



**NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT**

OFFICE OF THE SECRETARY
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-6960

Jennifer A. Salisbury
CABINET SECRETARY

JULY 19, 1996

MEMO by FAX

Mr. George Dials
Manager
Carlsbad Area Office
U.S. Department of Energy
P.O. Box 3090
Carlsbad, NM 88220-3090

Mr. Benito Garcia, Chief
Radioactive and Hazardous
Materials Bureau
N.M. Environment Dept.
P.O. Box 26110
Santa Fe, NM 87502

Mr. Robert H. Neill
Director
Environmental Evaluation Group
7007 Wyoming Boulevard, N.E.
Albuquerque, NM 87109

Mr. Lindsay Lovejoy, Jr.
Assistant Attorney General
Attorney General's Office
P.O. Drawer 1508
Santa Fe, NM 87504-1508

**Subject: FINAL AGENDA FOR WIPP QUARTERLY REVIEW MEETING,
THURSDAY, JULY 25, 1996, IN SANTA FE**

Attached is a copy of the final agenda for the next WIPP Quarterly Review Meeting, to be held Thursday, July 25, at the N.M. Regulation and Licensing Department's large conference room at 725 St. Michael's Drive in Santa Fe.

Please ensure all of the appropriate individuals in your organization receive a copy of the final agenda and directions to the meeting (which was attached to my correspondence of July 11). I look forward to an informative and productive meeting.

Sincerely,

Chris J. Wentz
Coordinator
N.M. Radioactive Waste Consultation Task Force

Attachment - 1 (Final Meeting Agenda)



960719

July 19, 1996

FINAL AGENDA

55st WIPP QUARTERLY REVIEW MEETING
July 25, 1996

N.M. Regulation and Licensing Department
 Large Conference Room
 725 St. Michael's Drive
 Santa Fe, NM

8:30 a.m.	Introduction and Opening Remarks	10 min.	C.Wentz Task Force
8:40 a.m.	U.S. Department of Energy: Status/Activity Report ¹	40 min.	G.Dials, DOE/CAO Manager
9:20 a.m.	Environmental Evaluation Group: Status/Activity Report ²	30 min.	R.Neill, EEG Director
9:50 a.m.	N.M. Environment Department: Status/Activity Report ³	20 min.	K.McKamey/ S.Zappe, NMED
10:10 a.m.	N.M. Radioactive Waste Task Force: Status/Activity Report	20 min.	C.Wentz Task Force
10:30 a.m.	BREAK		
10:45 a.m.	EPA Compliance Criteria Lawsuit: Status Report	15 min.	L.Lovejoy NMAG's Office
11:00 a.m.	Source of Exhaust Shaft Water and Lead	45 min.	DOE/CAO
11:45 a.m.	LUNCH		

¹ To include brief reports on: status of final Baseline Inventory Report; planned hearing schedule and comment period for the Supplemental FIS-II; schedule for submittal of chapters of the final Compliance Certification Application; and schedule for future DOE-EPA technical exchanges.

² To include brief overview of recently completed EEG reports and those in progress.

³ To include brief overview on future status of NMED Oversight Bureau-WIPP; and update on status of WIPP RCRA Part B permit.

JULY 19, 1996

FINAL AGENDA
 (continued)

55th WIPP QUARTERLY REVIEW MEETING
 July 25, 1996

1:00 p.m.	TRU Waste Management Plan: Status	30 min.	K. Hunter, DOE/CAO
1:30 p.m.	No-Migration Variance Petition for WIPP Disposal Operations: Summary	30 min.	C. Snider, DOE/CAO
2:00 p.m.	Comments on Compliance Certification Application (CCA) Chapters 2-5	30 min.	R. Neill, EEG
2:30 p.m.	BREAK		
2:45 p.m.	Final CCDF Calculations and PA Parameter Data ⁴	90 min.	R. Anderson/ M. Marietta, SNL
4:15 p.m.	Q&A/Discussions	30 min.	All
4:45 p.m.	"Action Item" Commitments/Closeout	10 min.	C. Wentz
5:00 p.m.	ADJOURN		

⁴ This presentation will review information on future drilling rates, including frequency of Castile brine interceptions; the incorporation of magnesium oxide (MgO) backfill in the repository; and any proposed credit for passive institutional controls.

11/22/96

Tentative Agenda

RADIOACTIVE AND HAZARDOUS MATERIALS COMMITTEE
(JOINT MEETING WITH THE RADIOACTIVE WASTE CONSULTATION TASK FORCE)

December 2-3, 1996
Room 101, Music Room
New Mexico State University Campus

Carlsbad

Monday, December 2

9:30 a.m.

CALL TO ORDER

--Representative Robert S. Light, RHMIC Chair
--Jennifer A. Salisbury, RWCTF Chair and Secretary
of Energy, Minerals and Natural Resources

APPROVAL OF THE MINUTES

9:45 a.m.

WASTE MANAGEMENT EDUCATION AND RESEARCH CONSORTIUM

--Ron Bhada, Director

10:00 a.m.

STORAGE OF HIGH-LEVEL RADIOACTIVE WASTE

--Cheryl Runyon, National Conference of State
Legislatures

10:30 a.m.

MESCALERO INTERIM SPENT FUEL STORAGE PROJECT

--Jennifer Byers and Rob Burpo, Mescalero Tribe

10:45 a.m.

STATUS REPORT ON WIPP 1998 OPENING

--George Dials, Manager, Carlsbad Area Office,
Department of Energy
--Bob Neill, Environmental Evaluation Group

12:00 Noon

LUNCH

1:30 p.m.

EVALUATION OF CONTAMINATION AT THE GNOME SITE
--Nancy Harkess and ~~Robert~~^{Robert} Maxwell, Nevada Office,
Department of Energy

11/22/96

2:00 p.m.

HUDSPETH COUNTY LOW-LEVEL RADIOACTIVE WASTE
FACILITY
--Ruben Alvarado, Chief Engineer, Texas
Low-Level Radioactive Waste Disposal
Authority

2:30 p.m.

HAZARDOUS AND INDUSTRIAL WASTE FACILITIES SITTING
Chavez County Hazardous Waste Facility, Update
--Ken Schultz, Gandy Marley, Inc.
Andrews County Hazardous Waste Storage Facility
--Ron Hance, Waste Control Specialists, Inc.
Non-Hazardous Industrial Waste Site
--Robert Hall, Lea Land Incorporated

4:00 p.m.

RECESS

Tuesday, December 3

8:00 a.m.

TOUR OF THE ENVIRONMENTAL MONITORING AND RESEARCH
CENTER AND THE COMPUTER/ELECTRONICS CENTER, NEW
MEXICO STATE UNIVERSITY CAMPUS, CARLSBAD

9:00 a.m.

TOUR OF THE ADVANCED MANUFACTURING AND INNOVATION
TRAINING CENTER

10:00 a.m.

TOUR OF THE WASTE ISOLATION PILOT PLANT

12:00 Noon

WORKING LUNCH AT WIPP
--George Dials, Manager, CAO-DOE

3:00 p.m.

ADJOURNMENT

**55th WIPP QUARTERLY REVIEW MEETING
JULY 25, 1996**

ATTENDANCE SHEET

Name/Affiliation	Address	Phone/Fax
CHRIS WENZ / State of NM	2040 Pacheco St. Santa Fe 87505	827-1372/4383855
George Dicks / DOE/CAO	10112 Green St Carlsbad 88220	505-234-1230
ROBERT H NEILL NM EEGS	7607 Lowry NE Albuquerque 875	828-1003
LINDSAY LOVEDAY NM ARG Gen Off	P.O. Drawer 1508, Santa Fe NM 87504-1508	827-6695 827-4446
LOKESH CHATURVEDI EEG	7007 Wyoming Blvd, F-2, Albuquerque 505-828-1003	
DAN GRAY EEG	505 N. MAIN, CARLSBAD	505-850-7675
Jim Kenney EEG	505 N. Main, Carlsbad	(505) 885-9675
MYLA PESSON	P.O. Box 803 SF NM 87504 (505)	989-9007
Suzanne Dineen	POB 9855 STNM 87504	505 262-2122
Lee Kysine / CCNS	107 Cienega St of NM 87501	505 986-1973
MATTHEW SILVER / EEG	1003 WYOMING BLVD NE STE F2	505-828-1003
TOM CLENNY EEG	7007 WYOMING BLVD NE APT F-2	505-900-7003
SICILY A-L. COE EEG	" "	" "
Jessica Selzer	47C Room 414 State Capital, Santa Fe, NM 87505	505-986-4650
Marsha Conley / CCNRG	800 W. Pierre, Carlsbad	505/234-5501/3051 1887-
George Basabillazo DOE/CAO	101 W. Greene St. Carlsbad 88220	505-234-7442
KEITH E. McKENNEY NMED/DOE-DB	P.O. Box 3090, M.S. - MR Carlsbad, 88221	505-234-8984
STEVE ZAPPE NMED/HRRMS	P.O. Box 26110, SANTA FE 87502	827-1521/827-1544
Heidi Snow, NMEMWRD,	2040 S. Pacheco, Santa Fe, NM 87505	827/377 / 438-3855
Michael H. McEadelen / CAO	101 W. Greene St, Carlsbad /	505-234-7486 / 7430
BRUCE HARRIS	3001/1010 3001 Quaker Ave, NW / Santa Fe	505 343 647 / 5062
Ned Wiebe, NMEM/DOE Council	P.O. Box 26110 Santa Fe, NM 87502	(505) 827-1541 / 827-1544 Bureau

7/25/96

5th
WIPP Quarterly

George Dicks Made argument that EPA declined it was duplicative of 191 & 264. This is first facility required to conduct both PA & NMVP analysis. DOE will provide estimate of cost savings by reducing/eliminating operations/monitoring.
Identified future tech exchanges - 9/16 Waste Related Issues International peer review group to form in November, issue first report in March 97
SEAS - public hearings 10-11/96 ROD 5/97
Tenbrink MAs 10/22-23 SE 10/29-30

Rob Neill Degeh.

Keith * WQS 25 is only Celebia will down gradient
Mckerny from WIPP

Chris Wente Taste ~~force~~ will not participate/comment on RCRT permit
Dec 2/3 - Joint Test Force / legislative committee meeting in Carlsbad.

Lindsay lawsuit was to seek augmentation of administrative
Lacey heard with regard to DOE/EPA/OMB meetings

Kent Hunker Exhaust shaft water/lead issue
Questions dealt with source & flow rate of water. Rob
Neill raised transport path, source

TR Waste Mgmt Plan - won't fill Panel 1
until mid-2002 (FY)

Numbers presented don't agree with BIR rev 3 -
give a number of "weak" excuses for the document
Draft for external review - end of July, early August.

12/2/96

Cheryl Ruyon

4th level Interim Storage + transportation.

NECL DOE obligated to begin accepting spent fuel 1/31/98. However, DOE has an interim storage facility, looking for volume but nobody found yet. Repository (YMP) determination expected soon, but opening early 2010 - construction, licensing, etc. Either open interim site or pay penalties. May try to use existing Federal site (SR, NRE). Phased approach: ① spent fuel in canister for transportation on storage. DOE unable to support development of multipurpose canister due to budget cuts, rely on private sector for this.

Currently shared @ 9 sites, 14 additional sites seeking license.

Spent fuel pools reaching capacity by 2001. ~~But~~ utilities believe moving to nuclear waste fund not being properly spent won't be placed in escrow.

Concern that interim storage site could take pressure off development ~~of~~ YMP, become de facto disposal site.

Salisbury said Rindling appears insufficient for transportation, ^{enormous} of 11 but waste.

YMP characterization has cost \$1.2 B to date, ~14 B in nuclear waste fund. Gary King thinks dry cask storage at generator sites

Rob Burpo Mesabero Interim Storage - broke off negotiations 4/96 between utilities & trade. (Concern over rate hikes resulting from shut down of nuclear power plants, impact of disadvantaged segments.

Where negotiations broke down - conflict of interest (utilities own customers, operators) not understood in interests of the State, whereas Mesabero wanted States benefit package. State thought trade unwilling to forgive sovereign immunity, but 'not true'. Mesabero expected to comply with all DOE regulations. Ability to operate facility requires knowledge of env. law & hands on. Utilities wanted to operate, but not accept any liability for operations.

Interim storage ~40 years, whereas ~~at~~ utilities wanted 50-100 years

Transportation experience - utilities wanted to be market driven not concerned with experience.

Compensation never solved - \$3m to take it all, no compensation for Ad state. Assume \$90/tp valuation, state could receive over \$200m in 20yrs based on gross receipts only.

By end of 1/97, expect conflicts of interest will be resolved

Nike McEdden Introduced Cynthia

NM 760,000 within 50 mile radius of SWL LAUC

Bob Nail Usual shd.

Nancy Hakes Grove site - background info.

Ron House Waste Control Specialist RCRA/TSCA permit app! He Jan 93 Andrews County City/ky 94 received permit. Located western part of Andrews

landfill City TX, 5mi east Eunice NM, Red clay formation for landfill. 17 months to receive due to community support,

& superior siting. Doing RAD at site since is a clean site.

\$15m constructing facility so far. Many employees from Eunice & Hobbs. Project 1000 employees if all goes well. Want to license

LLU treatment & storage - expect by 3/97. Pursuing DE LLU disposal - nothing filed yet. Specialty Remy's

Opening 1/15/97, receiving RCRA waste from refineries in Gulf Coast - 501/15, industrial sludges. Closest commercial in SW Oklahoma (Grassy Mtn). Greenhouse disposal costs ~\$120/yard. May accept municipal waste in the future

(3)

Robert Hill ^{or esdosp} industrial waste site in Hobbs area. Replace oil/gas business
Provide incentive for new industries. No infectious, haz, municipal
wastes. Avoid hassles associated w/ haz waste in municipal
landfill. no usable gas, in Trassic red beds, just west
of Tracy point between Cortland/Hobbs. on Hwy 62/180
No drive up traffic - must be pre-approved, signed manifest
HEP model said no leachate would be formed.

Open mid Jan 97.

Ken Schultz Gandy Morley Landfill. Numerous delays - not their responsibility
Larry Gandy now 24 months since initiated permit process. Realized
geological benefits of site.

NMED Tentative WIPP RCRA Permitting Schedule

ID	Name	Duration	Sched Start	Sched End	1995												1996												1997											
					May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug								
1	Receive Part B, Rev 5	0d	5/31/95	5/31/95	◆																																			
2	Administrative Review	44d	5/31/95	7/31/95	▬																																			
3	Finalize Technical Review Contract	23d	8/1/95	8/31/95	▬																																			
4	Create Technical Review Schedule	5d	9/1/95	9/8/95	▬																																			
5	Technical Review	60d	9/1/95	12/7/95	▬																																			
67	DOE Submit Revisions	30d	12/4/95	1/17/96	▬																																			
76	NMED Evaluate DOE Final Response	41d	1/18/96	3/14/96	▬																																			
77	Issue Technical NOD	0d	3/14/96	3/14/96	◆																																			
78	Technical NOD Response	22d	3/15/96	4/15/96	▬																																			
79	NMED Evaluate NOD Response	46d	4/12/96	6/17/96	▬																																			
86	NMED Issue Determination	0d	6/17/96	6/17/96	◆																																			
87	NMED Develop Draft Permit																																							
130	Public Notice/Comment																																							
131	Public Meeting																																							
132	Respond to Public No/Mtg Comments																																							
133	Public Hearing(s)																																							
134	Finalize Permit/Respond to Comment																																							
135	Submit to NMED WMM Div. Director																																							
136	Permit Review by Director																																							
137	Permit Notice of Decision																																							
138	Final Permit Decision																																							

Notes to WIPP RCRA Permit Schedule:

- 1) Scheduled dates and durations are estimates as of 6/27/96
- 2) Duration days are working days, not calendar days.
- 3) Some activities may not occur (e.g., Public Hearings), but have been included for completeness.
- 4) Some activities have relatively certain durations (e.g., Permit Notice of Decision) due to regulatory requirements. Other activities have uncertain durations (e.g., Public Notice/Comment) due to the possibility of requests by the public to extend the allotted time.

Project: NMED WIPP RCRA Permit
 Date: 6/27/96

Critical		Progress		Summary	
Noncritical		Milestone		Rolled Up	

WIPP 55th QUARTERLY REVIEW



George E. Dials, Manager
Carlsbad Area Office
July 25, 1996

ACTION ITEMS
54th WIPP QUARTERLY REVIEW
April 24, 1996

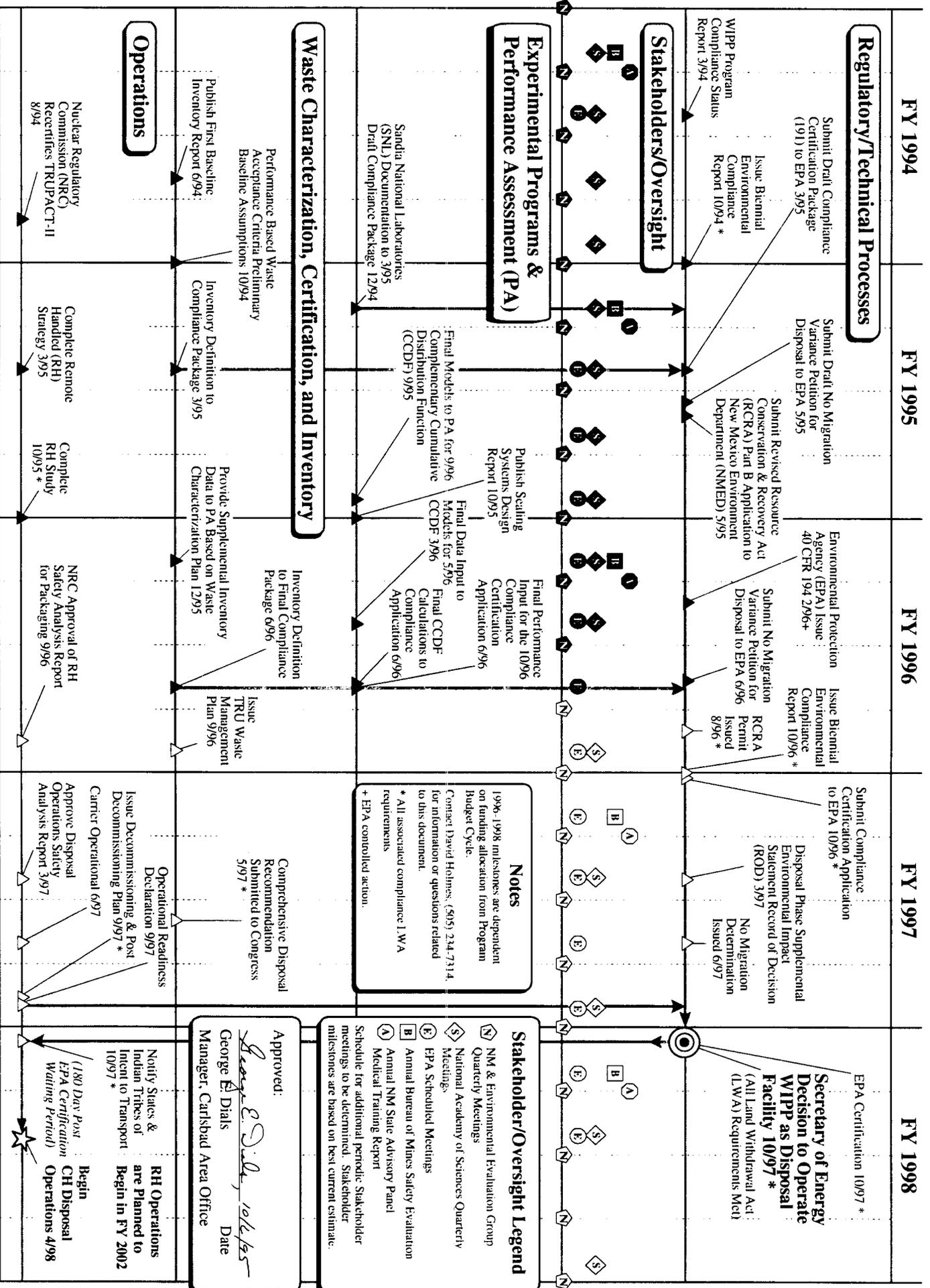
Rev. 7/11/96

Action Items	Action By
<p>Provide the CAO with a copy of Hamid Maleki's report on Mine Stability.</p>	<p>Bob Neill, EEG Received 5/1/96.</p>
<p>Provide the EEG with status of its outstanding requests to the DOE.</p> <p>1) User's Manual for computer codes used in performance assessment. Requested Jan. 5, 1996; promised Mar. 6, 1996. 2) Final resolution of FEPRs. Reports requested Jan. 5, 1996. 3) Material given to the conceptual model peer review group, including their qualifications and Nov. 1995 DOE-approved drafts of Chapter 6 of the CCA. Requested April 2, 1996. 4) Access to Parameter Data Documents and Form 464s for data used in the CCA performance assessment. (Request sent to SNL.) 5) Request to present EEG's views to all peer review groups.</p>	<p>Mike McFadden, CAO</p> <p>1) Provided by SNL 5/3/96 per request of M. McFadden, CAO. 2) Partial response sent 3/6/96; final sent 6/14/96. 3) Response sent 4/24/96 and 5/2/96. 4) Response by SNL 5/8/96. 5) Response sent 5/2/96.</p>
<p>The EEG requested a meeting with Martin Tierney and Susan Howarth to review data packages the week of May 6, 1996.</p> <p>The EEG requested that copies of documentation be made available to the EEG prior to the documentation being sent to the Records Center. This would negate the EEG having to request documents from the Records Center and would speed up the EEG's review of such documentation. Items specifically requested were Berglund documentation and other material that becomes the basis for data packages.</p>	<p>Mike McFadden, CAO Response sent 7/9/96. (#96-1487)</p> <p>Mike Irwin, SNL Copy of draft document sent to G. Basabivazo, CAO, 5/21/96, for review and distribution. Copy sent to EEG 6/11/96.</p>
<p>Provide the EEG with a copy of SAND 96-0561.</p>	<p>Mike Irwin, SNL Copy of draft document sent to G. Basabivazo, CAO, 5/21/96, for review and distribution. Copy sent to EEG 6/11/96.</p>
<p>Provide Lindsay Lovejoy with a copy of SAND 96-0561.</p>	<p>Mike Irwin, SNL Copy of draft document sent to G. Basabivazo, CAO, 5/21/96, for review and distribution. Copy sent to EEG 6/11/96.</p>
<p>The EEG requested a special meeting to discuss SAR with regards to worker dose assessments in the WAC.</p>	<p>Kent Hunter, CAO Meeting conducted 5/8/96.</p>

<p>Provide the EEG with definitions of defense and non-defense waste and share additional information.</p>	<p>Cooper Wayman & Don Watkins, CAO <i>The CAO is working this internally within the DOE. When completed, definitions and supporting information will be provided. Completion is estimated to be in late summer or fall 1996.</i></p>
<p>Provide EEG and NMEMNRD with a copy of the letter from the CAO to the AG which described defense waste and volumes.</p>	<p>Lindsay Lovejoy, NMAG <i>Provided 4/29/96.</i></p>
<p>Schedule 55th WIPP Quarterly Review.</p>	<p>Chris Wentz, NMEMNRD <i>Scheduled for July 25, 1996, in Santa Fe, NM. The NMEMNRD will host it.</i></p>

WIPP Disposal Decision Plan

Updated 7/15/96
 Revision 2
 October 6, 1995



DDP MILESTONES

- Completed DDP milestones since last Quarterly
 - Submitted NMVP for disposal phase to EPA 6/96
 - Inventory definition to final compliance package 6/96
 - Final performance input for 10/96 compliance certification application 7/96
 - Final CCDF calculations to compliance application 7/96
- Upcoming DDP milestones
 - RCRA permit issued 8/96
 - Issue TRU Waste Management Plan 9/96
 - NRC approval of RH Safety Analysis Report for Packaging 9/96



