 400 REPRESENTATIVES OF LOCAL AND TRIBAL GOVERNMENTS ALONG THE WIPP ROUTE IN NEW MEXICO

TASK FORCE ACTIVITIES SINCE LAST MEETING (continued)

- WIPP SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT
 - PREPARED AND SUBMITTED WRITTEN COMMENTS ON THE SEIS-II

- WIPP COMPLIANCE CERTIFICATION APPLICATION (CCA)
 - PREPARED AND SUBMITTED WRITTEN COMMENTS ON THE CCA

- RADIOACTIVE WASTE SHIPMENTS FROM PANTEX & SANDIA
 - PANTEX SHIPMENT OF TRU WASTE
 - ▶ PERFORMED “ENHANCED” MECHANICAL AND RADIOLOGICAL INSPECTION OF TRANSURANIC WASTE SHIPMENT BOUND FOR LOS ALAMOS
 - ▶ PROVIDED EMERGENCY RESPONSE CONTACT LIST
 - ▶ PANTEX/DOE-AL COOPERATION AND COORDINATION EXCELLENT

 - SANDIA SHIPMENTS OF SPENT NUCLEAR FUEL
 - ▶ PROVIDED REVIEW COMMENTS ON “TRANSPORTATION PLAN” FOR SHIPMENTS
 - ▶ PERFORMED “ENHANCED” MECHANICAL AND RADIOLOGICAL INSPECTION OF FIRST SHIPMENT OF SPENT FUEL BOUND FOR SAVANNAH RIVER
 - ▶ SANDIA/DOE-AL COOPERATION EXCELLENT

STATE OF NEW MEXICO'S WIPP TRANSPORTATION SAFETY PROGRAM

- **WIPP PUBLIC OUTREACH EFFORT: 1997**

- **TASK FORCE REASSESSED ITS WIPP PUBLIC OUTREACH STRATEGY**

- **EFFORT NOW FOCUSED ON SCHEDULED EVENTS AND ACTIVITIES, AS WELL AS COMMUNITY INTEREST**

June 10-13: N.M. Association of Counties Annual Meeting (Raton)

July 15-17: DOE's Transportation External Coordination Working Group Meeting (ABQ)

July 17-19: N.M. Emergency Medical Services Annual Conference (ABQ)

August 4-8: Annual Fire School at N.M. Fire Academy (Socorro)

August 11-14: N.M. Emergency Managers Annual Conference (Roswell)

August 25-29: Commercial Vehicle Safety Alliance Inspection Course (ABQ)

August 27-29: N.M. Municipal League Annual Meeting (Las Cruces)

September 6-21: New Mexico State Fair (ABQ)

- **WIPP TRAINING**

- **ALL LEVELS OF EMERGENCY RESPONSE TRAINING IS CONTINUING ON A REGULAR BASIS**

- ▶ **INTEGRAL COMPONENT OF EXERCISE PROGRAM**
- ▶ **LOCATIONS: NEW MEXICO TRAINING ACADEMIES AND IN THE FIELD**

**STATE OF NEW MEXICO'S
WIPP TRANSPORTATION SAFETY PROGRAM
(continued)**

- **WIPP TRAINING**
 - CONDUCTED PRIMARILY BY N.M. DEPARTMENTS OF HEALTH, ENVIRONMENT, AND PUBLIC SAFETY
 - EMERGENCY MEDICAL TRAINING AT NEW MEXICO HOSPITALS IN PROGRESS
 - ▶ RADIATION EMERGENCY ASSISTANCE CENTER/ TRAINING SITE (REAC/TS) AND THE N.M. DEPARTMENT OF HEALTH
 - ▶ ONE-DAY COURSE, WITH ON-SITE DRILL
 - ▶ TWELVE HOSPITALS HAVE RECEIVED IN THIS TRAINING TO DATE IN 1997