LITIGATION ACTIVITIES

- **TWO ACTIONS ON 40 CFR 194 (EPA Lawsuits)**
 - **Attorney General of New Mexico, SWIC (pre -194 publication)**
 - EPA failure to finalize criteria per LWA schedule
 - Promulgate CAG outside of rulemaking
 - Covert meetings EPA/DOE/OMB
 - Mandamus Action denied by Court of Appeals
 - **Attorney General's - New Mexico, Texas, SWIC, and Two Citizens**
 - EPA failed to give notice and allow public comment after end of comment period
 - Substantially changed rule
 - DOE/OMB exercised undue influence on final rule
 - EPA acted arbitrarily and capriciously in decision



WIPP Compliance Document Status

Carlsbad Area Office

- Submitted RCRA Part B Rev. 6 on 4/12/96
- Completeness letter issued on 6/27/96
- RCRA Draft Permit being developed
- Submitted NMVP on 6/18/96
- NMVP undergoing review
- “Phased” Draft CCA being submitted
- Phases undergoing review
- Final CCA submittal scheduled for 10/96

Compliance Certification Application

-Status of Chapters-

<u>Material Submitted</u>	<u>Date Submitted to EPA, EEG</u>
• Chapter 2, “Site Characterization” Appendices (4)	4/24/96 6/24/96, 7/19/96
• Chapter 3, “Facility Description” Appendices (2)	6/26/96 6/24/96
• Chapter 4, “Waste Description” Appendices (3)	5/29/96 6/24/96, 7/19/96
• Chapter 5, “Quality Assurance” Appendices (1)	6/4/96 6/24/96
• Chapter 7, “Assurance Requirements” Appendices (5)	7/24/96 7/24/96

Technical Exchange Plans

- July 30-31, 1996
 - Engineered Alternatives Cost/Benefit Study, Passive Institutional Controls Effectiveness Study Overviews
 - Overview of Peer Reviews for These Studies
- August 7-9, 1996
 - Scenario Screening
 - CCA Performance Assessment
 - CCDF Development
- Week of September 9, 1996
 - Discussion of Castile Brine and Culebra Transport
- Week of September 16, 1996
 - Waste-Related Issues
 - BIR, WAC, WIPP Waste Information System

PA Code Training Plans

- Training for EPA, EEG performed by SNL
 - SANTOS: Week of 8/12/96
 - NUTS/PANEL: Week of 8/19/96
 - CUTTINGS: Week of 8/26/96
 - SECO and GRASP-INV: Week of 9/23/96

BASELINE INVENTORY REPORT

- **Background**
 - BIR Rev. 1, published 2/95
 - BIR Rev. 2, published 12/28/95
 - Data to PA 3/31/96
 - BIR Rev. 3, published 6/30/96



BASELINE INVENTORY REPORT

CH WASTE

Site	Stored	Projected	Total Anticipated
HANFORD	12,000	33,000	46,000
INEL	29,000	0	29,000
LANL	11,000	7,400	18,000
ORNL	1,300	260	1,600
RFETS	710	4,400	5,100
SRS	2,900	6,800	9,600
Small Quantity Sites	1,100	1,700	2,800
Total All Sites	58,000	54,000	110,000

All Volumes in Cubic Meters
Numbers rounded to 2 significant figures
Data from Table ES-3 TWBIR Rev 3

BASELINE INVENTORY REPORT

RH WASTE

Site	Stored	Projected	Total Anticipated
Batelle Columbus Lab	580	0	580
HANFORD	200	22,000	22,000
INEL	220	0	220
LANL	94	99	190
ORNL	2,500	450	2,900
Small Quantity Sites	20	1,300	1,300
Total All Sites	3600	23,000	27,000

All Volumes in Cubic Meters
 Numbers rounded to 2 significant figures
 Data from Table ES-4 TWBIR Rev 3

LAND WITHDRAWAL AMENDMENTS ACT

- **HR 1663 - Skeen, Schaefer, Crapo**
- **Amendment to S 1745 - Craig, Kempthorne, Johnston, Murkowski, Thurmond, Domenici, Bingaman**



THE AMENDMENTS

- EPA's role maintained
 - EPA certifies (1 year); DOE submits application in increments
- HR 1663 repeals 180-day waiting period; S 1745 30-day waiting period
- Eliminates plans/studies as disposal requirement
- Exempts WIPP waste from RCRA land disposal restrictions
- Accelerates opening, November 30, 1997



RESOURCE CONSERVATION AND RECOVERY ACT PART B APPLICATION

40 CFR 264 Operating Standards

- Order issued by New Mexico Environment Department Secretary, 9/2/94
- Final application submitted to New Mexico Environment Department on 5/26/95
- Notice of Deficiency received 3/14/96
- DOE responses provided 4/12/96
- DOE received Notice of Completeness 6/27/96
- CAO Disposal Decision Plan schedule calls for permit issuance 8/96; expect to revise to reflect state needs



WIPP DISPOSAL PHASE SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT (SEIS)

- **Purpose**
 - To examine the environmental impacts of transuranic waste at WIPP
- **Scope**
 - Examines impacts of four alternatives for disposing of transuranic waste at WIPP and two no-action alternatives that would involve continued storage of waste at the generator sites
- **More detailed information is available in the implementation plan**
- **Approval delayed**
 - Draft WM-PEIS determined inadequate for SEIS analysis of treatment site impacts due to lack of treatment facility accident impact analysis



WIPP: One valuable safe step toward solution of the national nuclear waste disposal problem

- **WIPP is focused and on schedule**
- **Remaining critical areas for continued research have been identified**
- **Path to regulatory compliance identified**
- **Disposal operations will begin 1998**



REVISED SCHEDULE AND PROJECTED COSTS

Notice of Intent	8/95 (Complete)	
Scoping meetings	9-10/95 (Complete)	
Implementation plan approved	4/96 (Complete)	
	<i>Old Schedule</i>	<i>New Schedule</i>
Draft Supplemental Environmental Impact Statement (SEIS) distributed	7/96	9/96
Public hearings	8-9/96	10-11/96
Final SEIS	2/97	4/97
Record of Decision	3/97	5/97

Overall cost - \$7,000,000 - \$8,000,000 -
most recent delay will add about \$100,000





ENVIRONMENTAL EVALUATION GROUP

AN EQUAL OPPORTUNITY / AFFIRMATIVE ACTION EMPLOYER

7007 WYOMING BOULEVARD, N.E.
SUITE F-2
ALBUQUERQUE, NEW MEXICO 87109
(505) 828-1003
FAX (505) 828-1082

July 22, 1996

Mr. George Dials, Manager
Carlsbad Area Office
U. S. Department of Energy
P. O. Box 3090
Carlsbad, NM 88221-3090

Dear Mr. Dials:

Attached is the EEG review of Chapter 5, "Quality Assurance," from the WIPP Compliance Certification Application (CCA), published as DOE/CAO-96-2056 on May 31, 1996. Chapter 5 contains significant omissions and errors, and does not appear to meet the QA requirements listed in 40 CFR 194 or the expectations for QA as listed in the Compliance Application Guidance (CAG; EPA 402-R-95-014).

While the EPA has agreed to review the CCA a chapter at a time, the expectation was that each chapter would be a final version that would illustrate the DOE's best explanation of how the regulatory requirements for the areas covered by that chapter have been met. Chapter 5 contains many "placeholders", which are apparently to be replaced by data and analyses which have yet to be generated. Two appendices are referenced which were not included; the included Appendix RE-5 is apparently not referenced by the chapter, and is either incomplete or unnecessary. The EEG cannot provide a complete review until the additional information is added to the chapter package.

Chapter 5 also fails to meet the QA expectations listed in the CAG under the heading "§194.22 Quality Assurance" (page 18). The EPA clearly states on page 1 of the CAG that these expectations will be the criteria by which the completeness of the application will be judged, and that no further actions will be taken until the expectations are included. EEG could only verify that one of the first five expectations was included in Chapter 5. Unless it is the DOE's intention to meet the CAG QA expectations elsewhere in the CCA then Chapter 5 is also deficient in this regard.

For the most part Chapter 5 also fails to respond to the EPA comments on the Draft Compliance Certification Application (DCCA), as transmitted to your office on October 31, 1995 and January 30, 1996, and to some extent fails to address the comments published in

Mr. George Dials

Page 2

July 22, 1996

EEG-61, "Review of the WIPP Draft Application to Show Compliance with the EPA Transuranic Waste Disposal Standards" (March, 1996) concerning the DCCA QA Chapter. Chapter 5 contains editorial and technical difficulties which could delay the EEG and the EPA review of the complete application. A listing of some of these, as well as additional commentary on the "placeholders", CAG expectations, and other issues, can be found attached to this letter.

There is no indication in Chapter 5 that objective criteria are applied when audit teams determine the effectiveness of QA program adequacy and implementation. The process by which program effectiveness is determined should be described in Chapter 5.

Chapter 5 appears to be substantially incomplete. EEG recommends that the DOE withdraw the Chapter 5 submission, and resubmit it after (1) data to be included has been collected and analyzed, (2) the document has been rewritten to conform to CAG and other EPA expectations, and (3) full editorial and technical reviews of the contents by cognizant personnel have been performed.

Sincerely,



Robert H. Neill
Director

RHN:BAW:ss
Enclosure

ENVIRONMENTAL EVALUATION GROUP REVIEW OF CHAPTER 5 OF WIPP COMPLIANCE APPLICATION (DOE/CAO-96-2056)

Chapter 5 of the CCA, "Quality Assurance", published as DOE/CAO-96-2056, is an incomplete document which fails to adequately support compliance with the 40 CFR 194.22 QA requirements and the expectations for QA in the Compliance Application Guidance (CAG). This issuance of Chapter 5 appears to have been premature; material is missing, adequate technical and editorial review were apparently not performed, and there seems to have been no attempt to compare its contents against the EPA's criteria for completeness, or comments on the DCCA version of the chapter.

The following commentary is not a line-by-line review of Chapter 5, as the document is incomplete, and more general concerns should be addressed before such a review could be considered useful. Examples are randomly selected, to show the types of corrections necessary rather than a complete list of them.

Chapter 5 is an incomplete draft.

Chapter 5 as received by EEG on June 6, 1996, is a draft that would have been more appropriate in the DCCA. The document must be considered a draft, rather than a submittable document for compliance, as information has been replaced by "placeholders". The first page (5-1) has the following statement in the middle of a paragraph:

This program of audits and surveillances assesses the adequacy and effectiveness of implementation of the individual QA programs. [Placeholder for conclusions concerning the adequacy and effectiveness of implementation of the CAO and SNL QA programs]. (Emphasis in the original)

There are many such placeholder statements to be found in the document. Page 5-16 has one, page 5-42 has two, page 5-43 has one, 5-44 has two, 5-46 has two, 5-47 one, 5-50 three, and there may be others. The apparent reason for many of the placeholder statements is that QA activities necessary for production of a QA chapter in the CCA have not yet been completed and adequately analyzed. The placeholder quoted above, for instance, probably is due to external audits which had been scheduled, but not completed, of SNL (performed in May and June 1996) and CAO (scheduled for July 15-19, 1996) prior to the writing of Chapter 5. Other placeholders (on p. 5-46 and 5-47) are related to peer review qualification of data; these peer reviews are still in progress.

The results of these QA activities may not always support the conclusions already drawn in Chapter 5. The effectiveness of SNL's QA program was recently adjudged as "marginal" by a CAO-contracted audit, and if the DOE intends to use the results of the audit in the CCA

then some sort of updating activity should be performed to show that the program is adequate.

Note that neither WTD nor any of the generator sites were included in the placeholder statement quoted above. Adequacy and effectiveness of QA at these sites, too, was yet to be established at the time of publication of the document, though major audits of INEL (effective, except for ineffective ANL-West) and Rocky Flats (marginal) were performed in late 1995.

In addition to "placeholder" statements, other information to be used for compliance is yet to be obtained. For example (from p. 5-3 and 5-4, Section 5.1.1):

The TWBIR was prepared in compliance with the CAO QAPD and was audited by CAO QA on September 5 and 6, 1996.

Since the EEG is reviewing Chapter 5 in June, 1996, it is not meaningful to take credit for an audit in September, 1996. The version of the TWBIR to be audited hasn't been published yet, either; and the version of the CAO QAPD with which it apparently is to comply was not officially transmitted to TRU-waste personnel (or EEG) until after Chapter 5 was received (distribution memo dated June 13, 1996, from CAO's QA Manager).

Until the evidence to be used in Chapter 5 has been appropriately gathered and properly analyzed, the chapter can only be considered an incomplete draft.

Chapter 5 was not adequately reviewed by the DOE.

In the above quotation, the applicable version of the CAO QAPD is not listed, nor is the version number of the TWBIR. Document version numbers are not to be found for most (if not all) documents in the chapter, which makes verification of many statements impossible.

Other editorial and technical review mistakes exist. Descriptions of the "graded approach" appear in two different places (p. 5-2 and 5-23); these provide different (though partially overlapping) sets of criteria for grading activities. Section 5.1.2 "Environmental Monitoring, Monitoring of the Performance of the Disposal System and Analysis Activities" (p. 5-6) indicates that no monitoring need take place prior to closure, in direct contrast to the §194.42(c) requirement that monitoring of critical parameters commence before waste emplacement begins. The section concerning software (5.1.4, p. 5-77 ~~ff~~) considers only PA software as necessary for compliance activities, though software used in waste characterization and for site activities carried out by WTD are also used for compliance with 40 CFR 194. In Section 5.3.7, Document Control (p. 5-28), WTD's principal procedures for document control are not listed--and WTD has been tasked with the ultimate storage of all pertinent documents to the project. Section 5.3.9 (p. 5-29) offers no objective evidence (in the form of governing procedures) to show that identification and control of items is required to be performed, though all the other sections of Section 5.3 have such references.

In Section 5.1.3.(p. 5-6), it is asserted that since the EPA had reviewed site selection and site characterization QA programs during examination of the 1989 No-Migration Variance Petition (NMVP) that the QA for site selection and characterization should be considered satisfactory. This is untenable on several grounds, not the least of which is that the NMVP is for compliance with 40 CFR 268.6, which has no requirement that QA programs must comply with the 1989 versions of NQA-1, NQA-2 Part 2.7, and NQA-3, as is found in 40 CFR 194.

Section 5.4.2 (Page 5-44) illustrates several potential deficiencies. The initial paragraph contains a statement which includes placeholders, as follows:

A primary result of the qualification of the SNL QA audit and surveillance programs [Placeholder] the determination of which performance assessment data provided by SNL subcontractors [Placeholder] collected under an approved QA program and which data requires additional qualification.

Unfortunately, without the placeholders, the statement has effectively no useful semantic content, and cannot be analyzed in relation to the requirements of 40 CFR 194.

The next paragraph describes the change from the SNL QAPD revision P to revision R. Some mention of revision Q would prevent possible confusion.

Under the heading "Scientific Investigation" (still Section 5.4.2, p. 5-44), the statement is made that

QAP 20-2 was added to address scientific notebooks. Previously, scientific notebooks were rarely used...

Notebooks are usually considered the basic documentation of scientific work, and the DOE may want to reconsider the phrasing of the second part of the statement.

The results of SNL Audit IA 95-03 (August, 1995) are reported in Section 5.4.2.1, Data Qualification (pp. 5-44, 45):

The audit resulted in 14 findings in the areas of calibration, procedures, training, experimental planning, test records, and equipment and data acquisition...The audit concluded that, with the exception of the Corrective Action Requests, there was evidence that SNL QA controls were in place and that they were adequate and effectively implemented.

Given the breadth of the Corrective Action Requests(CARs), what areas were left to show adequate and effective implementation of the QA controls? In this presentation, it seems as if the program was considered adequate and effective regardless of the audit findings. Chapter 5 also lacks discussion of the process used by audit teams for determining the effectiveness of QA programs; if adequacy and implementation effectiveness statements are

included in the CCA, then the process by which these statements are generated should be described.

Almost no document in Chapter 5 is properly referenced. QA documents are listed without version numbers; published government documents are listed without document numbers (p. 5-6, "Background Document..."; p. 5-14, "DOE/Albuquerque Operations Manual"), or without even a title (p. 5-11, "This task was documented in a DOE Headquarters report..."). None of these documents appear in the bibliography for the chapter, either.

Anything more than a rudimentary review by personnel familiar with the overall WTPP project and QA would have uncovered at least some of these deficiencies. In a QA chapter, the DOE has failed to adequately perform one of the basic principles of QA--review of documents. Such an omission creates an erroneous impression of the quality of QA activities that CAO has developed in the last few years.

Chapter 5 does not address CAG expectations.

While it is not a compliance requirement for DOE to fulfill the expectations in the Compliance Application Guidance (CAG EPA 402-R-95-014), the guidance was developed to assist the EPA in determining if the CCA is complete (CAG, page 1). The document goes on to state (also page 1):

A completeness determination is a threshold determination that the application warrants further scrutiny, so that EPA, DOE, and the public do not invest major resources in a rulemaking proceeding for an incomplete document will likely (and justifiably) consider the CCA incomplete until these expectations are met.

There is no evidence in Chapter 5 that the expectations in the CAG were considered during the development of the chapter. The DOE sent out Chapter 5 with a matrix which matches the requirements of 40 CFR 194 QA requirements with the chapter, but makes no reference to the CAG expectations. There are no statements, references, or sections within Chapter 5 that echo language or structure unique to the CAG. An attempt to verify that the five expectations on page 18 of the CAG were met in Chapter 5 produced feeble results--only one of the five could be considered to be completely met. These five expectations, and the result of the EEG's verification attempt, are as follows:

1. That DOE top tier QA documents demonstrating commitment to NQA-1 (1989), NQA-2 Part 2.7 (1990), and NQA-3 (1989) be included in the CCA. Revision 1 of the CAO QAPD (if Revision 1 will be the version used for the CCA--see expectation 3) could be said to meet this requirement by itself, and evidence in Chapter 5 is that this document will be included in Appendix QAPD.

This expectation is also the heart of the 40 CFR 194 QA requirements, and it is not likely that it was included as a CAG consideration.

2. That DOE principal contractor top tier QA documents, and a list of all top tier documents of subcontractors performing quality affecting activities as listed in §194.22(a)(2), be in the application. Appendix QAPD will apparently include the SNL and WTD QAPDs, but Chapter 5 includes no listing of subcontractor documents as specified, nor the top-tier documents for generator sites, and even the TRU-QAPD may not be included in Appendix QAPD (it is not so referenced in Chapter 5).
3. That the effective dates the documents from expectation 2 were in conformance with the NQA requirements be listed in the application. No effective dates were listed for QA documents in Chapter 5; version numbers were not even given.
4. That a list of quality affecting activities and items important to demonstration of compliance be included in the CCA. No such list is in Chapter 5.
5. That the rationale used in developing the list for expectation 4 be given. No list, no explanation.

Chapter 5 is manifestly not complete according to the criteria in the CAG, nor, it seems, has DOE made an attempt to meet the completeness for QA as identified in the CAG.

The included appendix was poorly presented.

In its mailing of Chapter 5, the DOE included a separate bound document, "Appendix RE5", dated May 10, 1996. The letter of transmittal indicates that

This appendix contains excerpts and summaries of specific references used to support CCA conclusions within the chapter. It will allow reviewers to quickly find the specific portions of referenced documents when tracing the logic of the CCA's conclusions.

EEG could find no specific references in Chapter 5 to Appendix RE5, nor was the rationale for the contents of Appendix RE5 apparent. The appendix consists of brief abstracts from the NQA standards and two NUREG position papers (1297, Peer Review, and 1298, Qualification of Existing Data). The bibliographic references for the documents duplicate the bibliography in Chapter 5. All five documents are readily available as published documents. The abstracts, when pertinent, are not so lengthy that they could not have been quoted directly in Chapter 5.

Appendix RE-5 appears to either be an unnecessary addition to the CCA, or perhaps another "placeholder" into which filler material was inadvertently placed. In any case, it is apparent that the Appendix as it exists is not a well-thought-out addition to the CCA.

Two referenced appendices were not included.

In contrast to Appendix RE-5, two other appendices are referenced in Chapter 5, but neither of these were sent with the document. "Appendix QAPD" is referenced throughout much of

the chapter, and would seem to include the current QAPDs for CAO, SNL, and WID, but no complete listing of the contents is included. These documents are expectations in the CAG, along with other top-tier documents (see discussion of CAG requirements above).

"Appendix AUDIT" is said to contain results of internal audits and surveillances of the WID QA program, and lists of both internal and external audits and surveillances of the CAO, WID, and SNL (Section 5.4.4); whether generator site assessments are included as a part of "CAO" is indeterminate.

All references to Appendix AUDIT appear on the last page of Chapter 5 (p. 5-51). For such an Appendix to have real meaning, specific audits contained in it should be referenced by Chapter 5 as objective evidence that requirements have been met.

Without these appendices, the effectiveness of Chapter 5 cannot be completely assessed. Appendices QAPD and AUDIT should have been transmitted with the chapter.

Chapter 5 fails to address EEG's comments on the DCCA.

The EEG's comments on the DCCA QA chapter as published in EEG-61 (March, 1996) are also only partially addressed in Chapter 5. EEG (EEG-61 p. 5-2) suggested that the QA chapter should have addressed the requirements of 40 CFR 194.22, and Section 5.1 of Chapter 5 does address the requirements from 40 CFR 194.22(a), including the overriding requirement for conformance with the applicable NQA standards (NQA-1, NQA-2 Part 2.7, and NQA-3). However, 40 CFR 194.22(b) requires that:

Any compliance application shall include information which demonstrates that data and information collected prior to the implementation of the quality assurance program required pursuant to paragraph (a)(1) [the requirement for the NQA standard] of this section have been qualified in accordance with an alternate methodology, approved by the Administrator or the Administrator's authorized representative, that employs one or more of the following methods: peer review...; corroborating data; confirmatory testing; or a quality assurance program that is equivalent in effect to...[the NQA standards].

Chapter 5 describes the processes used for data qualification by SNL (Section 5.4.2.1 and following sections, beginning on p. 5-44), but does not include information which demonstrates that the Administrator has approved of these methods.

As in the DCCA QA chapter, Chapter 5 emphasizes the QA program as it exists in 1996 over QA of the data gathering and processing activities which make up a major part of 40 CFR 194 requirements; this was another principal concern expressed in EEG-61. The CCA QA chapter should provide objective evidence that information utilized by the other sections of the CCA fulfills the quality requirements in 40 CFR 194. In places this is partially achieved; Table 5-4 contains a list of data packages qualified by the Independent Review Teams in the Qualification of Existing Data process under SNL's Quality Assurance

Procedure 20-3, but does not explain where and how these packages are used, and their importance to compliance, nor are any references or guidances provided that would allow confirmation of the table of contents.

Chapter 5 fails to adequately address EPA's comments on the DCCA.

The DOE has failed to completely address the EPA general comments on the QA chapter as provided in the enclosure from EPA's Larry Weinstock to CAO's George Dials dated October 31, 1995 (pp. 3 & 4). The EPA stated that:

A number of assertive statements intended to describe the current status of the program are made without substantiation, including statements regarding training records, calibration records, and document and record control procedures. Objective evidence should be presented which demonstrates the successful implementation of these and other aspects of a quality assurance program for the WTPP. Examples of the evidence of implementation may include approved governing documents, implementing procedures, implementing plans and timetables, audits, surveillance, and verification reports, history of corrective actions, and the effective dates of program implementation.

Some of the governing documents, some of the procedures, and some of the effective dates of program implementation can be found in Chapter 5. However, many more assertive statements are to be found in Chapter 5 than were in the DCCA QA chapter, and objective evidence for them is not presented. A few examples follow: Section 5.1.6.2 (p. 5-11), "Original Repository Design", states that "All changes are approved by technically qualified individuals", but no evidence is supplied for the statement. Section 5.3.8 (p. 5-28), "Control of Purchased Items and Services", states that "Prospective suppliers are evaluated and selected on the basis of documented criteria", and eight bullets list other procurement controls said to be in place. However, only WTD implementing documents are provided as evidences for the section, and these are for "Receipt Inspections" and "Source Inspections" (which may cover two of the eight bullets). The section does not reference the missing appendices, which might possibly include more objective evidence.

The DOE also seems to have made only a cursory attempt to address the more specific comments the EPA provided on the QA Chapter of the DCCA (transmitted as pp. 39-42 of the January 30, 1996 letter from Weinstock to Dials). For example, the first specific comment states in part, "The DCCA should have specified the roles of EM-1, EM-20, and EM-30". While Chapter 5's "Organizational Interfaces" chart (Figure 5-3, p. 5-21) shows EM-1 and EM-30, EM-20 is still not listed. The same EPA comment also implies that the organizations that conduct QA audits of contractors and waste generator sites should be listed; they aren't. Another EPA comment indicates that evidence substantiating that all workers were properly trained should be included; it wasn't.

The inclusion of the "Organization Interfaces" figure, which was not in the DCCA, implies

that the EPA's comments were considered on some level. However, it also seems obvious that no line-by-line check to make sure that concerns raised by EPA comments were addressed was made. A search for a random sample of three other EPA comments--lack of objective evidence for control and maintenance of QA records, missing data quality indicators for the waste characterization program, and a need to address software reporting, correction, and implementation of requirements--shows that only the last of these is included in Chapter 5.

Chapter 5 apparently circumvents CAO's own QA program.

The weaknesses described above, in a chapter concerning QA, are apparently due to circumvention of the DOE's own QA program. CAO Management Procedure (MP) 4.4, Revision 0, dated April 19, 1996, states (Section 3.1.1) that

Before a document is produced, the requestor should evaluate the need, end use, cost-effectiveness, intended audience, duplication of effort, regulatory and technical requirements, and any external organization's requirements or agreements related to the document.

MP 4.4 also establishes review processes, which are to be in performed in accordance with MP 4.2.

Recommendation

The DOE should consider developing not only Chapter 5 but all of the CCA under the requirements of the CAO QAPD, Revision 1. A solid quality assurance program is of little utility unless work is performed under its control.



ENVIRONMENTAL EVALUATION GROUP

AN EQUAL OPPORTUNITY / AFFIRMATIVE ACTION EMPLOYER

7007 WYOMING BOULEVARD, N.E.
SUITE F-2
ALBUQUERQUE, NEW MEXICO 87109
(505) 828-1003
FAX (505) 828-1062

55th QUARTERLY MEETING

Environmental Evaluation Group

July 25, 1996
Santa Fe

TASK FORCE ACTIVITIES SINCE LAST QUARTERLY:

- * CONTINUED MONTHLY MEETINGS OF THE TASK FORCE'S WIPP WORKING GROUP
 - WORKING GROUP COMPRISED OF KEY STAFF OF TASK FORCE MEMBER CABINET AGENCIES
 - PRIMARY FOCUS: STATE OF NEW MEXICO'S WIPP TRANSPORTATION SAFETY PROGRAM
- * CONDUCTED A PUBLIC MEETING OF THE TASK FORCE IN SANTA FE ON MAY 2, 1996 (DRAFT MINUTES AVAILABLE)
- * CONDUCTED A PUBLIC MEETING OF THE WIPP MEDICAL WORKING GROUP IN ALBUQUERQUE ON APRIL 23, 1996
- * WIPP INFORMATION EXCHANGE
 - PARTICIPATED IN A MEETING OF DOE'S TRANSPORTATION EXTERNAL COORDINATION (TEC) WORKING GROUP IN PITTSBURGH ON JULY 16-18; DISCUSSED SAFETY PROTOCOLS FOR WIPP SHIPMENTS
 - DELIVERED A PRESENTATION DURING THE ORIENTATION SESSION FOR NEW TEC/WG MEMBERS THAT COVERED THE WIPP TRANSPORTATION SAFETY PROGRAM

TASK FORCE ACTIVITIES SINCE LAST QUARTERLY:
(CONTINUED)

* WIPP LAND WITHDRAWAL AMENDMENTS ACT

-- PREPARED SECTION-BY-SECTION SUMMARY OF THE SCHAEFFER AMENDMENT TO H.R. 1663 (SKEEN BILL) FOR DISTRIBUTION TO TASK FORCE & THE 10 WIPP CORRIDOR STATES IN THE WESTERN GOVERNORS' ASSOCIATION

-- PROVIDED COMMENTS TO N.M. CONGRESSIONAL DELEGATION ON THE SCHAEFFER AMENDMENT TO H.R. 1663 (LETTER OF MAY 3, 1996)

* WIPP LAND MANAGEMENT

-- COORDINATED/PARTICIPATED IN A MEETING (JUNE 26, 1996) BETWEEN DOE-CAO AND NEW MEXICO STATE AGENCIES ON WIPP LAND MANAGEMENT

-- A DRAFT OF A DOE/NM AGREEMENT FOR ENHANCING COMMUNICATIONS/ COORDINATION ON WIPP LAND MANAGEMENT ISSUES WAS REVIEWED AND DISCUSSED

* WIPP PERFORMANCE ASSESSMENT (PA)

-- PARTICIPATED IN A STATE/DOE CONSULTATION AND COOPERATION MEETING ON ACTINIDE DISTRIBUTION COEFFICIENTS (K_d VALUES) FOR WIPP PA)

-- PROVIDED COMMENTS, INCLUDING THOSE OF EEG AND THREE INDEPENDENT CONSULTANTS, IN CORRESPONDENCE DATED JULY 3, 1996

WIPP TRANSPORTATION SAFETY PROGRAM

- * WESTERN GOVERNORS' ASSOCIATION (WGA) WIPP TRANSPORT SAFETY PROGRAM IMPLEMENTATION GUIDE
 - COOPERATIVELY DEVELOPED BY WGA (10 WESTERN WIPP CORRIDOR STATES) AND DOE-CAO
 - ADDRESSES ACCIDENT PREVENTION, EMERGENCY RESPONSE PREPAREDNESS, AND PUBLIC INFORMATION/PARTICIPATION FOR THE WIPP SHIPPING CAMPAIGN
 - UNANIMOUSLY ADOPTED BY WGA AT THEIR DECEMBER 1995 ANNUAL MEETING
 - MEMORANDUM OF UNDERSTANDING EXECUTED BETWEEN WGA AND DOE; ENDORSES THE PRINCIPLES, APPROACHES, AND PROCEDURES IN THE GUIDE
- * WESTERN GOVERNORS' WIPP POLICY RESOLUTION
 - SUPPORTS THE TIMELY OPENING OF THE WIPP PROJECT IN STRICT COMPLIANCE WITH ALL APPLICABLE LAWS AND REGULATIONS
 - CALLS FOR THE EXPEDITIOUS RESOLUTION OF WIPP LAWSUITS SO THAT SUITABILITY OF THE REPOSITORY CAN PROCEED WITHOUT DELAY
 - ENCOURAGES DOE TO SEEK SUFFICIENT RESOURCES TO REACH FULL-SCALE OPERATIONS AS QUICKLY AS SAFETY/COMPLIANCE CONSIDERATIONS ALLOW

WIPP TRANSPORTATION SAFETY PROGRAM
(CONTINUED)

- * WIPP PUBLIC OUTREACH EFFORT: 1996
 - WIPP "OPEN HOUSES" HELD IN LAS VEGAS, NM; PUEBLO OF NAMBE; PUEBLO OF POJORAQUE; SANTA FE; LOS ALAMOS; PUEBLO OF SAN ILDEFONSO; SPRINGER; AND WAGON MOUND
 - BRIEFINGS ON N.M. WIPP TRANSPORTATION SAFETY PROGRAM TO ALBUQUERQUE LOCAL EMERGENCY PLANNING COMMITTEE; PUEBLO OF TESUQUE; LAS VEGAS CITY COUNCIL; SAN MIGUEL COUNTY COMMISSION; WAGON MOUND VILLAGE COUNCIL; AND MORA COUNTY COMMISSION
- * WIPP EMERGENCY RESPONSE EXERCISES
 - AT LEAST TWO PER YEAR SCHEDULED
 - FIELD EXERCISES IN 1996:
 - 1) ALBUQUERQUE EXERCISE (WIPPTRAX 96-1) HELD ON MAY 31
 - 2) MORIARTY EXERCISE (WIPPTRAX 96-2) SCHEDULED FOR EVENING OF AUGUST 27
 - 3) LAS VEGAS EXERCISE (WIPPTRAX 96-3) SCHEDULED FOR NOVEMBER
- * WIPP TRAINING
 - ALL LEVELS OF EMERGENCY RESPONSE TRAINING IS CONTINUING ON A REGULAR BASIS

UPCOMING EVENTS

- * AUGUST 14 NEW MEXICO WIPP PUBLIC AWARENESS
“OPEN HOUSE” IN RATON
- * AUGUST 27 FULL-SCALE WIPP EMERGENCY
RESPONSE FIELD EXERCISE IN MORIARTY
- * SEPTEMBER 6 MEETING OF THE RADIOACTIVE AND
HAZARDOUS MATERIALS COMMITTEE IN
SANTA FE
- * SEPTEMBER 9-11 MEETING OF THE WGA TECHNICAL
ADVISORY GROUP FOR WIPP TRANSPORT
IN PORTLAND
- * SEPTEMBER 11 NEW MEXICO WIPP PUBLIC AWARENESS
“OPEN HOUSE” IN ELDORADO
- * SEPTEMBER 12 NEW MEXICO WIPP PUBLIC AWARENESS
“OPEN HOUSE” IN GALISTEO
- * OCTOBER 14-18 REGIONAL WIPP/HAZARDOUS MATERIALS
TRANSPORTATION SYMPOSIUM AT
ALBUQUERQUE CONVENTION CENTER

DOE/EEG/NMED QUARTERLY:

July 25, 1996

(Status Report since April 24, 1996)

NMED/DOE-OB/WIPP

I. Environmental Monitoring/Sampling:

- A) Biotics - Brantley Lake Catfish
- B) Groundwater - WQSP-5 (down gradient from WIPP Site)
Exhaust Shaft Boreholes, Exhaust Shaft Sump
- C) Surface Water -
- D) Sediment -
- E) Soils - SWMU 001S (ERDA 9), SWMU 003A (Porta Camp)
- F) Air - Installed an independent low volume air sampler located at the WIPP Far Field

- A) Received numerous calls from stakeholders concerned with the lead contamination in S400 drift and Exhaust Shaft. AIP staff informed stakeholders that we have verified lead is present, but unfair comparisons are being made with drinking water standards. Data is being QA/QC'd using high ionic brine information and AIP staff will continue to verify data, contamination boundaries, and DOE's progress on this issue
- B) Site Specific Work Plan completed and copies were distributed to groups who commented
- C) Observed emergency spill response during a simulated drum puncture
- D) Borehole Verification:

The following actions were assigned as a result of a borehole seals meeting with CAO, CTAC, WID, and Stoller:

- WID: 1) Supply the applicable section of regulations that apply to borehole drilling prior to 6-75
- 2) Supply H-19 well information

- NMED: 1) Determine what information is needed for verification of data compliance for early (pre 1975 boreholes)
- 2) Determine regulations and regulatory agency that apply to non-producing shafts such as those at the WIPP Site (Preliminary verbal indications are that the State Engineer Office is responsible. Requested an written determination on regulations and regulatory agency that applies to plugs and ground water isolation in non-producing shafts).

CAO/Sandia: Provide borehole history information on the NMED list of wells (ref. NMED letter to CAO dated 4-23-96)

BOREHOLE PLUG DATABASE: Created by NMED to merge with ArcCad (GIS Database). All information will be verified and confirmed. Information of interest will include hole size, casing size, cement volumes and depths covered by cement plugs.

Collected split samples on Solid Waste Management Units 001S (ERDA 9) and 003A (Porta Camp) to analyze for Total Metals per NMED/HRMB request.

Presented NMED/DOE-OB Work Plan to Steve Kouba - Environmental Compliance and Support

Presented NMED/DOE-OB Work Plan to Steve Kouba - Environmental Compliance and Support
Metals (Stals) (Gen Chemistry)
Metals (Stals) (Gen Chemistry)



WESTERN GOVERNORS' ASSOCIATION

Michael O. Leavitt
Governor of Utah
Chairman

F. Benjamin Nelson
Governor of Nebraska
Vice Chairman

James M. Souby
Executive Director

WGA, DOE Sign Memorandum of Agreement for Safe Shipments to WIPP

FOR IMMEDIATE RELEASE
March 28, 1996

Contact: Karen Deike
(303) 623-9378

Denver--Nebraska Gov. Ben Nelson, Chairman of the Western Governors' Association, and Secretary of Energy Hazel O'Leary have signed a memorandum of agreement on how transuranic radioactive waste will be shipped to the Waste Isolation Pilot Plant near Carlsbad, N.M.

The agreement states how the Department of Energy will use regional protocols to safely transport transuranic waste to the WIPP, which is scheduled to begin receiving waste in April 1998. The procedures were developed jointly by western governors and DOE.

The memorandum of agreement is intended to enhance the safety of transuranic waste transport; endorse the principles and procedures contained in the Western Governors' Association WIPP Transportation Safety Program Implementation Guide; and ensure communication on transuranic and nuclear waste transportation issues among western governors, the Secretary of Energy and the manager of the DOE's Carlsbad Area Office.

The program addresses such areas as accident prevention, driver and vehicle safety, emergency responder training, safe parking and public involvement. Managing the safe transportation of waste to the WIPP is the joint responsibility of federal, state, local, and tribal governments.

"Our goal is to have every one of the estimated 31,000 shipments of nuclear waste to WIPP be routine and uneventful," Nelson said. "At the same time, western governors are committed to ensuring that appropriate state, local and tribal personnel are properly trained and equipped to handle any emergency that may arise."

"This memorandum of agreement reaffirms the commitment made by the DOE and the western states to ensure the safe transport of waste to the WIPP," said Carlshad Area Office Manager George L. Dials. "The western governors are actively involved in the WIPP program, and together we are ensuring operation of the safest possible nuclear waste transportation system available."

--more--

Denver: 600 17th Street
Suite 1705 South Lower
Denver, Colorado 80202-3452
(303) 623-9378
Fax (303) 534-7309

Washington, D.C.:
400 N. Capitol Street, N.W.
Suite 370
Washington, D.C. 20001
(202) 624 5402
Fax (202) 624-7707

WCA/DOE Agreement--2

The shipping corridor covered by the agreement includes 11 states: Arizona, California, Colorado, Idaho, Nebraska, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming.

The regional planning and dialogue process facilitated by the Western Governors' Association provides member states and DOE with the mechanism to address WIPP and other DOE transportation issues. Each state appoints a representative to the Western Governors' Association Technical Advisory Group for WIPP Transport, which shares responsibility with DOE for developing and implementing principles, procedures, and agreements to address the "safe and uneventful transportation of radioactive waste" through western states.

The WIPP is a repository designed to permanently dispose of transuranic radioactive waste left from the research and development of nuclear weapons. Located 26 miles east of Carlsbad, project facilities include disposal rooms excavated 2,150 feet (nearly half a mile) underground in an ancient, salt formation. Transuranic waste consists of clothing, tools, rags, and other such items contaminated with trace amounts of radioactive elements, most of which are plutonium.



WESTERN
GOVERNORS'
ASSOCIATION

E. Benjamin Nelson
Governor of Nebraska
Chairman

Edward T. Schafer
Governor of North Dakota
Vice Chairman

James M. Souby
Executive Director

January 26, 1996

Hazel R. O'Leary
Secretary of Energy
U.S. Department of Energy
Forrestal Building
1000 Independence Avenue, S.W.
Washington, DC 20585

Dear Madam Secretary:

As Chairman of the Western Governors, I am forwarding to you the Memorandum of Agreement on the Regional Protocol for the Safe Transport of Transuranic Waste to WIPP. The Western Governors unanimously approved this Agreement during their Winter Meeting in December.

The Western Governors' Association and the U.S. Department of Energy, Carlsbad Area Office negotiated this Memorandum of Agreement to define coordinated federal-state procedures for the transport of transuranic waste through the western states to the Waste Isolation Pilot Plant in southeastern New Mexico. That Office has reviewed the Agreement and provided many valuable suggestions to improve the process.

The Memorandum of Agreement formally puts into place the procedures in support of beginning shipments to the WIPP facility from western transuranic waste storage sites beginning in 1998. A copy of the *Program Implementation Guide* is enclosed which describes the objectives and general approaches which would be implemented through the Agreement.

Two copies of the Agreement are enclosed with this letter for your review and signature. If you or your staff have technical questions, they should contact Jim Souby or Ronald Ross in the Denver WGA Office.

Sincerely,

E. Benjamin Nelson
Governor of Nebraska
Chairman, WGA

Headquarters:

600 17th Street
Suite 1705 South Tower
Denver, Colorado 80202-5452

(303) 623-9378
Fax (303) 534-7309

Washington, D.C. Office:
400 N. Capitol Street, N.W.
Suite 370

Washington, D.C. 20001
(202) 624-5402
Fax (202) 624-7707

**MEMORANDUM OF AGREEMENT
BETWEEN THE
WESTERN STATES
and
U.S. DEPARTMENT OF ENERGY
REGIONAL PROTOCOL
FOR THE SAFE TRANSPORT OF TRANSURANIC WASTE
TO THE
WASTE ISOLATION PILOT PLANT**

Approved by the Western Governors: December 1, 1995

Findings

Managing the safe transport of transuranic waste from U.S. Department of Energy facilities to the Waste Isolation Pilot Plant (WIPP) in southeastern New Mexico is the joint responsibility of federal, state, local and tribal governments.

The Governors readopted Policy Resolution 92-004 in 1995 which states that "the objective of the Governors' Association is the safe and uneventful transportation of nuclear waste from current temporary storage facilities to more suitable interim or permanent repositories."

The potential risks of the transuranic waste and the complexities of transporting this waste to WIPP brought the ten western corridor states, the U.S. Department of Energy and the U.S. Department of Transportation together in 1988 to establish a set of principles and procedures for achieving this objective of "safe and uneventful transportation."

In 1989, the Western Governors prepared a "Report To Congress" describing the elements of a safe and uneventful transportation program. In 1991, the Western Governors' Association defined the programs and actions necessary to achieve a safe system, and meet the states' priorities for implementing these programs and actions in the publication "A Report To The Governors and Secretary of Energy".

The Secretary of Energy agreed with the conclusions presented in the two reports, and directed the Department to enter into a five-year Cooperative Agreement with WGA. Working through the Cooperative Agreement, WGA, the western states and the Department of Energy developed a model program to prepare the states and local units of government, and the Department to support the WIPP campaign.

The Carlsbad Area Office of the U.S. Department of Energy is responsible for managing the WIPP program, including the transportation system. The DOE-Carlsbad Area Office, working with the Western Governors' Association and the ten corridor states, has agreed to conduct this shipping campaign employing standards and procedures negotiated through the Cooperative Agreement, many of which are above federal regulatory requirements. The elements of this program are described in the "Western Governors' Association WIPP Transportation Safety Program Implementation Guide" (the Guide).

The Guide addresses the following elements of the transportation program:

- Accident Prevention*
 - High-Quality Drivers and Carrier Compliance*
 - Independent Inspections*
 - Bad Weather and Road Conditions*
 - Safe Parking During Abnormal Conditions*
 - Advance Notice of Shipments*
 - Access to Information on Shipment Status*
- Emergency Preparedness*
 - Mutual Aid Agreements*
 - Emergency Response Plans and Procedures*
 - Training and Retraining*
 - Emergency Response Equipment*
- Medical Preparedness*
- Route Designation*
- Public Involvement and Information*
- Program Evaluation*

Purpose

The purposes of this Memorandum of Agreement are to enhance the safety of the transport of transuranic waste, to endorse the principles and procedures presented in the Guide, and to facilitate communication between the Secretary of the Department of Energy, the manager of the Carlsbad Area Office, and the western state governors on transuranic nuclear waste transportation issues.

Principles

We, the undersigned, pledge to each other as follows:

1. We endorse the regional planning and dialogue processes embodied in the Cooperative Agreement between the U.S. Department of Energy and the Western Governors' Association as

the most appropriate mechanism for addressing the safe and unevenful transportation of transuranic waste to the Waste Isolation Pilot Plant, and, where appropriate, other Department of Energy shipments through the western states.

2. We reaffirm the objective of the U.S. Department of Energy - Western Governors' Association process as being the safe and unevenful transportation of radioactive waste and mixed radioactive waste from current temporary storage facilities to more suitable consolidation and characterization facilities and/or permanent disposal at the Waste Isolation Pilot Plant, if and when approved for receipt and disposal of these wastes.

3. We endorse the elements, principles and approaches contained in the "Western Governors' Association 1995 WIPP Transportation Safety Program Implementation Guide" for conducting this transportation program. This Guide is to be a living document reflecting the continuing agreements and actions taken by the Western Governors' Association, the Western Governors and their agency staffs, and the U.S. Department of Energy, as part of the regional planning and dialogue process.

Implementation of Principles

To implement these principles, each Western Governor will:

- ▶ appoint a single state representative to the Western Governors' Association Technical Advisory Group for WIPP Transport. This representative shall be responsible for representing the state in developing and implementing principles, procedures, and agreements between the western states and the U.S. Department of Energy in addressing the "safe and unevenful transportation of radioactive waste" through western states. The names of these contacts will be forwarded to the Western Governors' Association as part of the state funding pass through process; and*

- ▶ provide copies of this Memorandum of Agreement to other state agencies with instructions to coordinate their planning, programming, and procedural development processes for radioactive waste and mixed radioactive waste transportation with the appropriate state representative.*

To implement these principles the Secretary of Energy will:

- ▶ designate the manager of the Carlsbad Area Office as the Department's representative to the WGA Regional Transuranic Waste Transport Planning and Dialogue Process; and*
- ▶ participate in and support the WGA Regional Transuranic Transport Planning and Dialogue Process through the Cooperative Agreement.*

Review and Affirmation

The Guide and its procedural components will be reviewed by the WGA, the western states, and the DOE-Carlsbad Area Office annually to ensure the Guide and its elements continue to meet the objective of the "safe and uneventful transport of radioactive waste." The WGA Technical Advisory Group for WIPP Transport will provide assurance to the governors and Secretary of Energy annually that the Guide represents the principles and procedures for conducting this transportation program.

This Memorandum of Agreement is to be reviewed and reaffirmed by the Western Governors and the Secretary of Energy one year following a presidential election.

Secretary of Energy

*Chairman,
Western Governors' Association*

WIPP PUBLIC AWARENESS PROGRAM 1996 FINAL SCHEDULE FOR COMMUNITY OUTREACH¹

DATE	COMMUNITY	LOCATION	ADDRESS/DIRECTIONS
June 5	Los Alamos	Los Alamos Community Center 475 20th Street	From Santa Fe: stay on Central Avenue as you enter Los Alamos (don't turn on Trinity). Community Center is on left side at 20th Street, just past Post Office and next to Ashley Pond
June 6	San Ildefonso	San Ildefonso Pueblo Tewa Visitors Center	North from Santa Fe on 285. West on 502 at Pojoaque; follow signs to Pueblo; Tewa Visitors Center on right.
July 9	Springer	City Council Room Springer City Complex 606 Colbert Avenue	From Santa Fe: take first exit off I-25 and follow Main St. to 6th. Turn left on 6th Street (at Senior Center). After one block, turn right onto Colbert.
July 10	Wagon Mound	Wagon Mound Fire Department 600 Catron Avenue	From Santa Fe: Exit highway at Wagon Mound, Cross Frontage Road, RR tracks, Railroad Ave. Right on Catron Avenue. Fire Department is about 3 blocks down, on right
August 14	Raton	Raton Convention Center 901 S. 3rd Street	Located just North of Raton High School, near the electric plant.
September 11	El Dorado	Eldorado Fire Department	
September 12	Lamy/Galisteo	Galisteo Fire Station	From Santa Fe to 285 south, south on Rt. 41 to Galisteo; turn left (at church about 6 miles from 285) onto County Road 33A (dirt road); follow around about 1/4 mile. Fire station on right, behind community center.
October 23	Encino/Vaughn	Vaughn Fire Department	From Santa Fe: on right (west) side of Rt. 285; next to City Hall and the Bank.
November 21	Roswell	TO BE ANNOUNCED	
December 10	Artesia	TO BE ANNOUNCED	
December 11	Carlsbad	TO BE ANNOUNCED	
December 12	Loving	TO BE ANNOUNCED	

¹ Unless otherwise indicated, Open Houses will be held between 3:00 and 7:00 p.m.