- **WIPP EMERGENCY RESPONSE EXERCISES**
 - AT LEAST TWO PER YEAR SCHEDULED
 - FULL-SCALE EXERCISE HELD AT LAS VEGAS (NM) ON MARCH 21
 - JOINT COLORADO/NEW MEXICO EXERCISE PLANNED FOR AUGUST 1997

- **WESTERN GOVERNORS' ASSOCIATION PLANNING TABLETOP EXERCISE AT NEXT MEETING (MAY 5-8) IN SALT LAKE**

40 CFR Part 194
Peer Reviews and
Expert Judgements



Michael H. McFadden
U.S. Department of Energy
Carlsbad Area Office

Spallings Model:

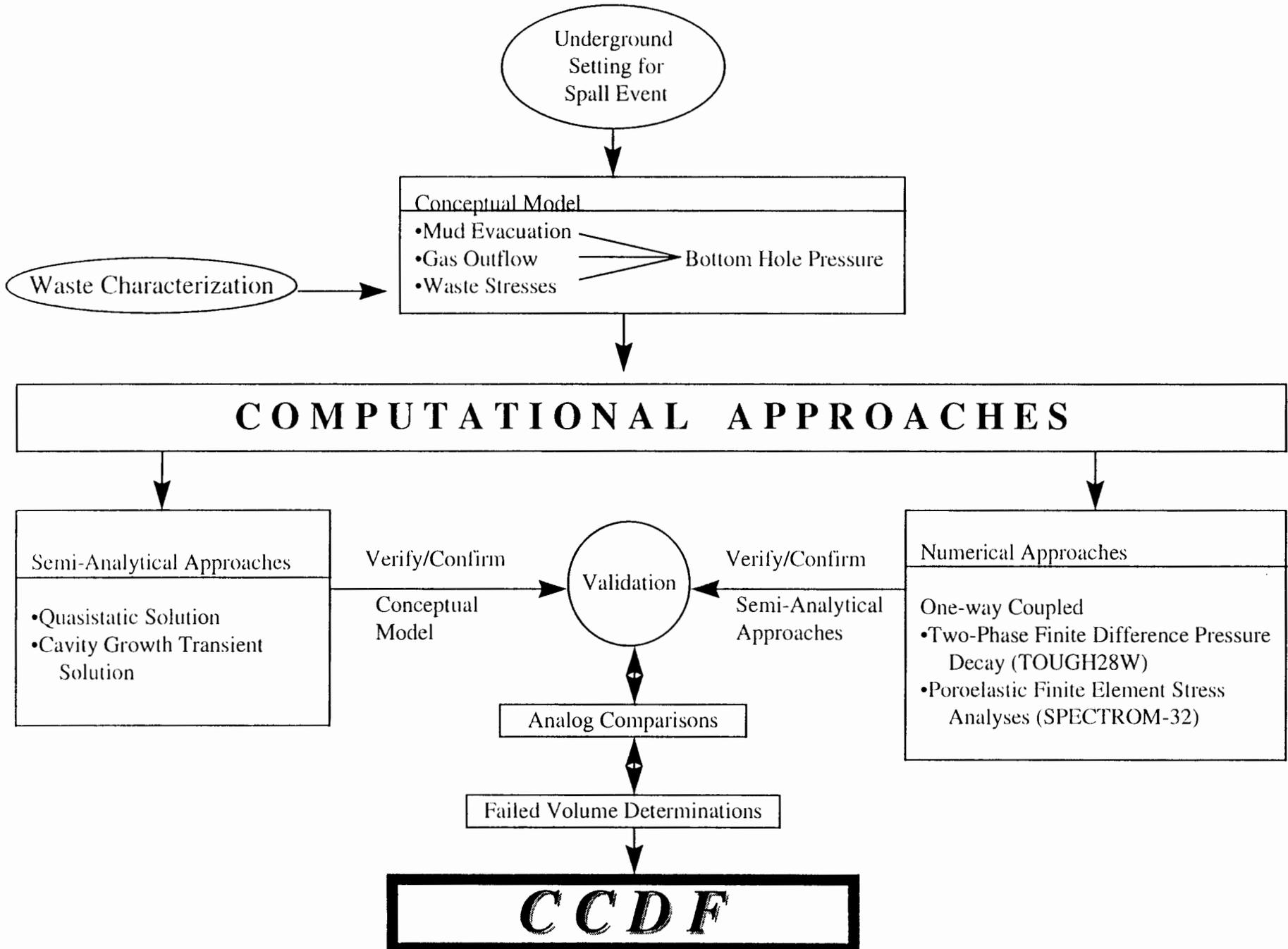
Presentation to the
WIPP Conceptual Models
Peer Review Panel