For further information contact Heidi Snow or Chris Wentz of the New Mexico Energy, Minerals or Natural Resources Department at 505/827-5950.

As of May 30, 1996

Western Governors' Association
Resolution 96 - 020

June 24, 1996
Omaha, Nebraska

SPONSORS: Governors Romer, Batt, and Johnson
SUBJECT: Timely Opening of the Waste Isolation Pilot Plant (WIPP)

A. BACKGROUND

1. Over the past 45 years, the United States has developed, produced, and tested nuclear weapons using a national network of facilities, including U.S. Department of Energy (DOE) sites in six western states. As a result, large quantities of radioactive and hazardous chemical wastes have accumulated. The wastes now pose serious immediate and long-term threats to the environment and the public health and safety.
2. At DOE facilities in western states, millions of cubic feet of transuranic wastes, some mixed with hazardous chemical wastes, await permanent disposal. Waste generated since 1970 is in retrievable storage facilities located at DOE sites around the West. More waste will be generated as the result of continuing weapons research, environmental remediation, and the decommissioning and decontamination of aging facilities.
3. The Waste Isolation Pilot Plant (WIPP) in New Mexico is intended to serve as a permanent repository for selected defense-related transuranic wastes. Although major construction activities at the WIPP are largely complete, the opening of the facility has been delayed by a number of yet unresolved regulatory issues. (Originally scheduled to open in late 1988, the WIPP may not be available for disposal until 1998 at the earliest.
4. The WIPP and Withdrawal Act (Public Law 102-579) identified those legal and administrative actions necessary to open WIPP. The Department of Energy - Carlsbad Area Office has developed and implemented the Disposal Decision Plan to meet the applicable legislative and regulatory requirements. The plan establishes October 1997 as the date when the Secretary of Energy will make a decision about whether to operate WIPP as a disposal facility. Based on the findings of that decision, WIPP could begin receiving contact-handled waste in April, 1998.
5. By April 1996, a number of lawsuits were filed to prevent the U.S. Environmental Protection Agency from issuing the criteria which WIPP must meet in order to demonstrate it can safely dispose transuranic waste, as well as other non-disposal related issues. This action will delay the Department of Energy and the Environmental Protection Agency (EPA) from proceeding in a timely manner on several of the activities necessary to meet the decision date.

Resolution 96 - 020
Page 2

6. The cleanup, transport, and permanent disposal of radioactive and hazardous chemical wastes at DOI facilities are issues of vital concern to the western states. In recognition of the scope of the waste problems and the risks they pose to the public and the environment, the Western Governors have urged the President and Congress to take prompt action to establish a comprehensive national program (WGA Resolution 89-006).

At the time of its planned opening, WIPP will have very limited capacity to receive shipments from the generator sites, and the generator sites will have only a limited quantity of waste characterized and ready for shipment. This shipping/receiving capacity should be increased to full scale as expeditiously as possible, including the construction of the necessary TRUPACT II containers and greater quantities of waste characterized and prepared for shipment. As the only permanent repository for defense-related transuranic wastes, the WIPP is critical to the success of the cleanup effort sought by the western governors.

B. GOVERNORS' POLICY STATEMENT

1. To reiterate the policies of WGA Resolution 89-006, it is the objective of the western governors to secure, through the expeditious resolution of outstanding technical, administrative, safety, and environmental issues, the earliest possible opening of the WIPP. The western governors are committed to working cooperatively with the Congress, DOI, and the I/P A to achieve this objective.
2. The Western Governors believe that DOI and I/P A must strictly comply with the provisions of the WIPP Land Withdrawal Act (Public Law 102-579) (LWA) to ensure that key issues relating to the opening and operation of the WIPP are satisfactorily resolved. The Western Governors urge DOE and EPA to demonstrate as expeditiously as possible compliance with both the letter and intent of the WIPP LWA.
3. The Western Governors strongly encourage all parties to the lawsuits to seek expeditious resolution of the legal issues and to proceed towards determining the suitability of WIPP as a disposal facility for transuranic waste without further delay.
4. The Western Governors strongly encourage DOE and the Office of Management and Budget to seek the resources necessary to reach full-scale shipping and receiving capacity as quickly as safety and compliance considerations will allow.

C. GOVERNORS' MANAGEMENT DIRECTIVE

1. WGA shall convey this resolution to the appropriate members and committees of the

Resolution 96 - 020
Page 3

Congress, the Secretary of Energy, Chairman of the Nuclear Regulatory Commission, the Administrator of the Environmental Protection Agency, and all parties to the lawsuits referenced herein.

2. In accordance with the policy established by this resolution, the WGA and its Technical Advisory Group for WIPP Transport are directed to work cooperatively with the Congress, DOE, NRC, and EPA to facilitate the earliest possible opening of the WIPP for disposal operations through the prompt resolution of outstanding technical, administrative, safety, and environmental issues.
3. WGA is directed to monitor the progress of meeting scheduled WIPP milestones and report to the western governors any developments that may delay its opening.

Exhaust Shaft - Water and Lead

Kent Hunter

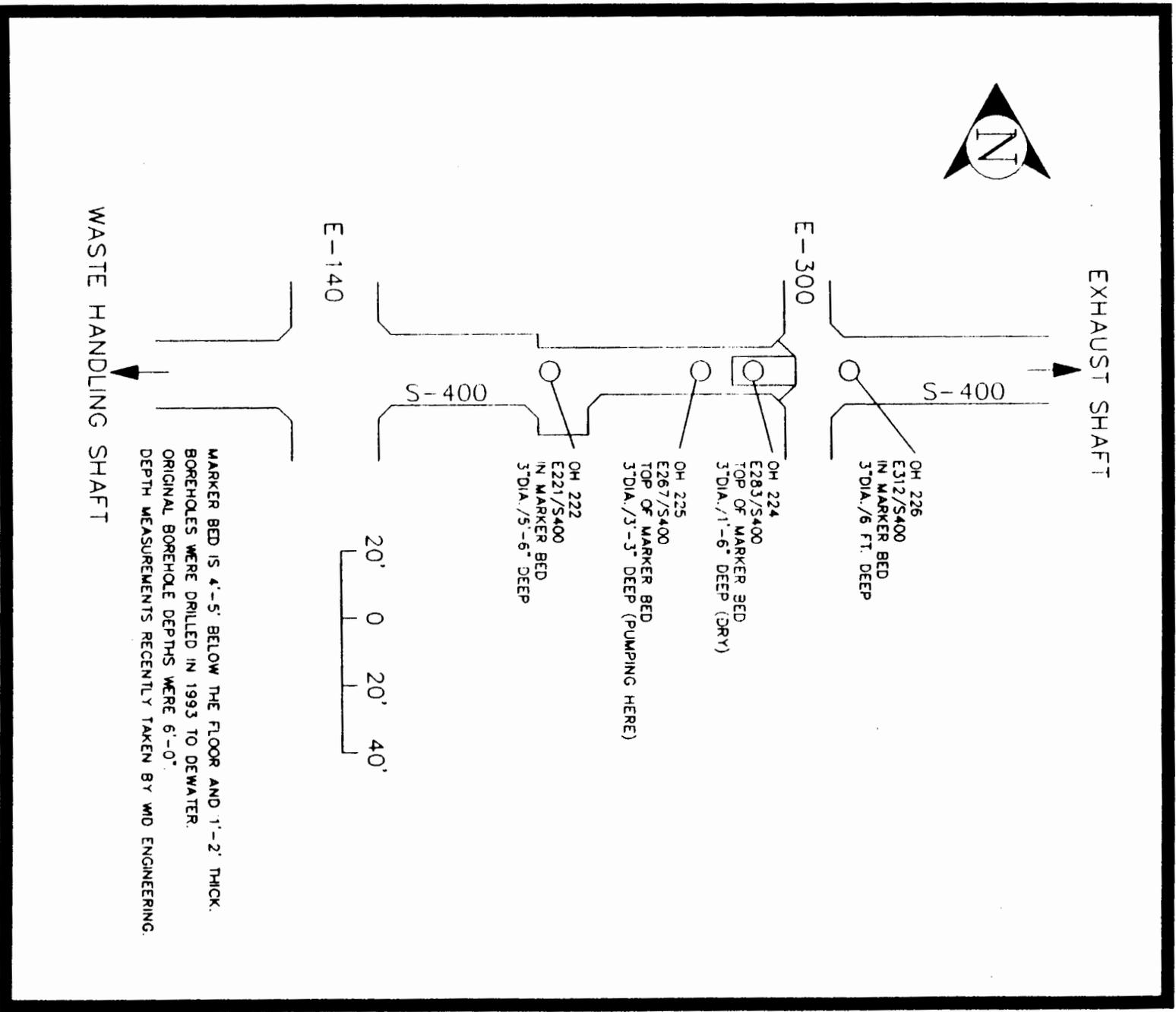
Carlsbad Area Office

July 24, 1996

7/24/96

1



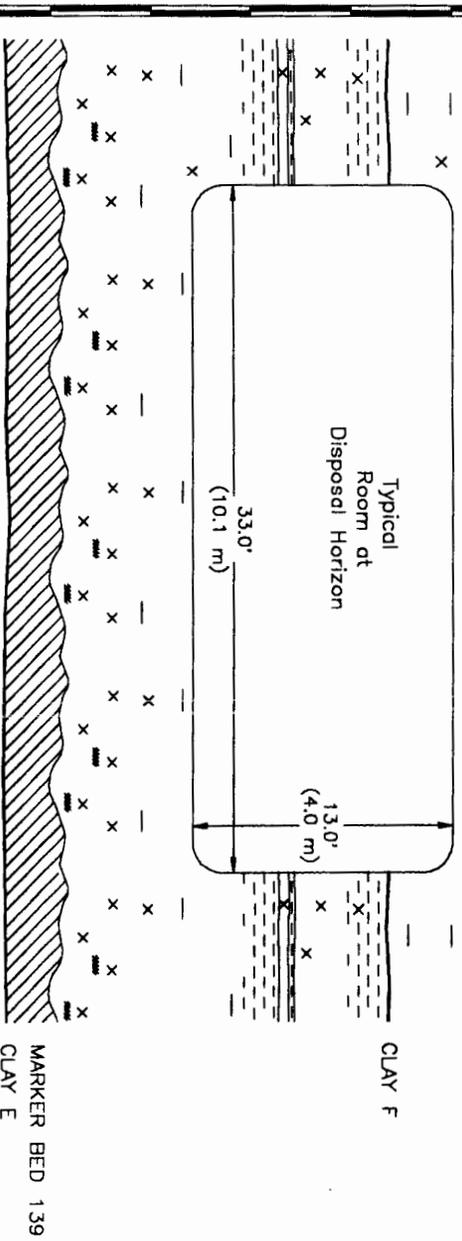
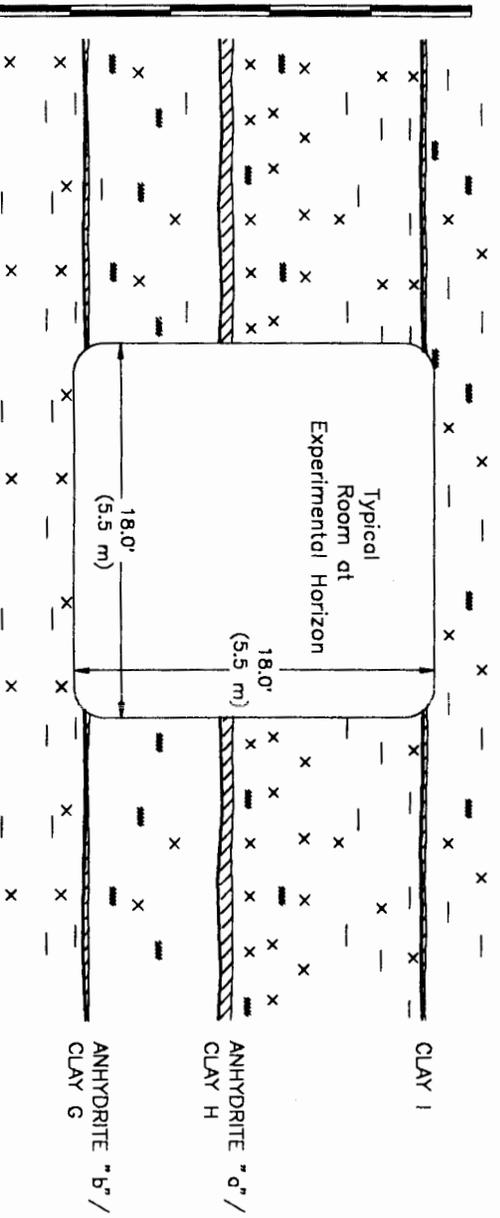


S400 Boreholes

7/24/96

2





SCALE IN INCREMENTS OF FIVE FEET (1.5 m)

LEGEND	
	Halite
	Anhydrite
	Argillaceous Halite
	Polyhalitic Halite
	Anhydrite Stringers
	Clay Seam

NOTES:

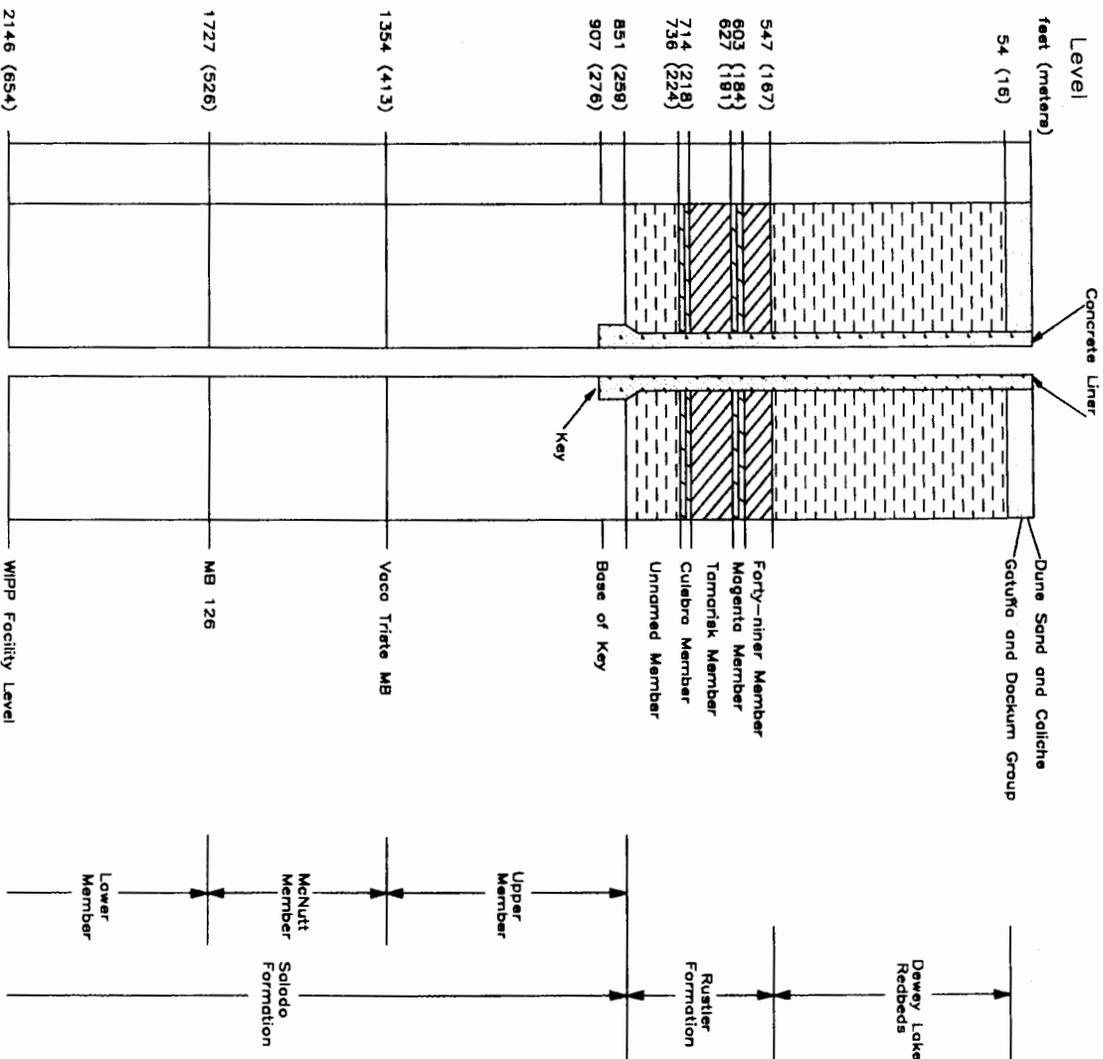
1. Distances are averaged from representative core hole logs and shaft and test room mapping. Actual distances may vary locally from those shown.
2. Descriptions are based on core hole data, shaft mapping, and visual inspection of exposures in underground drifts.
3. Percentages of argillaceous material and polyhalite are based on visual estimates from examination of drill core and exposures in the underground excavations. Sandia National Laboratories' measurements of insolubles from selected core were used as a point of reference.

General Stratigraphic Column

7/24/96



EXHAUST SHAFT



EXPLANATION

Sand and Sandstone	Holite
Mudstone and Siltstone	Dolomite
Anhydrite	Concrete

NOTES

1. All rock below the Dockum Group are Permian in age.
2. All levels are measured from the collar at 3409 feet (1039 meters) above MSL.
3. MB=Marker Bed

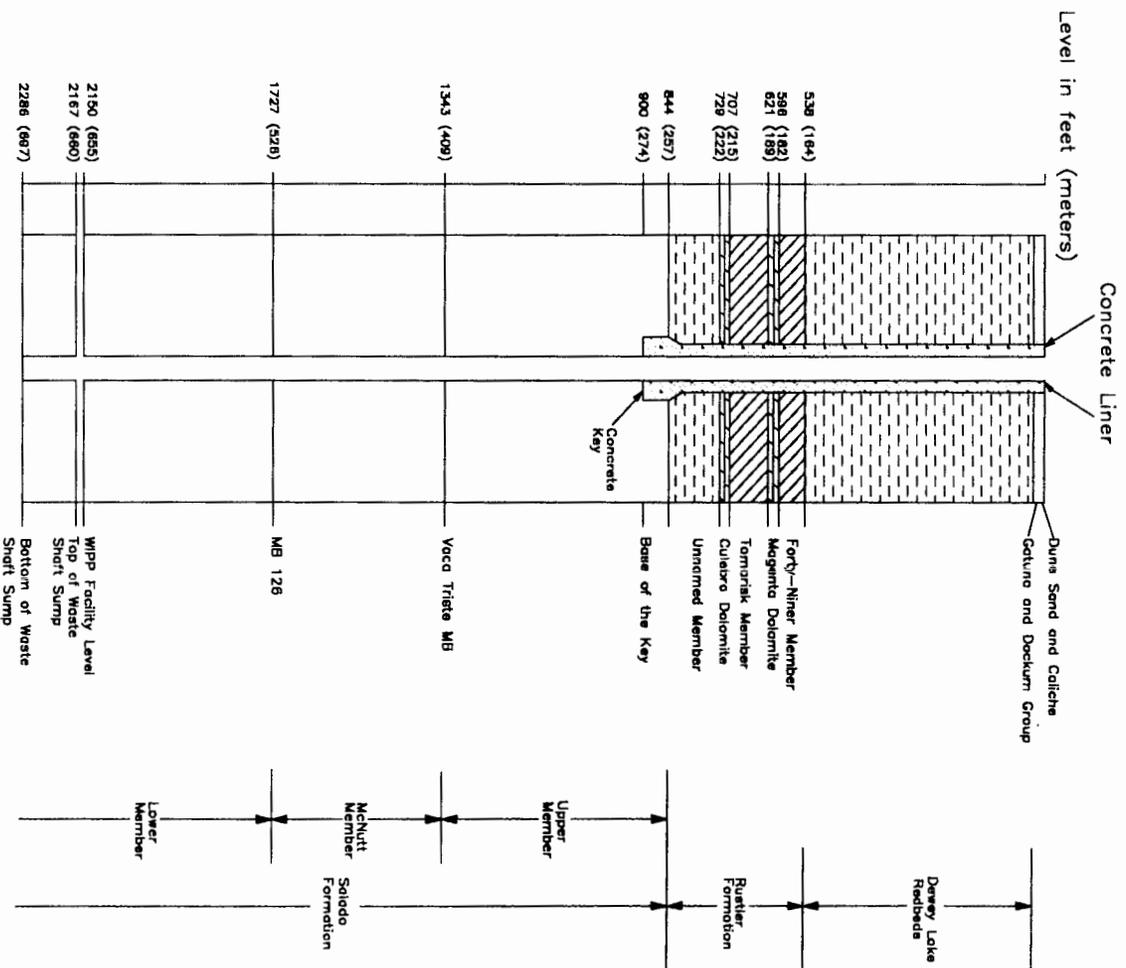
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Generalized Exhaust Shaft Stratigraphy

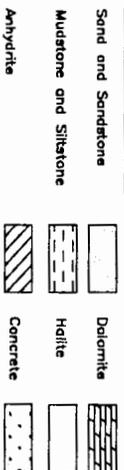
7/24/96



WASTE SHAFT



EXPLANATION



NOTES

1. All rocks below Dockum Group are Permian in age.
2. All levels are measured from collar at 3409 feet (1039 meters) NSL.
3. MB=Marker Bed

Generalized Waste Shaft Stratigraphy

7/24/96



Water Sources

- Condensation
- Liner Leakage

7/24/96

4



Condensation

- Can produce large quantities but only during summer when relative humidity is high.
- Intake air contribution may reach 75% or more of water introduced when surface relative humidity is high, depending on amount of diesel equipment in use.

Liner Leakage

- Small, consistent flow first noted May, 1995. It may not reach shaft bottom except when ventilation flow rate is low or condensation rate is high.
- Leakage is technically insignificant.
- Ventilation reduced on weekends starting October 1994.

7/24/96

6



Liner Leakage

- Evaluating possible leakage from domestic and fire water systems.
- Precipitation infiltration and establishment of local hydrologic equilibrium. Large infiltration areas available in immediate vicinity.

7/24/96

7



Liner Leakage

- Muck at base of Exhaust Shaft removed and analyzed on 3/1/96.
- Catch basin installed on 3/12/96

7/24/96

8



Lead

- First noted any lead - August, 1993
- First reached maximum concentration of contaminants for the hazardous characteristics in June, 1995, according to the RCRA Standard (40 CFR 261.24).
- Reported to NMED on 9/1/95.



7/24/96

9

Lead Sources

- Construction Materials (e.g. lead wool).
- Lead as impurity in galvanizing zinc on chain link mesh used for support.

Probably galvanizing due to high Zinc as well as Lead. Taking mesh samples for analysis and corrosion (leachate) tests.

7/24/96

10



Disposal of Brine

- Commercially disposed of at a permitted Treatment Storage Disposal Facility (TSDF) located at Deep Water, New Jersey.

7/24/96

11



Maximum Lead Concentrations

Waste Shaft Sump

May 1995 - 4.7 mg/l	December 1995 - No Brine
June 1995 - 8.1 mg/l	January 1996 - 12.0 mg/l
July 1995 - 12.0 mg/l	February 1996 - 14.0 mg/l
August 1995 - 10.4 mg/l	March 1996 - No Brine
September 1995 - 0.93 mg/l	April 1996 - 1.4 mg/l
October 1995 - No Brine	May 1996 - 2.3 mg/l
November 1995 - No Brine	June 1996 - Samples Not Back

Samples taken from E-300 Shop in January 1996 and June 1996 < 0.02 mg/l

7/24/96

12



**CARLSBAD AREA OFFICE
NATIONAL TRU WASTE PROGRAM**



Kent Hunter

Assistant Manager

Office of National Transuranic Waste Operations

Carlsbad Area Office

NATIONAL TRANSURANIC WASTE PROGRAM

- WIPP repository
- Transportation
- Generator/storage sites

596L:6950b



NATIONAL TRANSURANIC WASTE MANAGEMENT PLAN Purpose

- **Ensure TRU waste management programs and projects are integrated, coordinated, and prioritized**
- **Focus activities on maximum utilization of WIPP**
- **Facilitate implementation of Federal Facility Compliance Act (FCC Act) site treatment plans and consent orders**
- **Provide generator sites annual guidance for effective operations planning**



49611:5947a

NATIONAL TRANSURANIC WASTE MANAGEMENT PLAN

- Management plan will describe:
 - Existing facilities baseline
 - FFC Act Compliance/WIPP disposal scenario
 - Alternative scenarios
- Resulting in a recommended configuration
 - Near-term (less than five years) activities and site-specific projects
 - Long-term programs
 - Relative cost/disposal throughput benefit



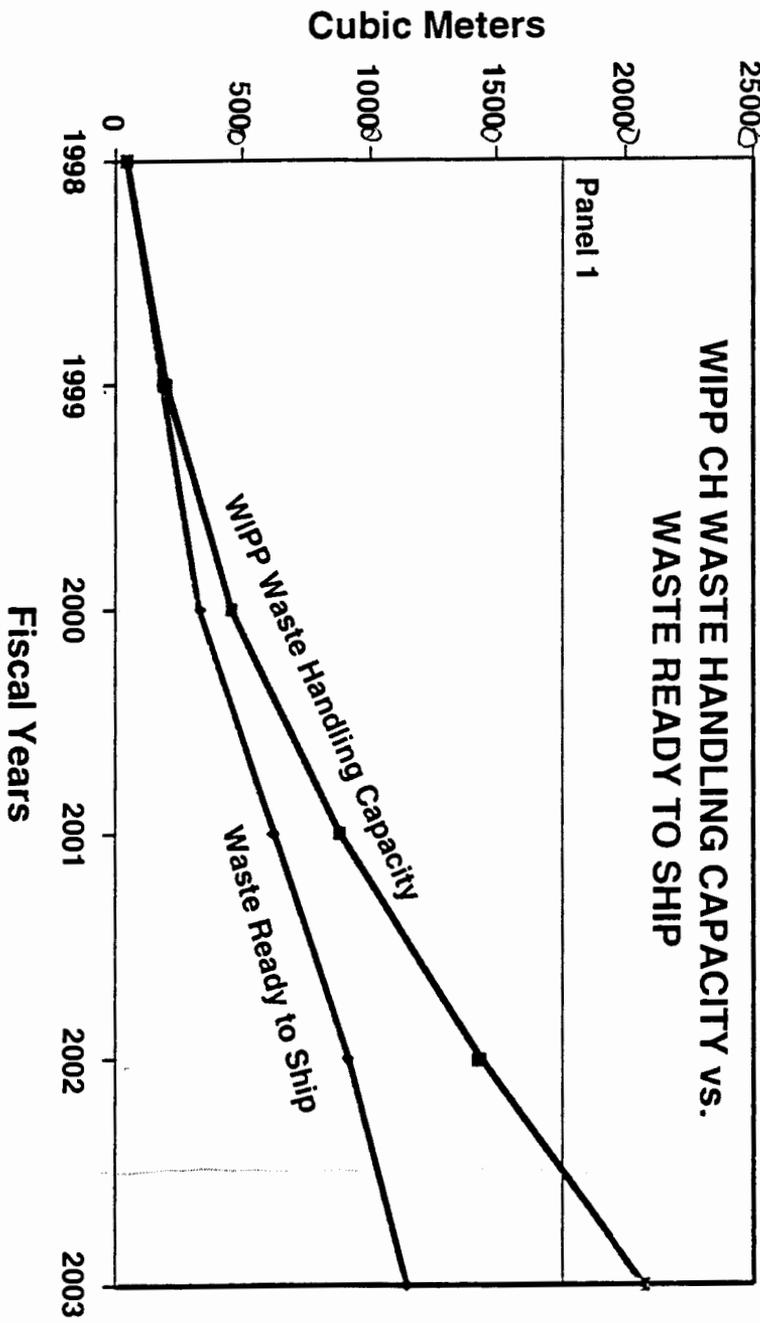
NATIONAL TRANSURANIC WASTE MANAGEMENT PLAN

FFC Act Compliance/WIPP Disposal Scenario

- **Designed to achieve compliance with the FFC Act site treatment plans, consent orders and disposal at WIPP**
- **Inputs and process flow validated by the generator sites**
- **Assumes a WIPP operational life of 35 years, beginning April 1998**



NATIONAL TRU CH WASTE RAMP-UP

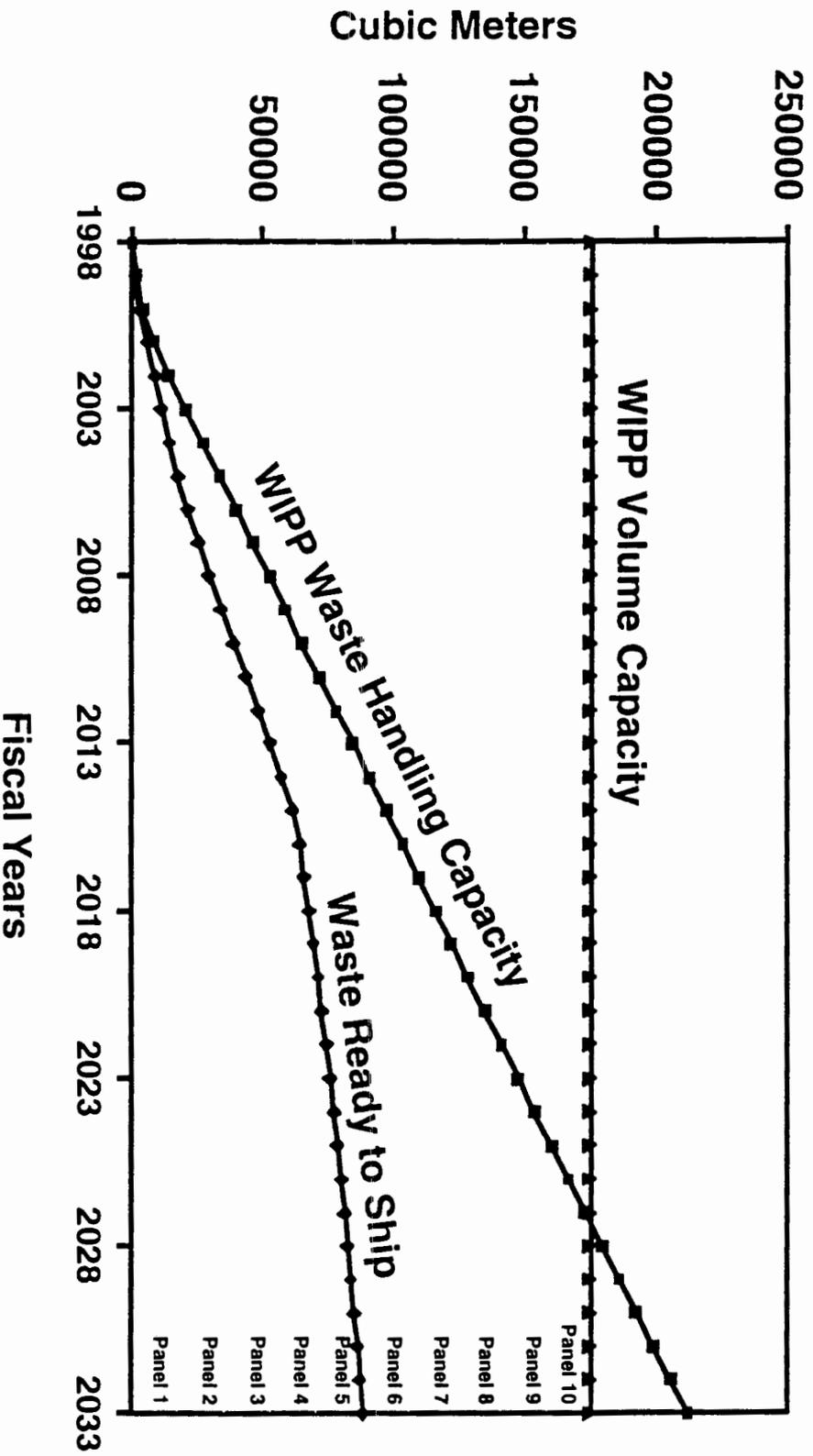


- First waste receipt April 1998
- Initial receipt rate of two trailers per week
- Receipt rate of four trailers per week by end of FY98
- Receipt rate of 10 trailers per week by end of FY00
- Receipt rate of 17 trailers per week by end of FY02
- Three TRUPACT-1Is per shipment.
- Twelve waste drums per TRUPACT-II

596R-6950



WIPP CH WASTE HANDLING CAPACITY VS. WASTE READY TO SHIP



5/9/96

596R:6950a



NATIONAL TRANSURANIC WASTE MANAGEMENT PLAN

FFC Act Compliance/WIPP Disposal Scenario

- Total waste volume disposed
 - 88055 m³ contact-handled
 - 3359 m³ remote-handled
 - 91352 m³ total (WIPP authorized limit 175,600 m³)
- DOE transuranic complex model life-cycle cost estimate
 - \$27.3B (includes WIPP cost \$7.1B)
 - Relative cost estimate based on new facilities at each major site
 - Compared with \$23.0B for on-site storage
 - Compared with \$25.7B for on-site storage with LDR treatment



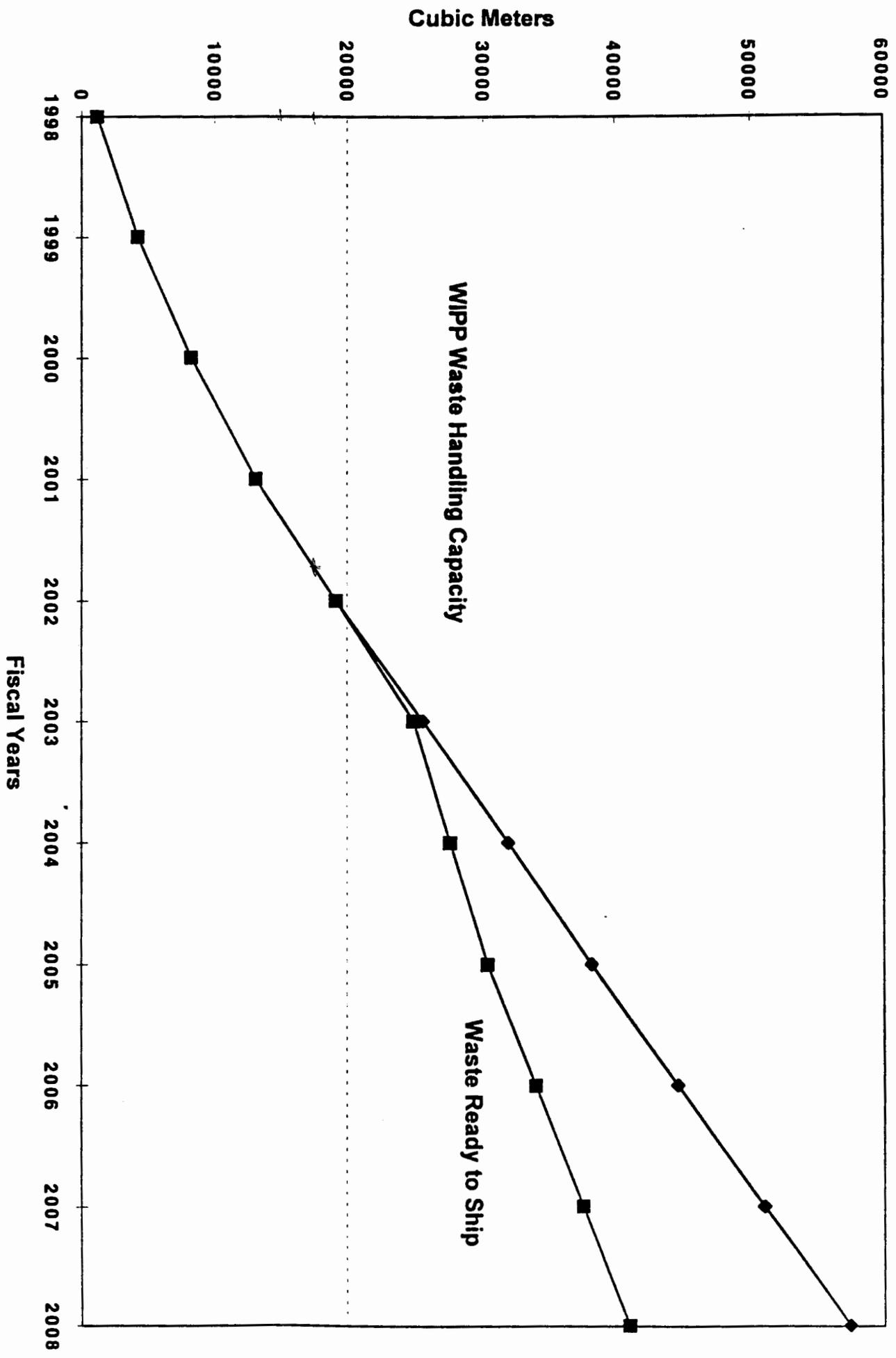
NATIONAL TRANSURANIC WASTE MANAGEMENT PLAN

Issue

- **Waste ready to ship (4/98) by site**
 - FFC Act Compliance/WIPP disposal scenarios are adequate
 - Does not close the gap
- **Only INEL and RFETS have the facilities to characterize, certify, and ship waste to WIPP**



WIPP CH Waste Handling Capacity vs. Waste Ready to Ship Accelerated Case



Complex Integration Scenario

10 Year Projected CH Disposal Performance

Site	Currently Stored	% Disposed	Newly Generated	% Disposed
Hanford	10709	21%	1998	100%
INEL	65376	16%	25	100%
LANL	7775	100%	4666	100%
LLNL	264	100%	80	100%
NTS	654	100%	72	100%
ORNL	1296	100%	60	100%
RFETS	1043	100%	10142	100%
SRS	9193	57%	6022	29%
SOS	337	100%	159	100%
Total	96647	30%	24976	82%

(Volume in Cubic Meters)

NATIONAL TRANSURANIC WASTE MANAGEMENT PLAN Staging Plan

Site	Order	Number of Shipments	
		<u>FY98</u>	<u>FY99</u>
● INEL	First shipper	22	74
● RFETS	Second shipper	22	50
● LANL	Third shipper	20	50
● SRS*	Fourth shipper	0	26
Total		64	200
● WIPP capacity		64	200

* Potential

4968R:69471



NATIONAL TRANSURANIC WASTE MANAGEMENT PLAN

Schedule

- Work in progress with DOE involvement
- Annotated outline complete
- Prototype draft with existing facilities baseline and FFC Act Compliance/WIPP disposal scenario *May*
- Draft for external review *July*
- Final draft *August*
- Final plan distributed *September*



WASTE ISOLATION PILOT PLANT
FINAL NO-MIGRATION VARIANCE
PETITION



July 25, 1996

55th WIPP Quarterly Review Meeting

Department of Energy - Carlsbad Area Office

Final No-Migration Variance Petition

Carlsbad Area Office

- Development of the NMVP
- Draft NMVP
- Summary of OSW Comments/Concerns
- OSW Position on Major Issues
- Final NMVP vs. Draft NMVP
- Operational No-Migration Demonstration
- Long-Term No-Migration Demonstration
- Long-Term Compliance Results
- Conclusion

Development of the NMVP

Cardinal Area Office

August 1994	NMVP kickoff meeting
May 1995	Draft NMVP submitted
August 1995	Draft NMVP public notice
January 1996	OSW issued draft comments
May 1996	OSW issued final comments
June 1996	Final NMVP submitted

3

Draft NMVP

Cardinal Area Office

- Addressed compliance with 40 CFR §268.6 during disposal operations & closure activities
- Purpose was to initiate discussions with OSW on key topics and ensure completeness of Final NMVP
- Major assumptions brought forth
- Deviated from decisions set in Test Phase NMID

4

Summary of OSW Comments/Concerns

Chadwick Area Office

- Requests for additional detail
- Requirement for VOC monitoring
- Operational no-migration demonstration

5

OSW Position on Major Issues

Chadwick Area Office

- Point of compliance should be designated as the modeled point of highest concentration, 1.5 meters above the ground, outside the exhaust shaft
- Disposal occurs upon waste emplacement
- Human Intrusion does not need to be modeled

6

Final NMVP vs. Draft NMVP

Capital Area Office

- Reflects approaches that are acceptable to OSW
- Includes revised operational no-migration demonstration
- Includes most current information and additional requested detail
- Includes long-term no-migration demonstration

7

Operational No-Migration Demonstration

Capital Area Office

- Air pathway is the transport media of concern
- Air dispersion modeling used to determine location of highest concentrations
- Proposed 40 CFR 264, Subpart S, used as guidance to develop HBLs for air
- Calculated VOC concentrations shown to be well below HBLs

8

Long-Term No-Migration Demonstration

Capital Area Office

- Unit boundary is Salado Formation bounded laterally by the WIPP Site Boundary (16 Sections)
- PA models developed by SNL used to model gas and brine transport
- Conceptual models and parameter values consistent with CCA, except for differences due to regulatory requirements
- Bounding calculations used to determine soil-based concentrations of VOCs

9

Long-Term Compliance Results

Capital Area Office

- Brine Transport
 - BRAGFLO model demonstrates that contaminated brine does not leave the waste region
- Gas Transport
 - BRAGFLO model demonstrates that gas will reach the unit boundary within 10,000 years
 - bounding calculations show that resulting soil-based VOC concentrations are orders of magnitude below HBLs

10

Conclusion

Central Ave. Office

The DOE believes it has demonstrated, “to a reasonable degree of certainty, that there will be no migration of hazardous constituents from the disposal unit” during disposal operations, facility closure, and 10,000 years after facility closure at the WIPP.

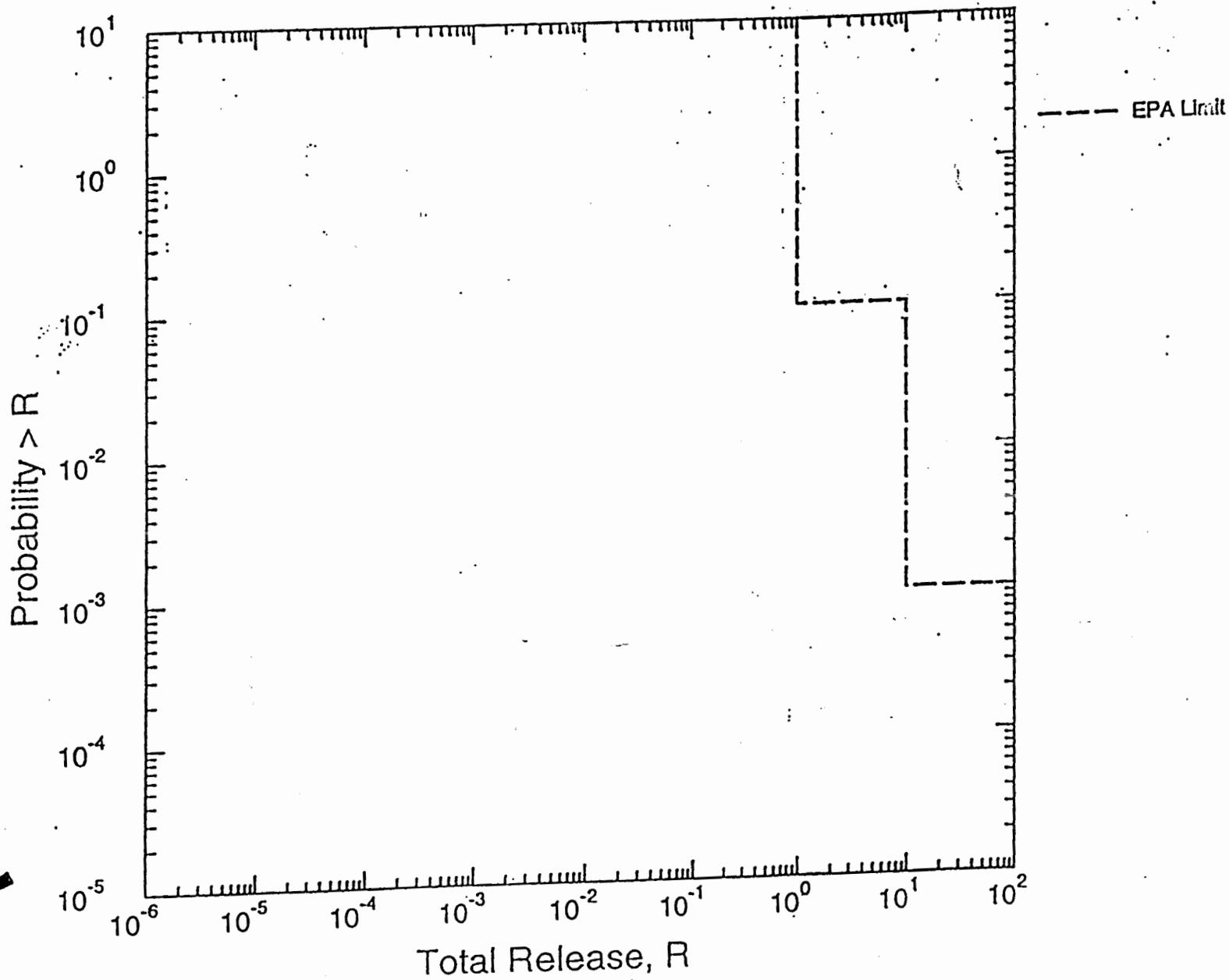
**A SNAPSHOT OF THE CCA
WIPP PERFORMANCE
ASSESSMENT RESULTS**