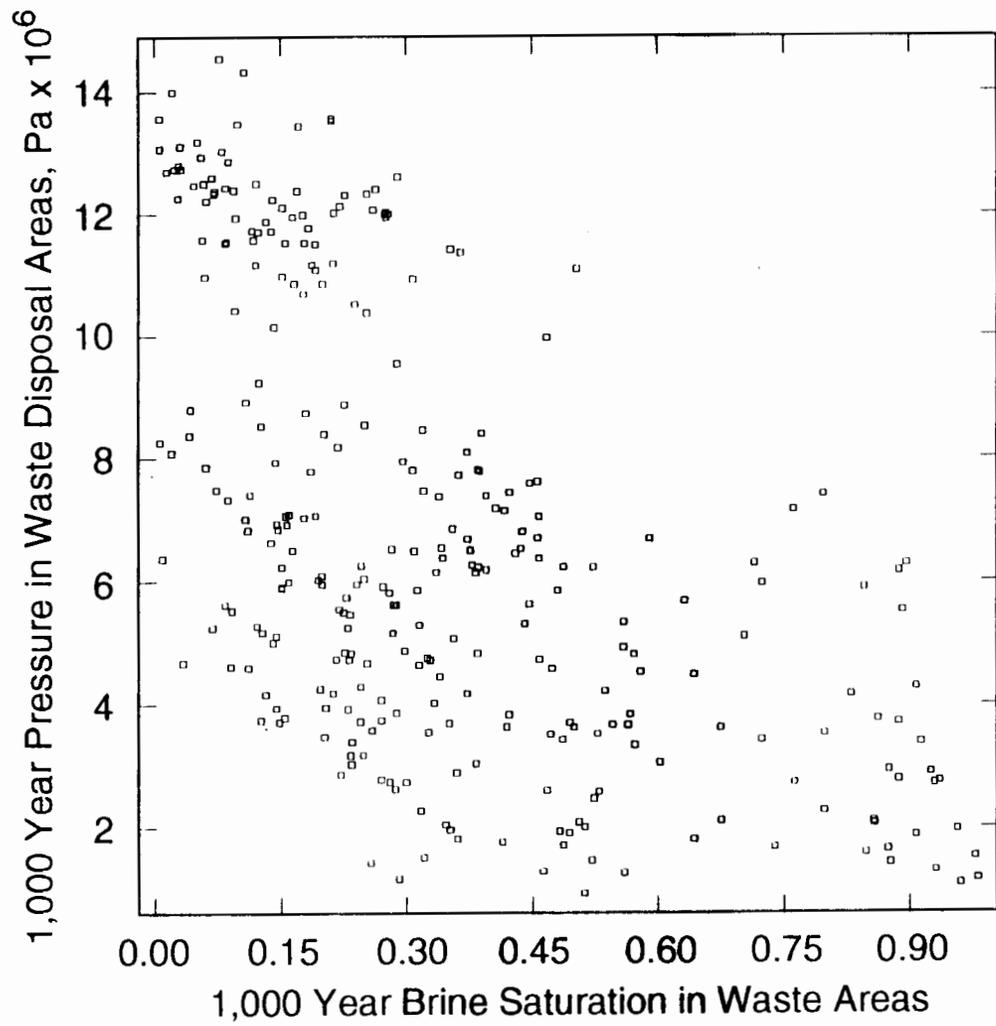
April 21-23, 1997
Albuquerque, New Mexico

Peer Review Panel Issue Statement on Spallings

Determine if the predicted volumes of spalled materials presented in the WIPP CCA are reasonable.