D. R. Anderson (6849), H. N. Jow (6848), M. G. Marietta (6821)

July 25, 1996

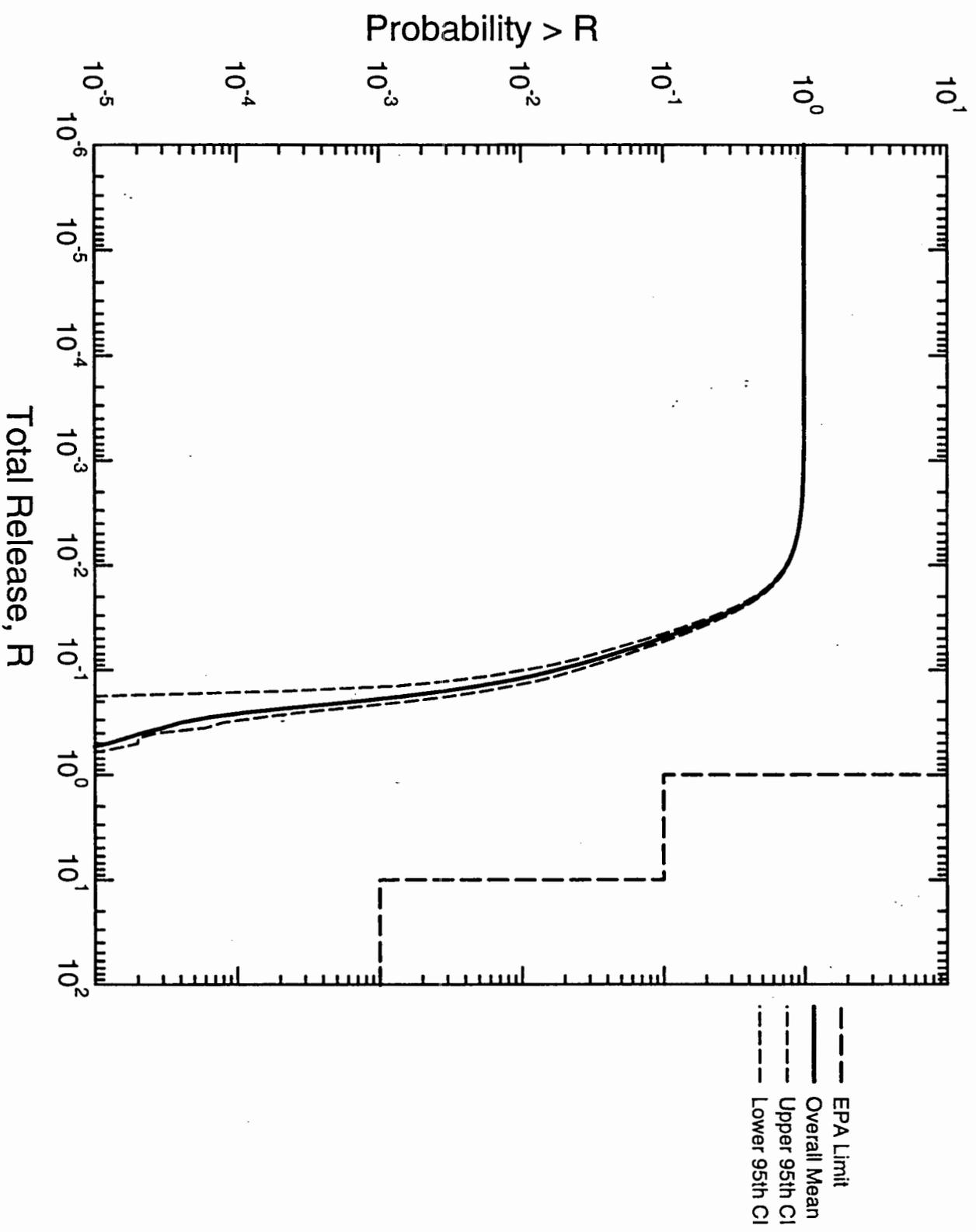
Conditional CCDF for Undisturbed Performance

Total Releases
Undisturbed



Distorted

Total Releases, Overall Mean 100 Observations, 10000 Futures/Observation



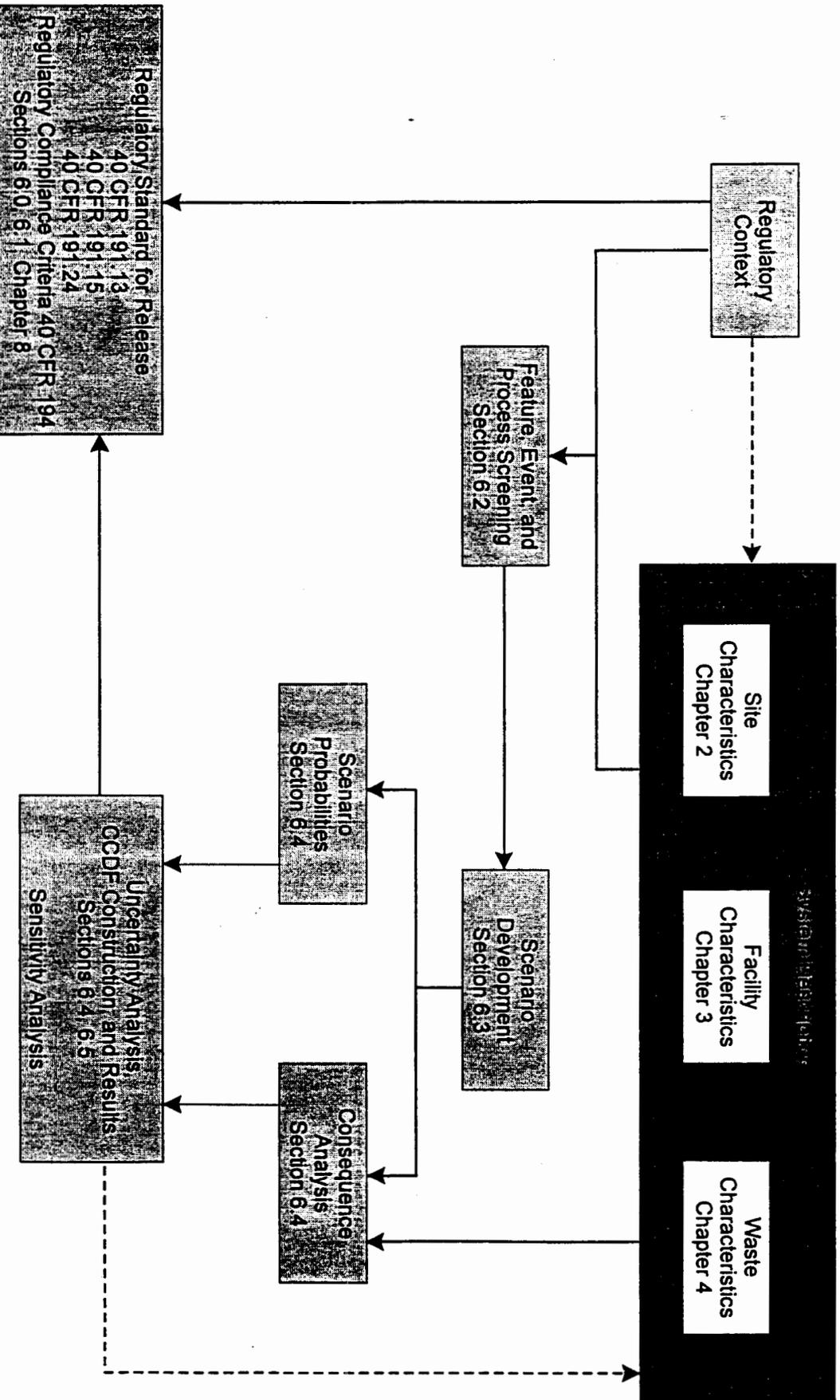


Figure 6-1. Methodology for Performance Assessment of the WIPP

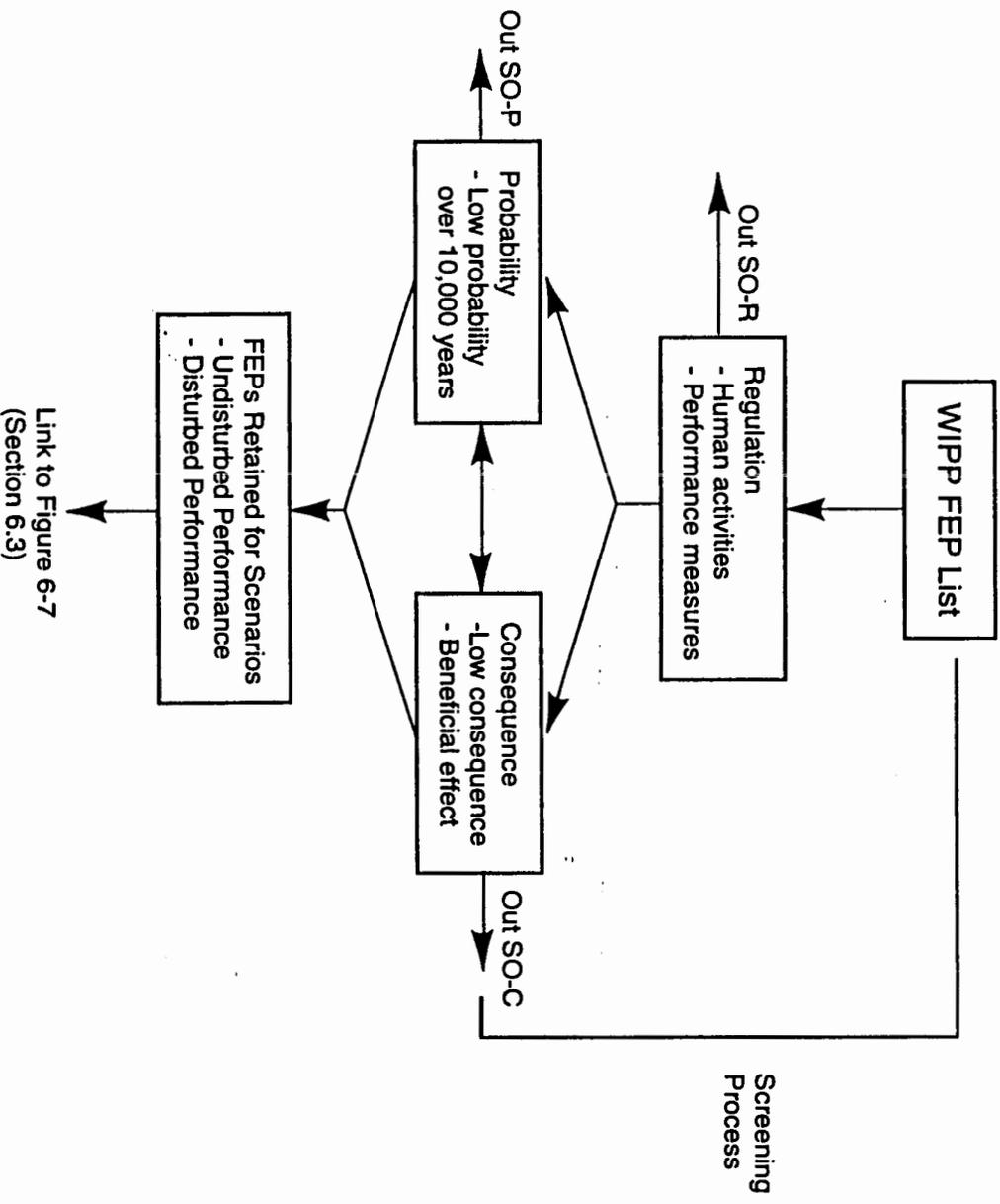


Figure 6-6. Screening Process Based on Screening Classifications

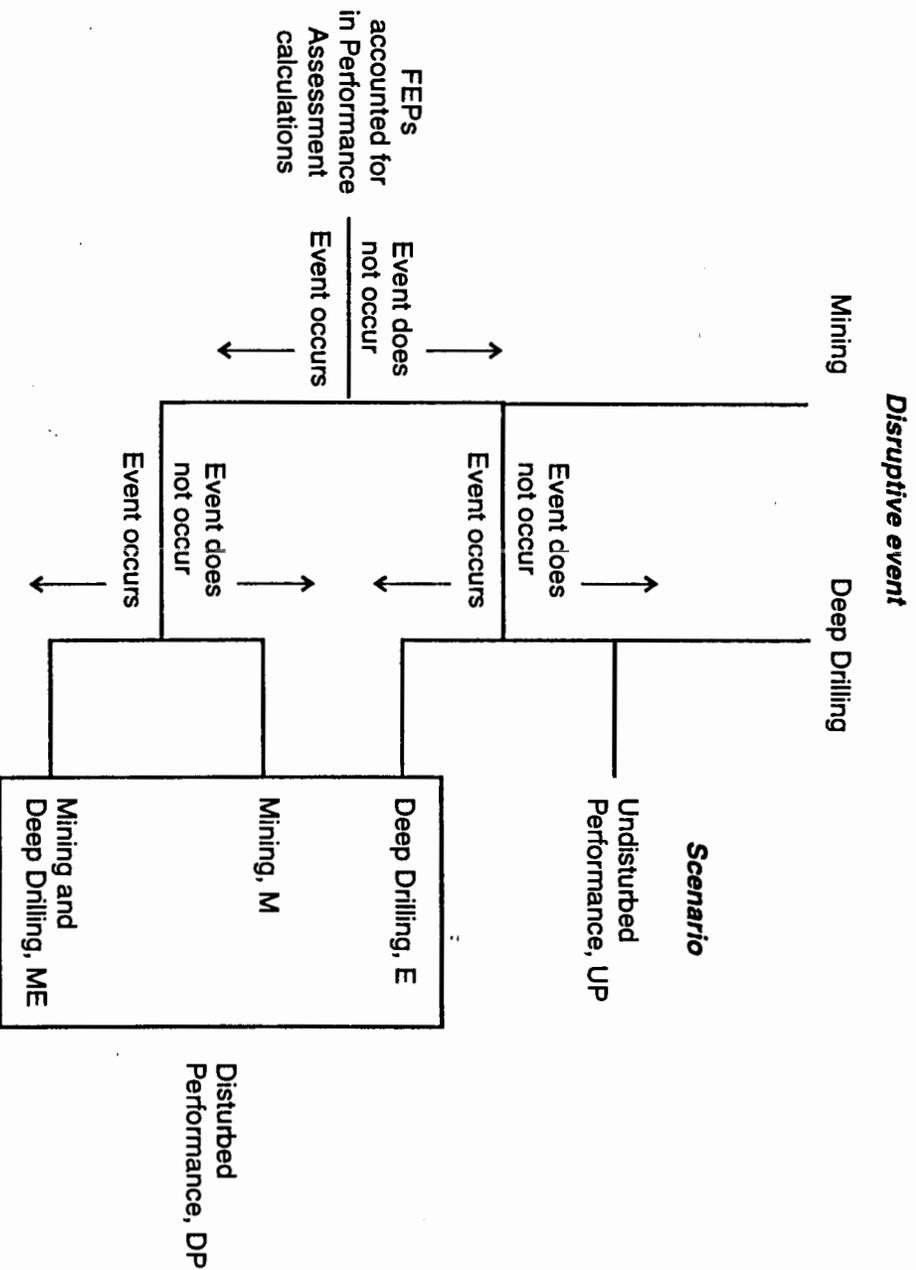


Figure 6-7. Logic Diagram for Scenario Analysis

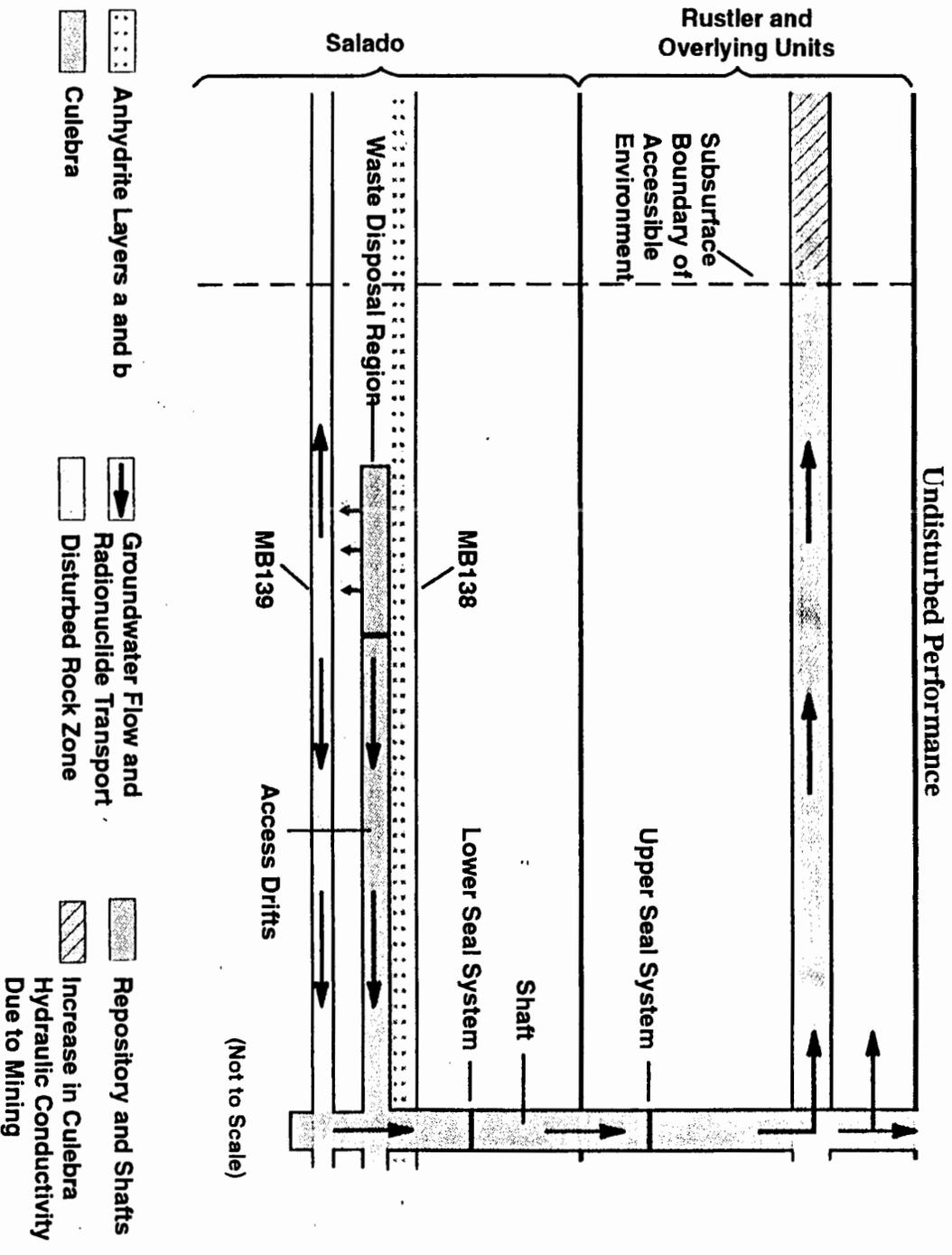


Figure 6-8. Conceptual Release Pathways for Undisturbed Performance Scenario

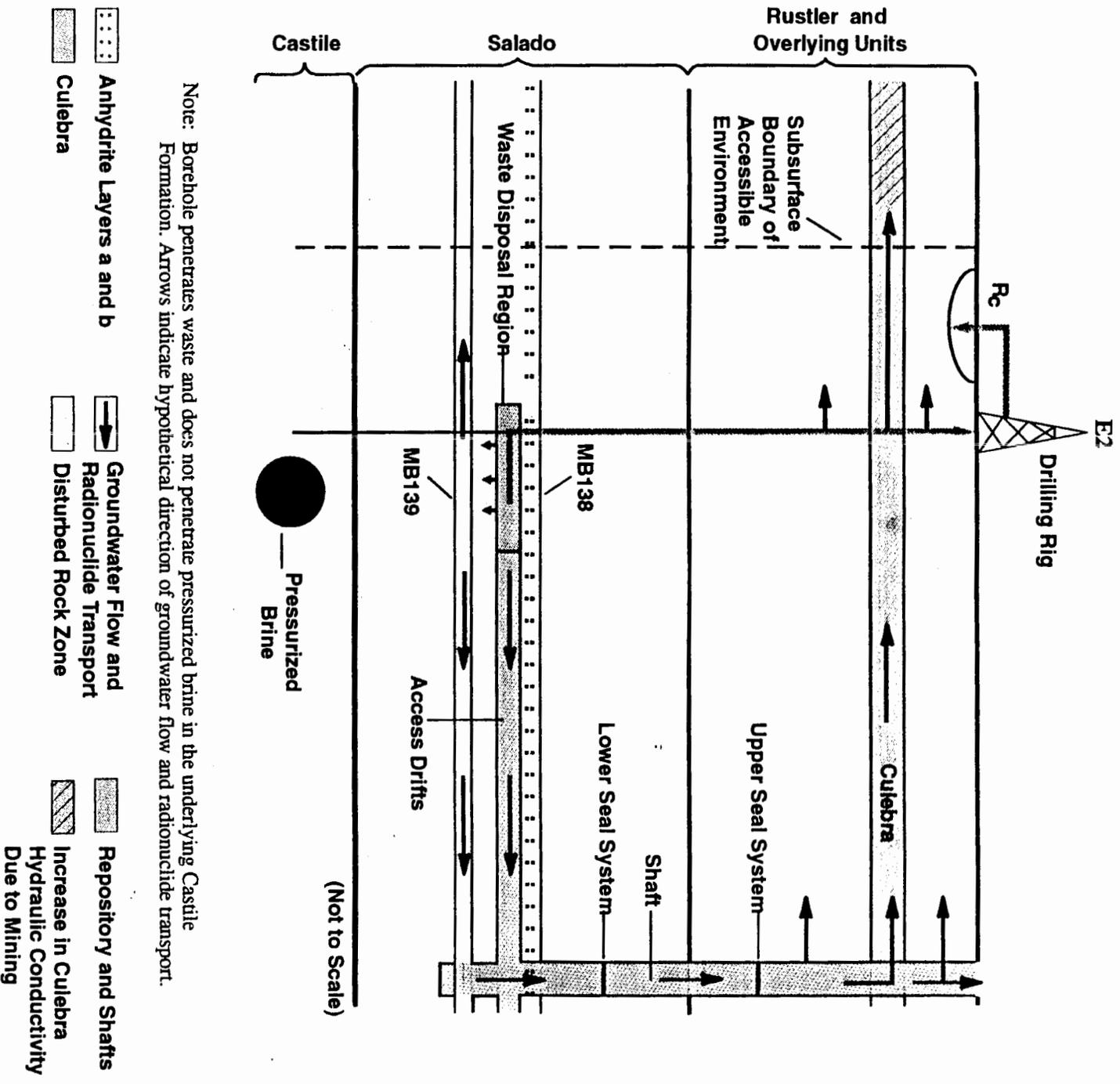


Figure 6-10. Conceptual Release Pathways for the Disturbed Performance Deep Drilling Scenario

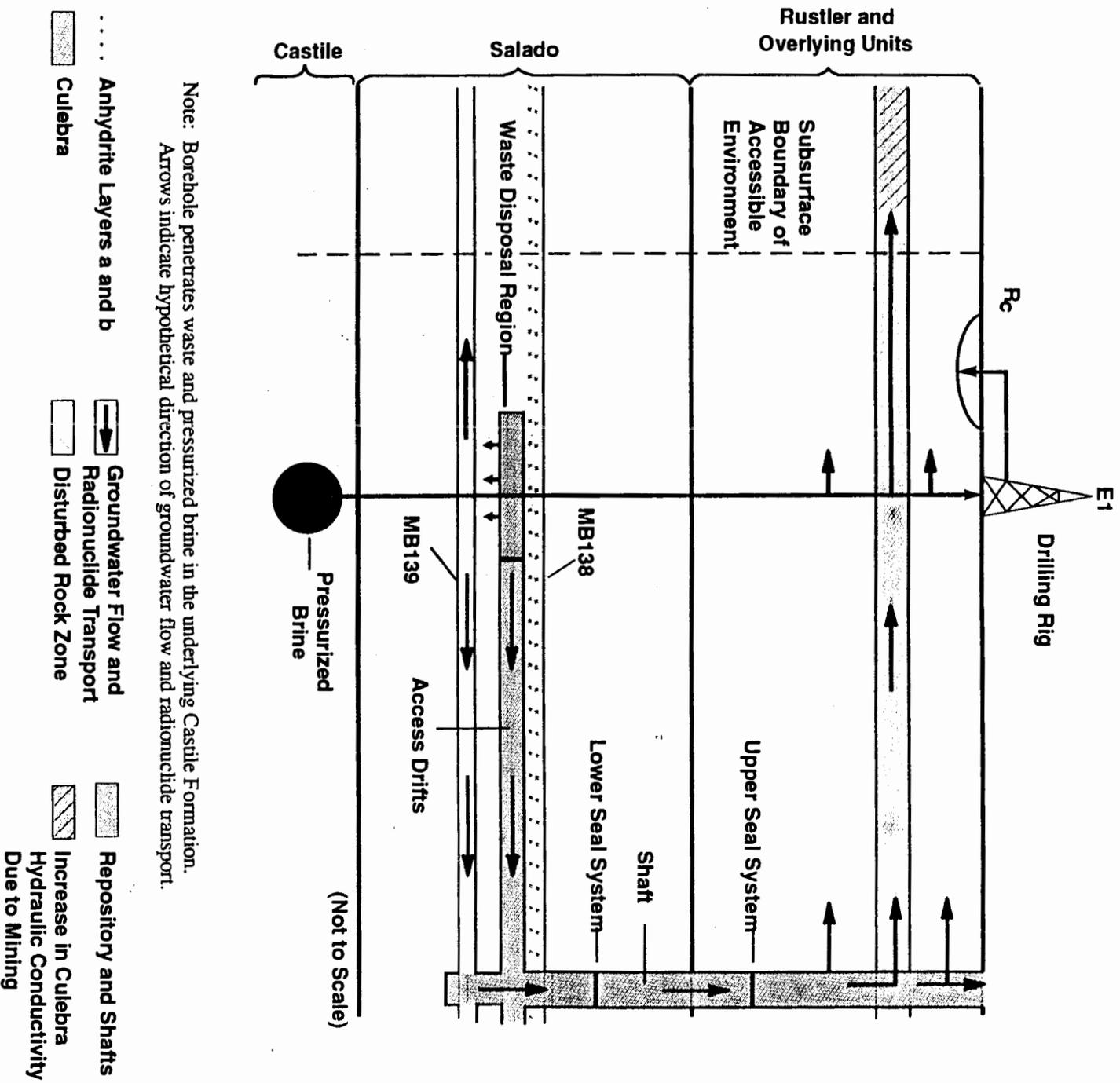
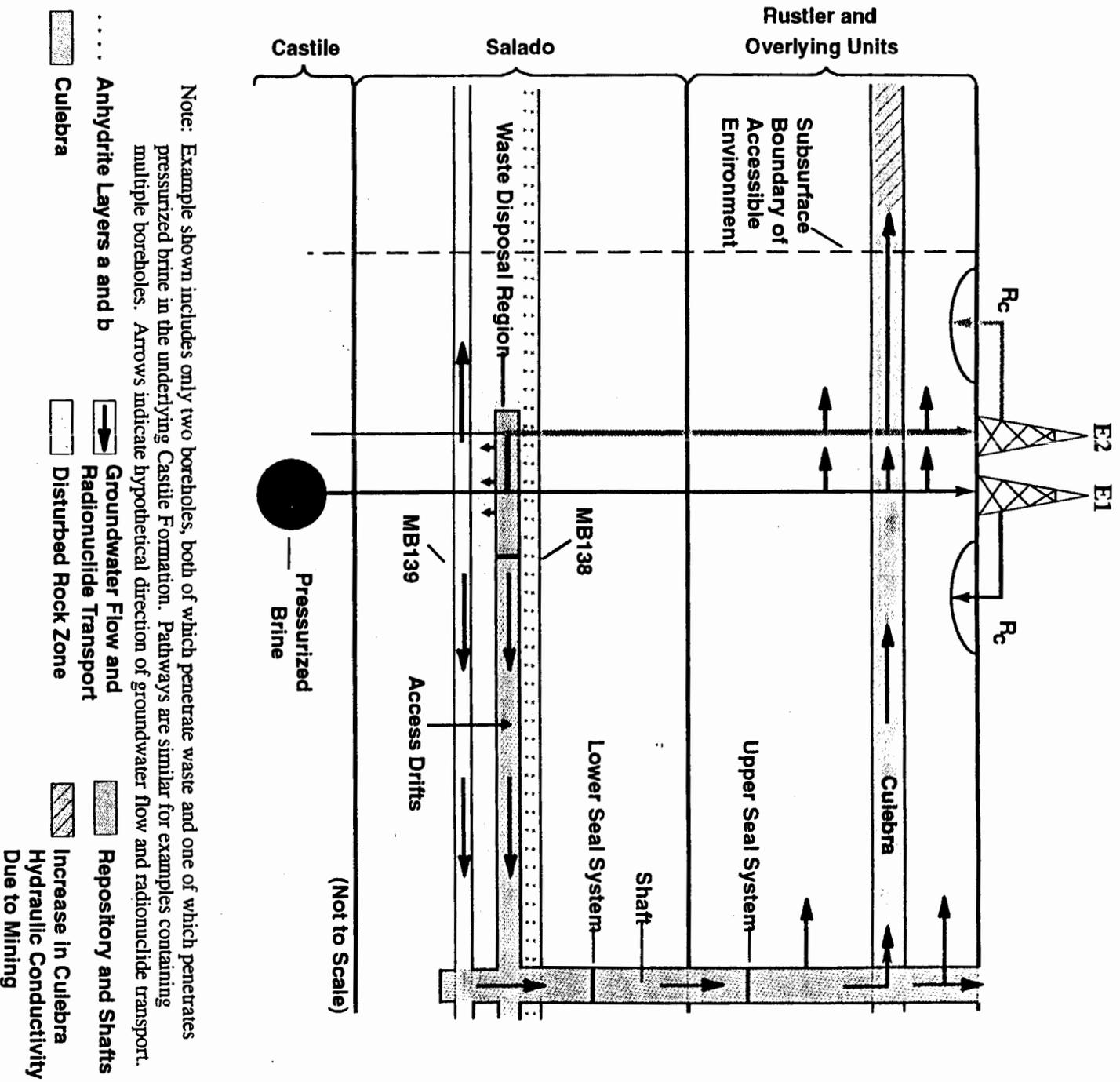


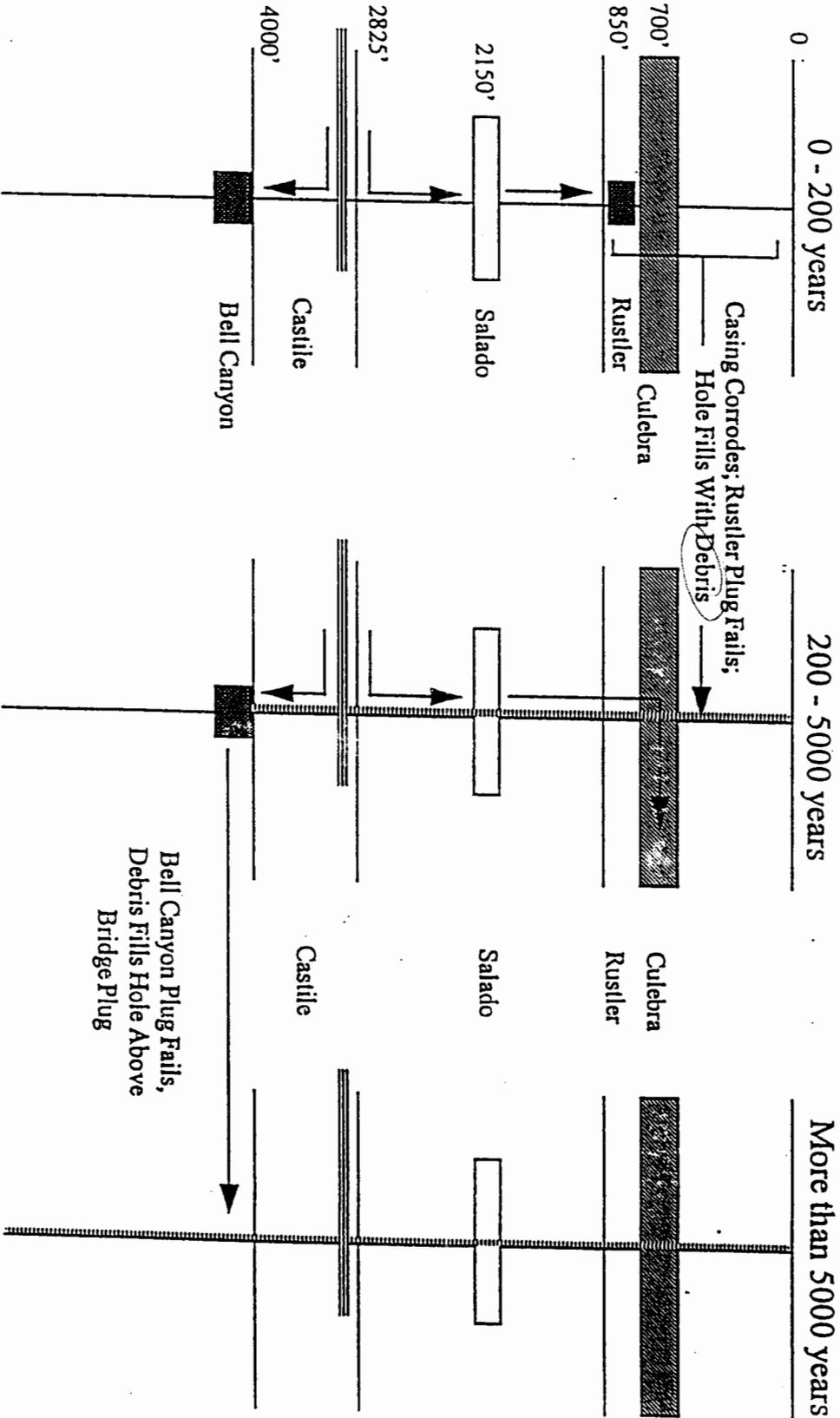
Figure 6-11. Conceptual Release Pathways for the Disturbed Performance Deep Drilling Scenario E1



Note: Example shown includes only two boreholes, both of which penetrate waste and one of which penetrates pressurized brine in the underlying Castile Formation. Pathways are similar for examples containing multiple boreholes. Arrows indicate hypothetical direction of groundwater flow and radionuclide transport.

Figure 6-12. Conceptual Release Pathways for the Disturbed Performance Deep Drilling Scenario E1E2

Permeability Changes in a 2 Plug Scenario



Permeability Changes in a 3 Plug Scenario

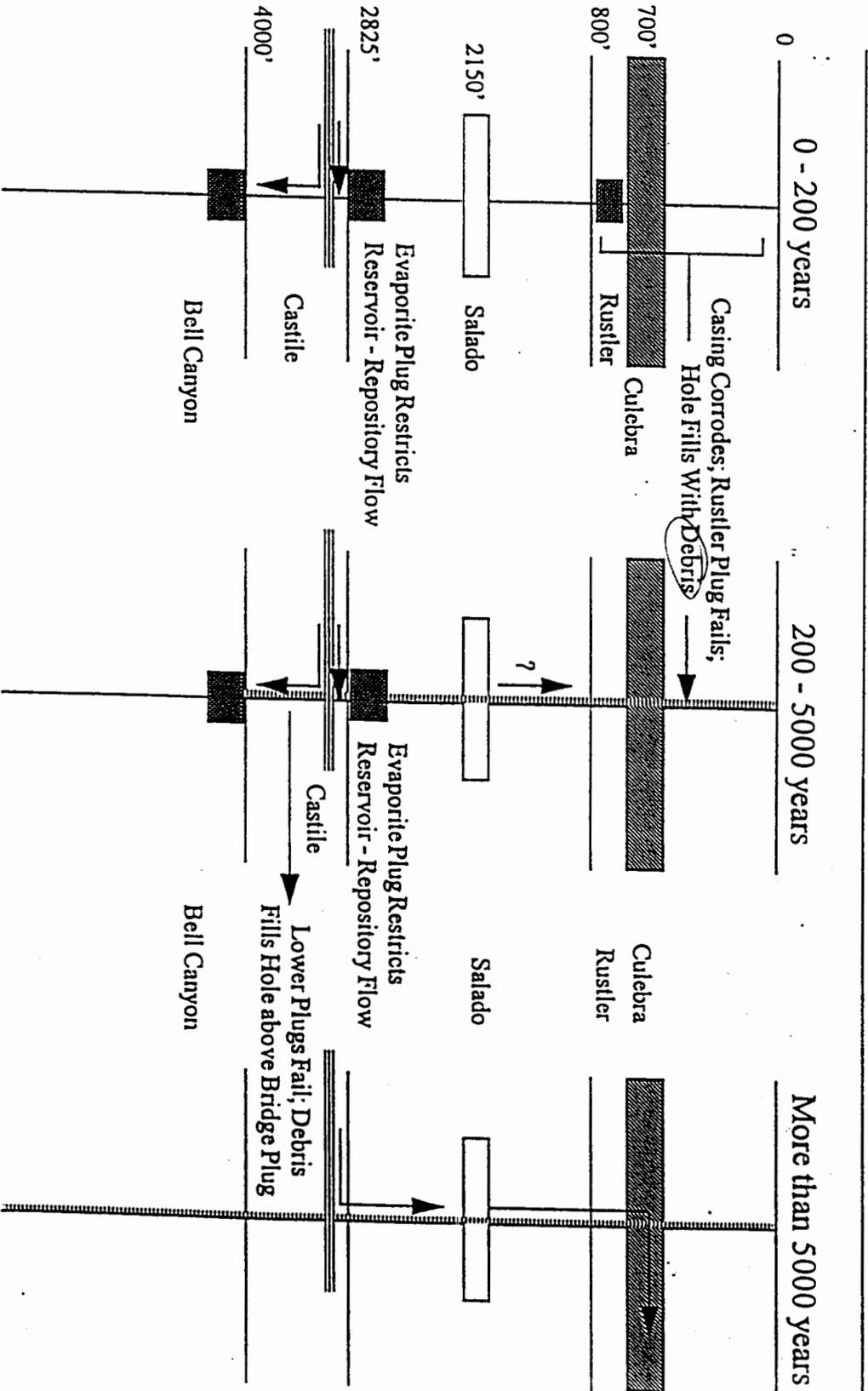




Figure 6-21. Extent of Impacted Area in the Cobeira from Mining in the McNutt Potash Zone Outside the Disposal System for Undisturbed Performance

CCA-128-0
DOE/CAO-96-2056

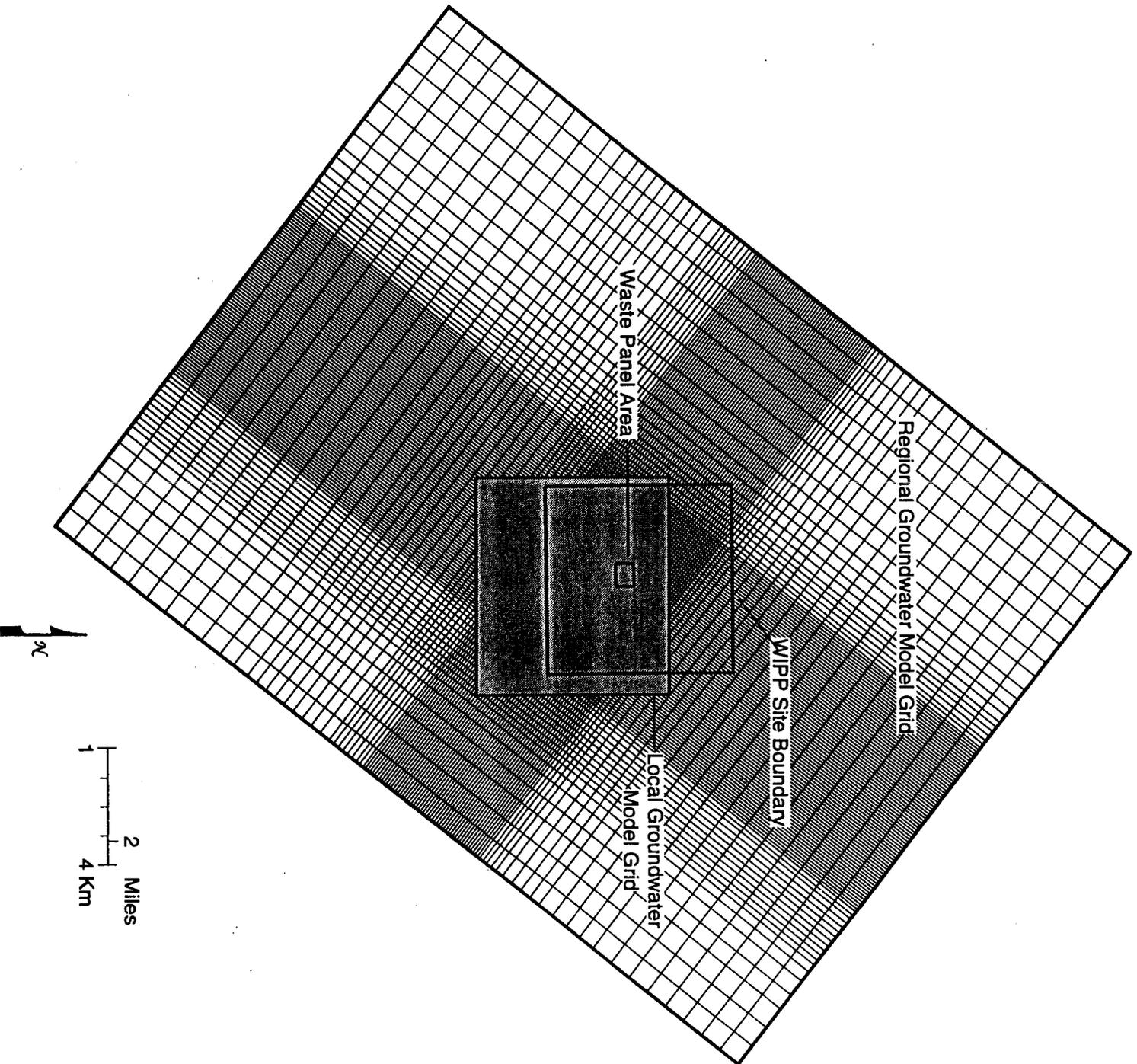


Figure 6-18. The Discretization Used in Modeling Groundwater Flow in the Culebra

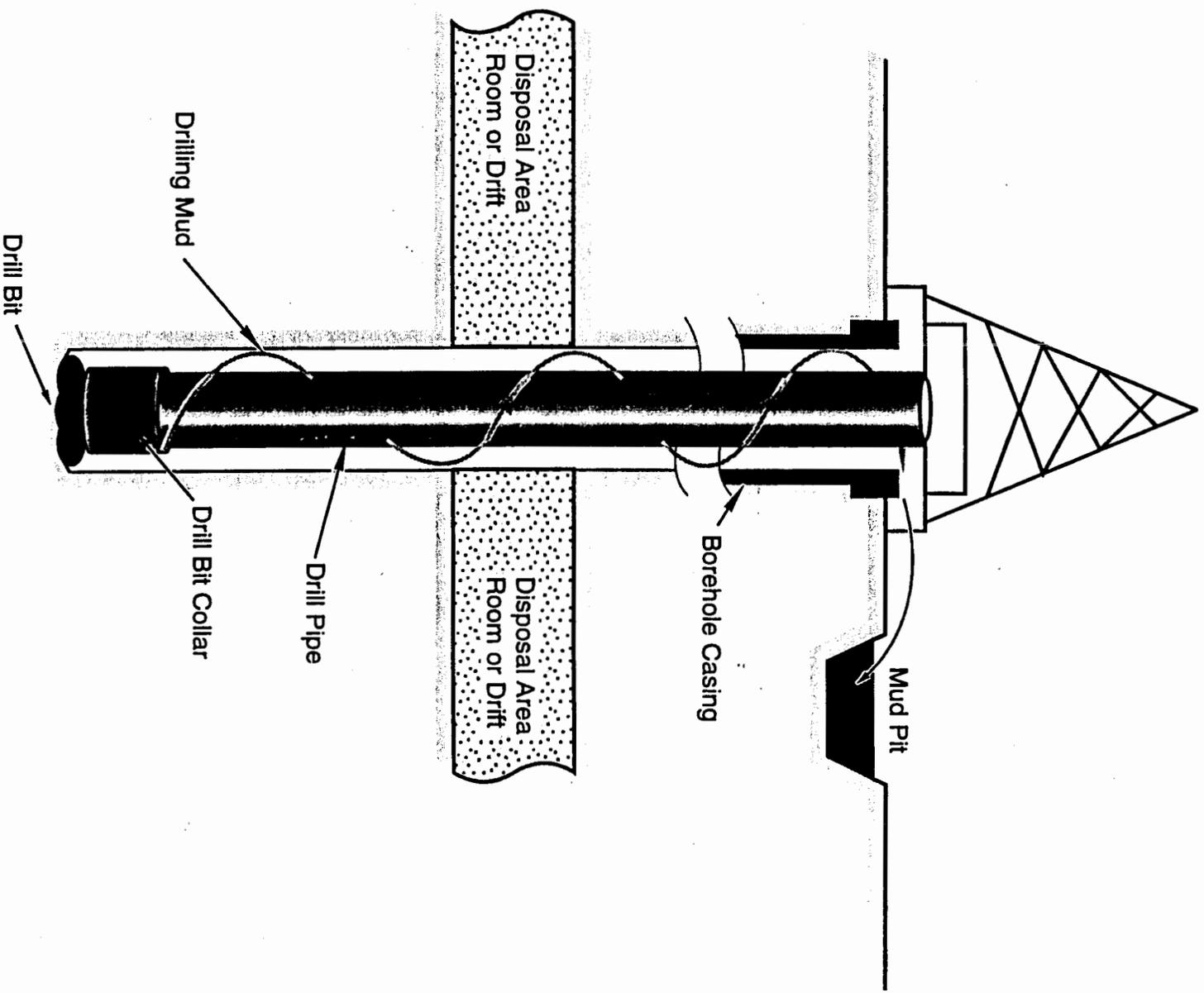


Figure 6-23. Schematic Representation of a Rotary Drilling Operation Penetrating the Repository

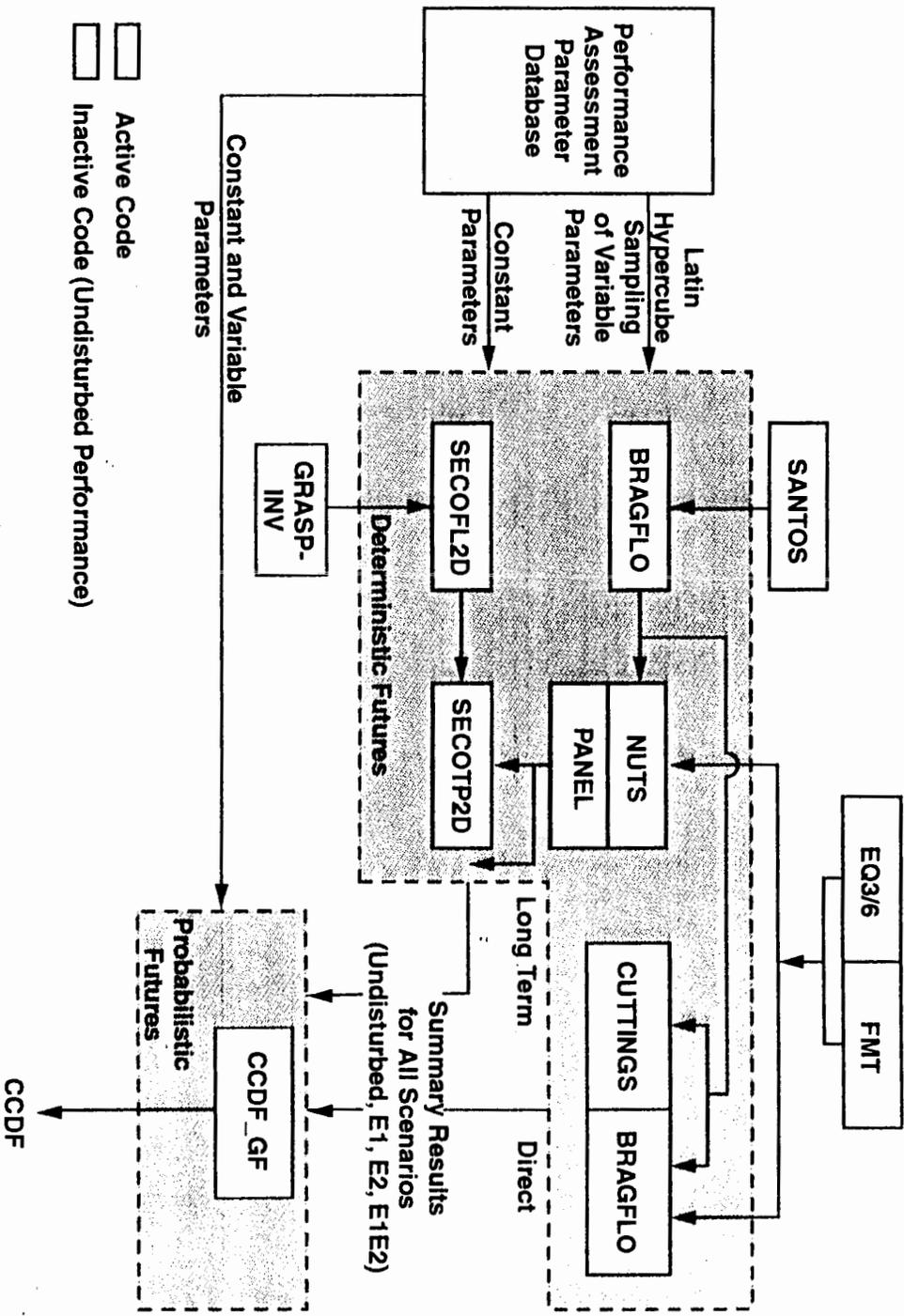


Figure 6-26. Major Codes, Code Linkages, and Flow of Numerical Information in WIPP Performance Assessment