Spalling Conceptual Model : Systems Analysis





Summary of Surrogate Materials Testing

- Tensile Strength
 - Saturated = 0.074 ± 0.04 MPa (10.7 ± 5.8 psi)
 - Dry = 0.15 MPa (about 22 psi)
- Unconfined Compressive Strength
 - Saturated = 0.548 ± 0.266 MPa (80 ± 39 psi)
 - Dry = 1.26 ± 0.49 MPa (183 ± 71 psi)
- Other Material Properties
 - Angle of internal friction = 44°
 - Cohesion = 0.13 MPa
 - E = 300 MPa
 - $\nu = 0.35$

Modeling of Spalling Releases

● SUMMARY

- Developed new mechanistic model of spalling process
- Couples borehole hydraulics to response of waste
- Provides early-time response missing from previous model
- Tensile failure is primary failure mechanism

Modeling of Spalling Releases

● SUMMARY (Contd)

- Erosion is a secondary transport mechanism
- Spalling volumes calculated from Cavity Growth Model
- Volumes corroborated by comparison to detailed numerical solutions and an alternate quasi-static formulation
- Incorporates data on tensile strength and expected repository conditions

Calculated Volumes

Uncompacted Spall Volumes (m3)

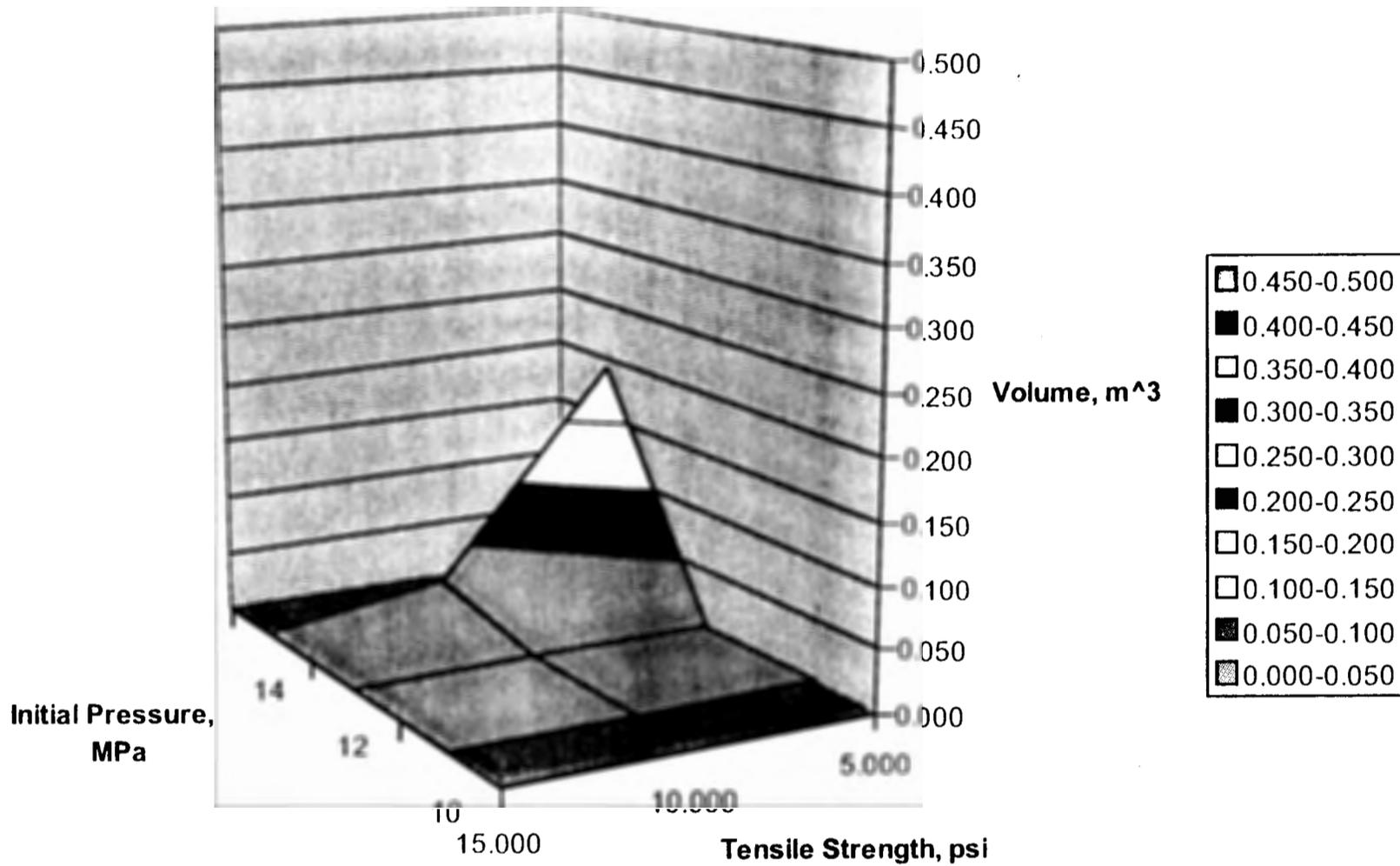
Wet Conditions

	5 psi	10 psi	15 psi
10	0.000	0.000	0.000
12	0.000	0.000	0.000
14	0.193	0.022	0.000

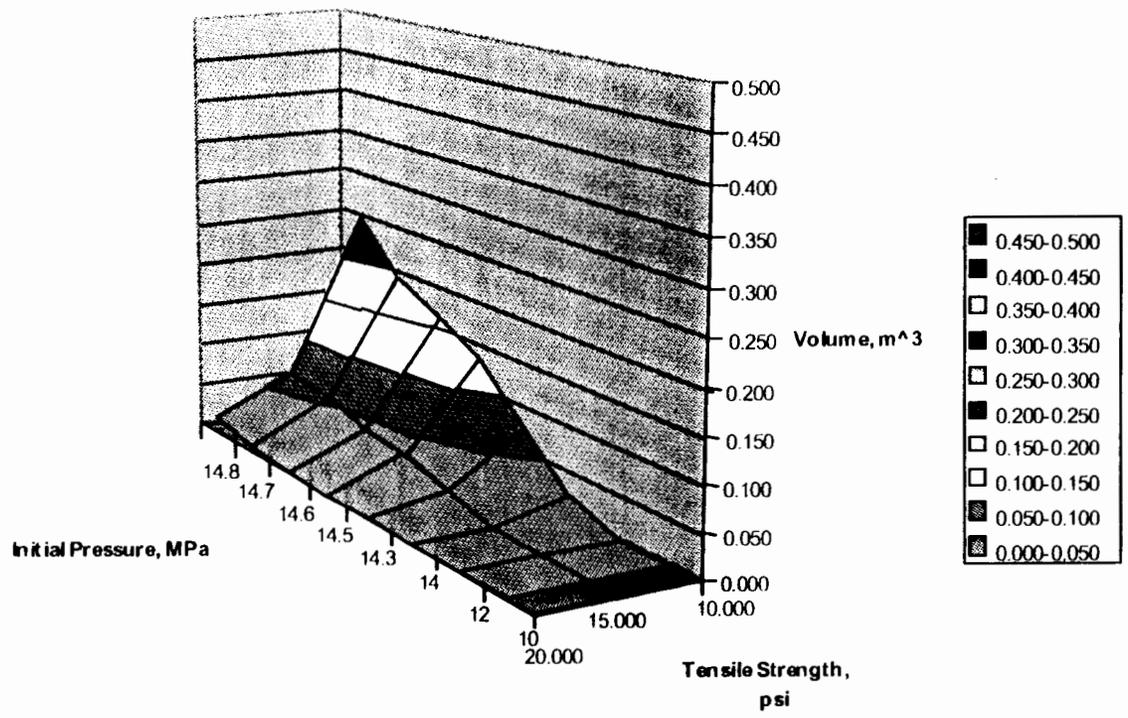
Dry Conditions

	10 psi	15 psi	20 psi
14.3	0.074	0.017	0.000
14.5	0.132	0.034	0.000
14.6	0.161	0.041	0.000
14.7	0.193	0.056	0.008
14.8	0.248	0.065	0.022
12	0.000	0.000	0.000
10	0.000	0.000	0.000

Decrease in potential spall volume resulting from strength increase (<14 MPa)



Decrease in potential spall volume resulting from strength increase (>14 MPa)



Conceptual Models Peer Review Panel
Draft Report
Spallings Model Summary

- “the spallings volumes used in the CCA are reasonable, and may actually over-estimate the actual waste volumes that would be expected to be released by the spallings process at the WIPP.”
- The panel continues to find the spalling model not adequate

**Chemical Conditions Model:
Results of the MgO Backfill
Efficacy Investigation**

**Presentation to the
WIPP Conceptual Models Peer
Review Panel**

**April 25, 1997
Albuquerque, New Mexico**

Summary of Panel's Issue

“...the additional results from the ongoing test program, while interesting, are not sufficient to resolve the Panel's concerns with the issue of MgO effectiveness.... However, the test runs were short, *the reaction rims were thin and may not have been fully formed*, and there were *no transient information or bounding calculations* to support a conclusion regarding the role of the reaction rims in impeding CO₂ diffusion. Information was not available on the *diffusion rate of CO₂ into the MgO pellets, especially as a function of reaction rim thickening*. The Panel believes that the aforementioned *test program has not sufficiently progressed to provide a definitive verification that the MgO will perform as planned under repository conditions....”*

(emphasis added)

Conclusions

- **Experiments demonstrate extent of conversion required**
- **MgO reacts with CO₂ in WIPP brines to form hydromagnesite and/or magnesite**
- **Hydromagnesite will age to magnesite**
- **There are no significant reaction rims formed which inhibit transport and thus MgO efficacy**
- **MgO will function in the WIPP according to the conceptual model as represented in the CCA, controlling CO₂ and actinide solubilities**

Conceptual Models Peer Review Panel
Draft Report
Chemical Conditions Model Summary

“the MgO backfill will function as assumed in the CCA and that this model is adequate to represent the future states of the repository.”

Expert Elicitation

- EPA requested CAO to elicit expert judgement for the probability distribution for the waste particle diameters.
- This distribution could be used in the EPA spallings and cavings models in the EPA test run of parameter variability.

Expert Elicitation Panel members were chosen by a Selection Committee

- Selection Committee Membership
 - Leif Eriksson
 - Bob Neill
 - Charles Fairhurst
- Expert Panel will meet the independence criteria stated in 40 CFR 194.26
- Technical disciplines include: Archeology, Chemistry, Rock/Soil Fluid Mechanics and Performance Assessment

Expert Judgement Process Encourages Public Participation

- Public notices issued April 21, 1997
- Public invited to:
 - Submit information to panel
 - May 5, 1997 @ 6:30p.m.
 - Observe the elicitation process
 - May 5-9, 1997

Expert Panel Deliverables

- Final Draft Expert Panel Report - May 12, 1997
- Final Report - May 30, 1997