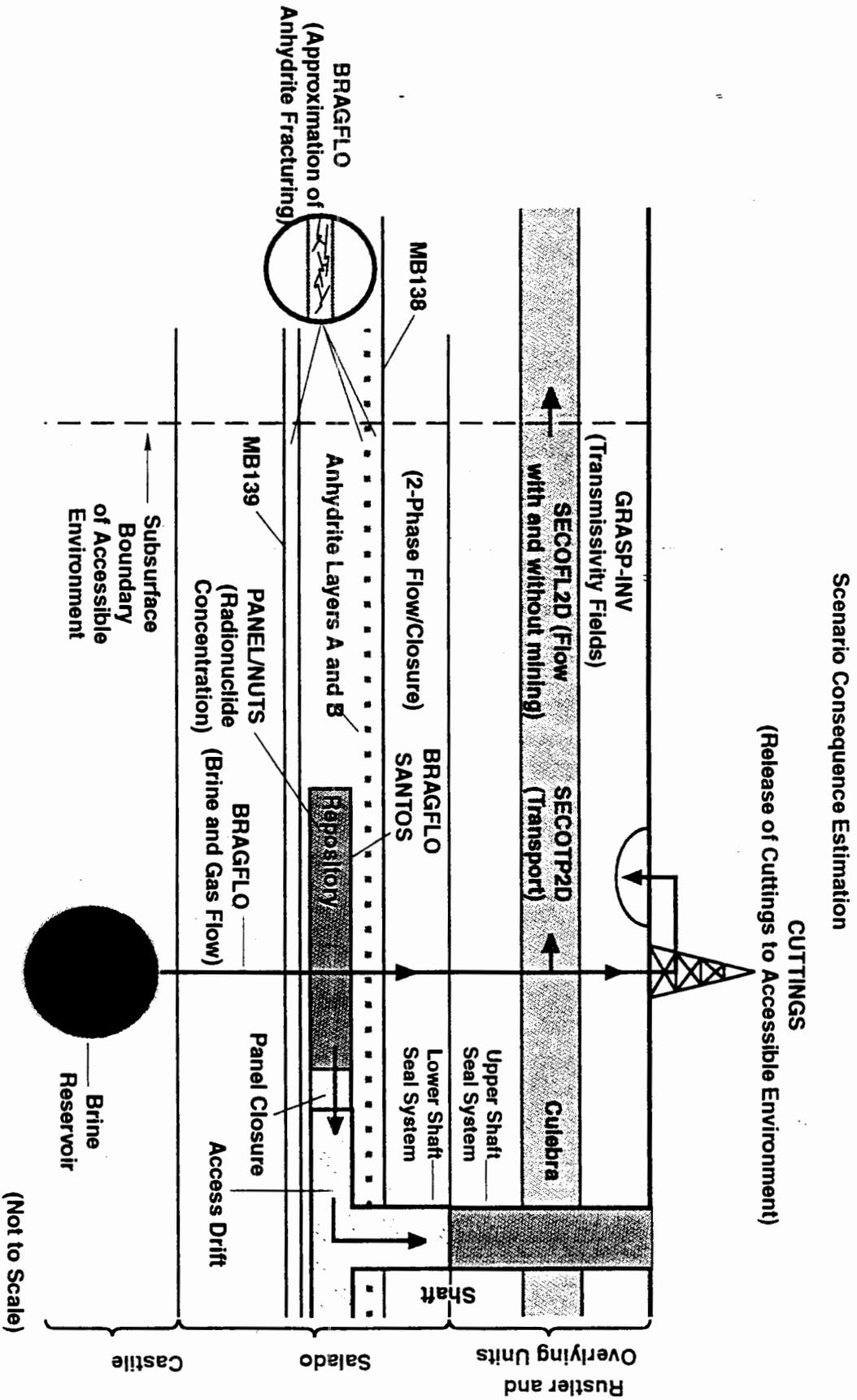
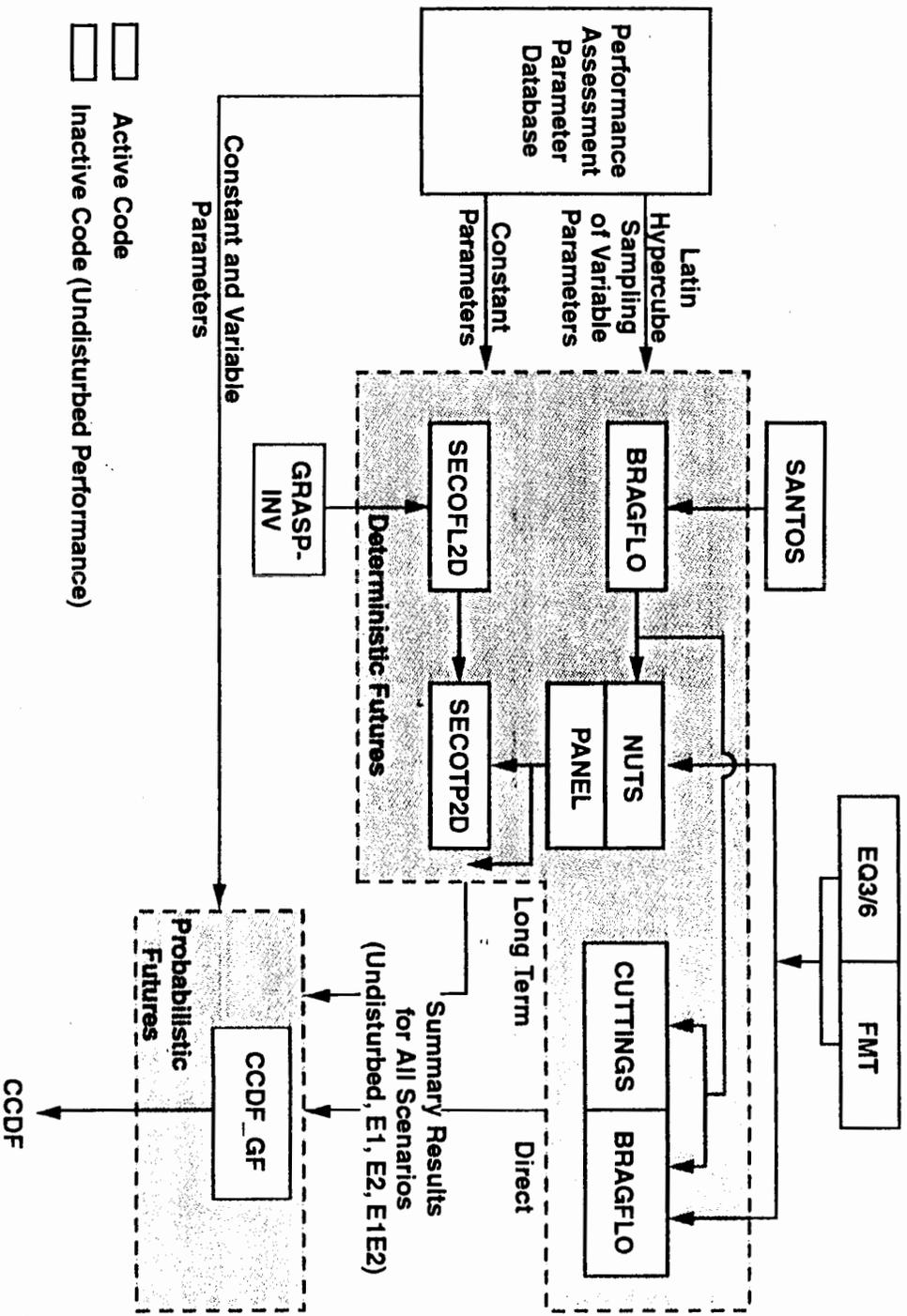


Figure 6-27. Schematic Side View of the Disposal System Associating Major Performance Assessment Codes with the Components of the Disposal System Each Code Simulates



- Active Code
- Inactive Code (Undisturbed Performance)

Figure 6-33. Code Configuration for the Undisturbed Performance Scenario

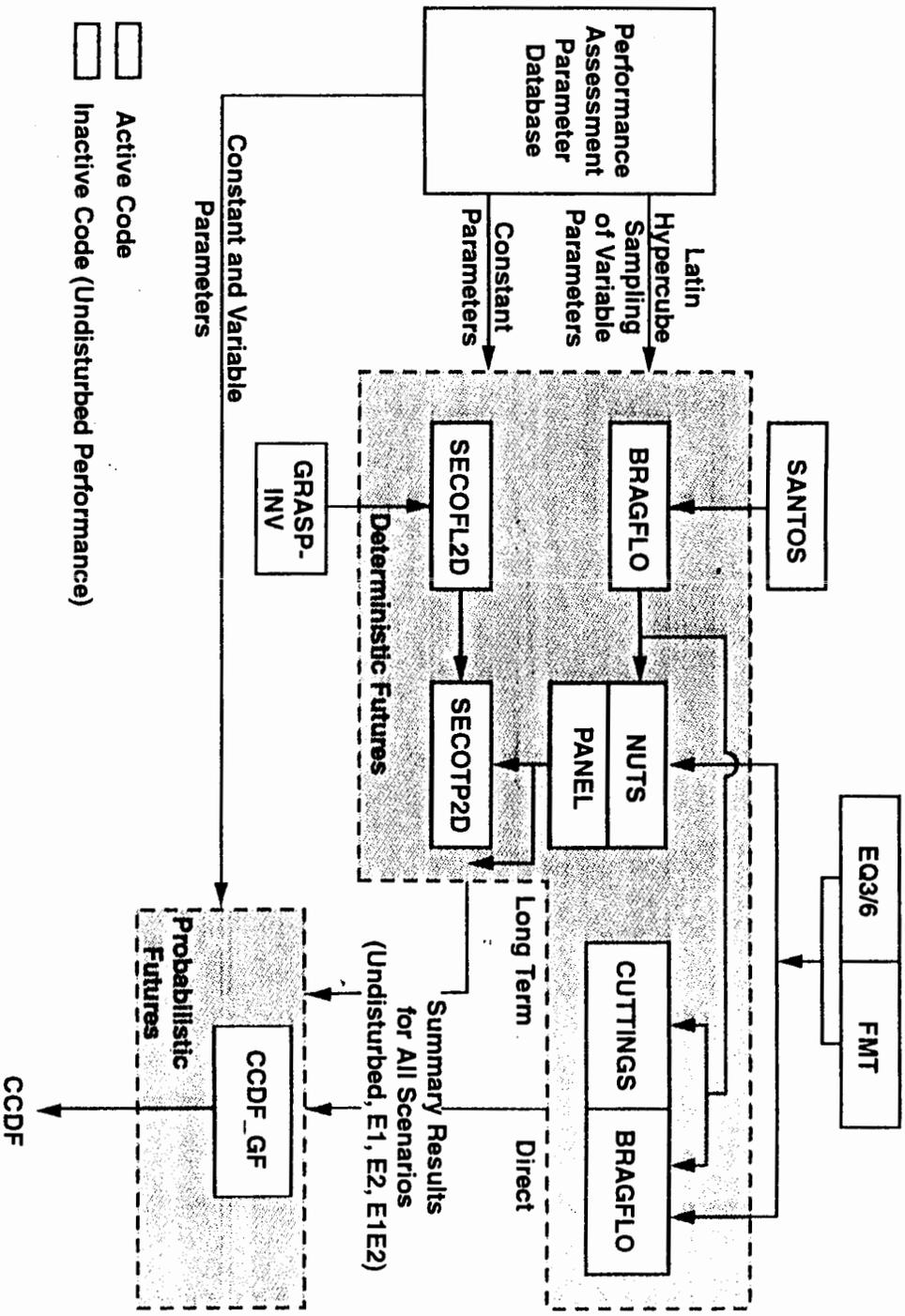


Figure 6-35. Code Configuration for Disturbed Performance Scenario E1E2

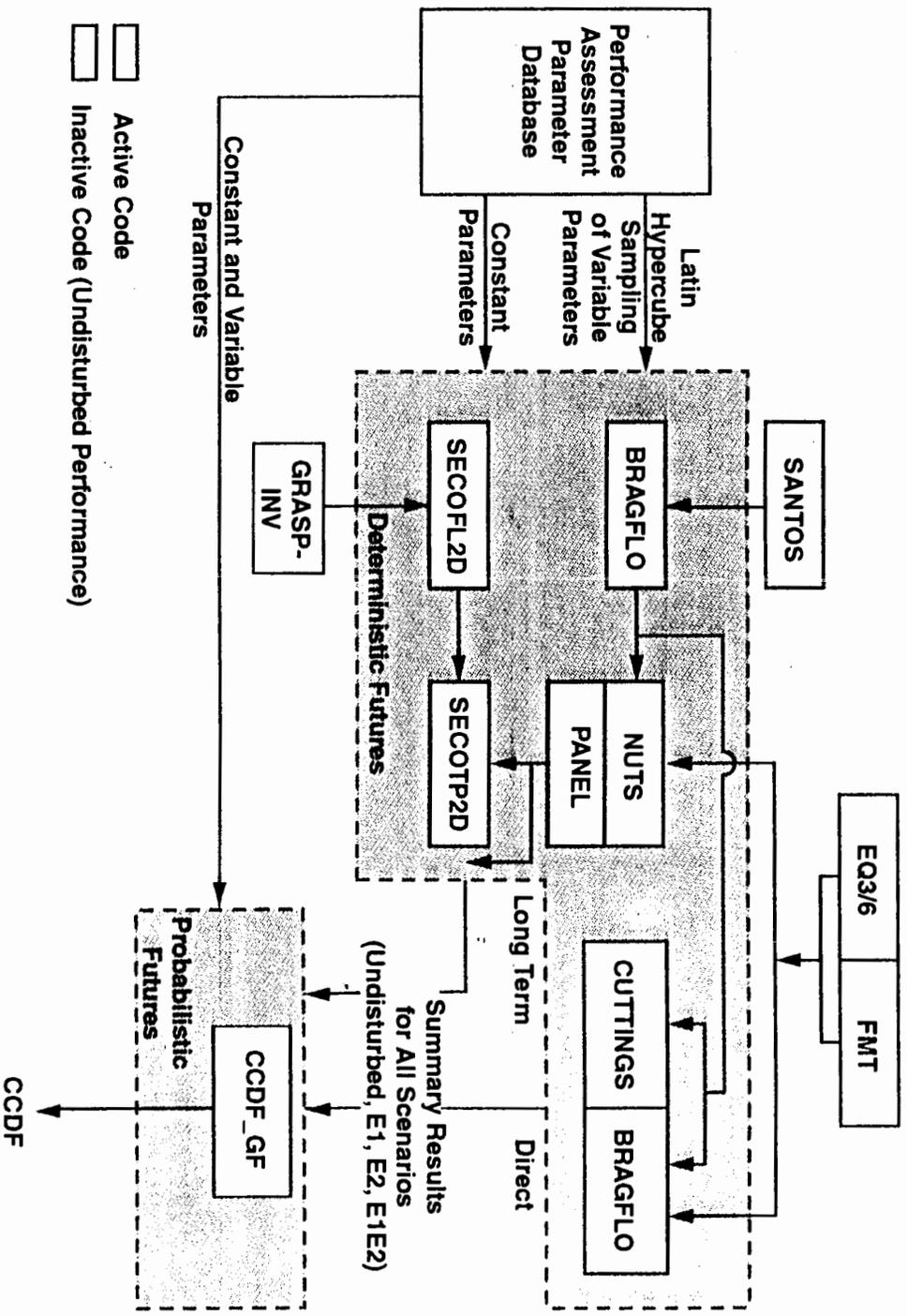
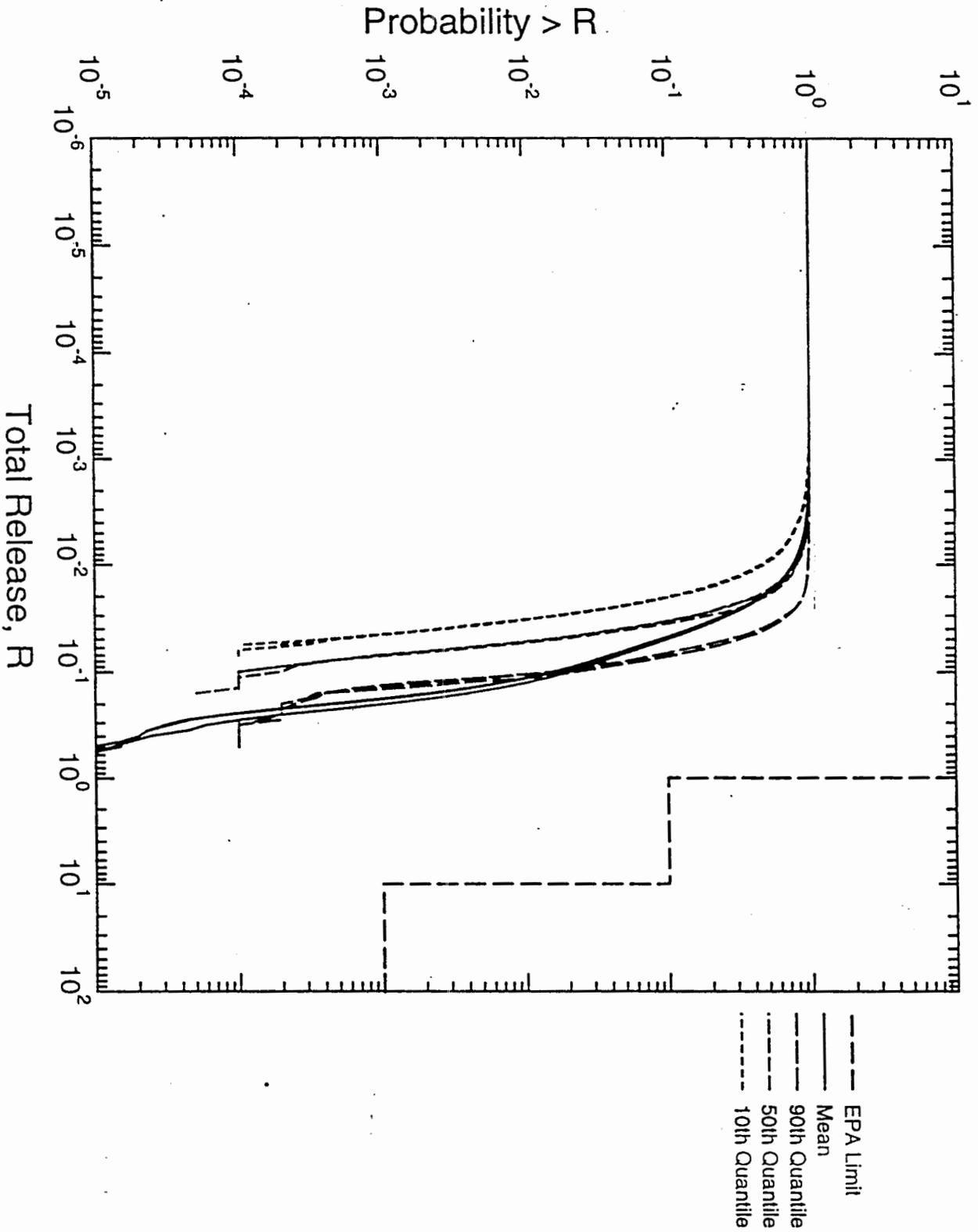


Figure 6-34. Code Configuration for Disturbed Performance Scenarios E1 and E2

Mean CCDF - Human Intrusion
 3 sets 100 each
 (3 means overlaid)

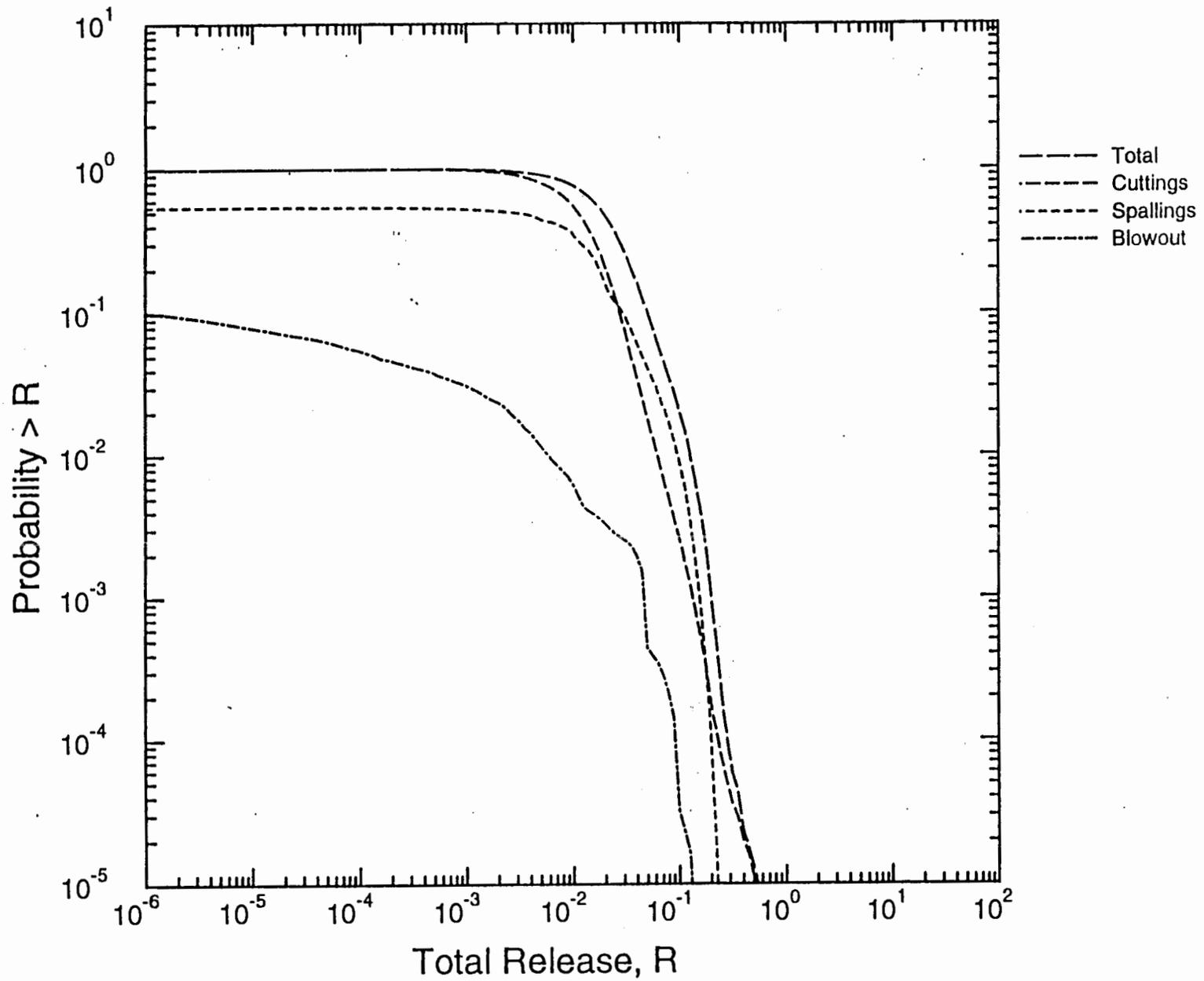
Total Releases

100 Observations, 10000 Futures/Observation, R1, R2, R3



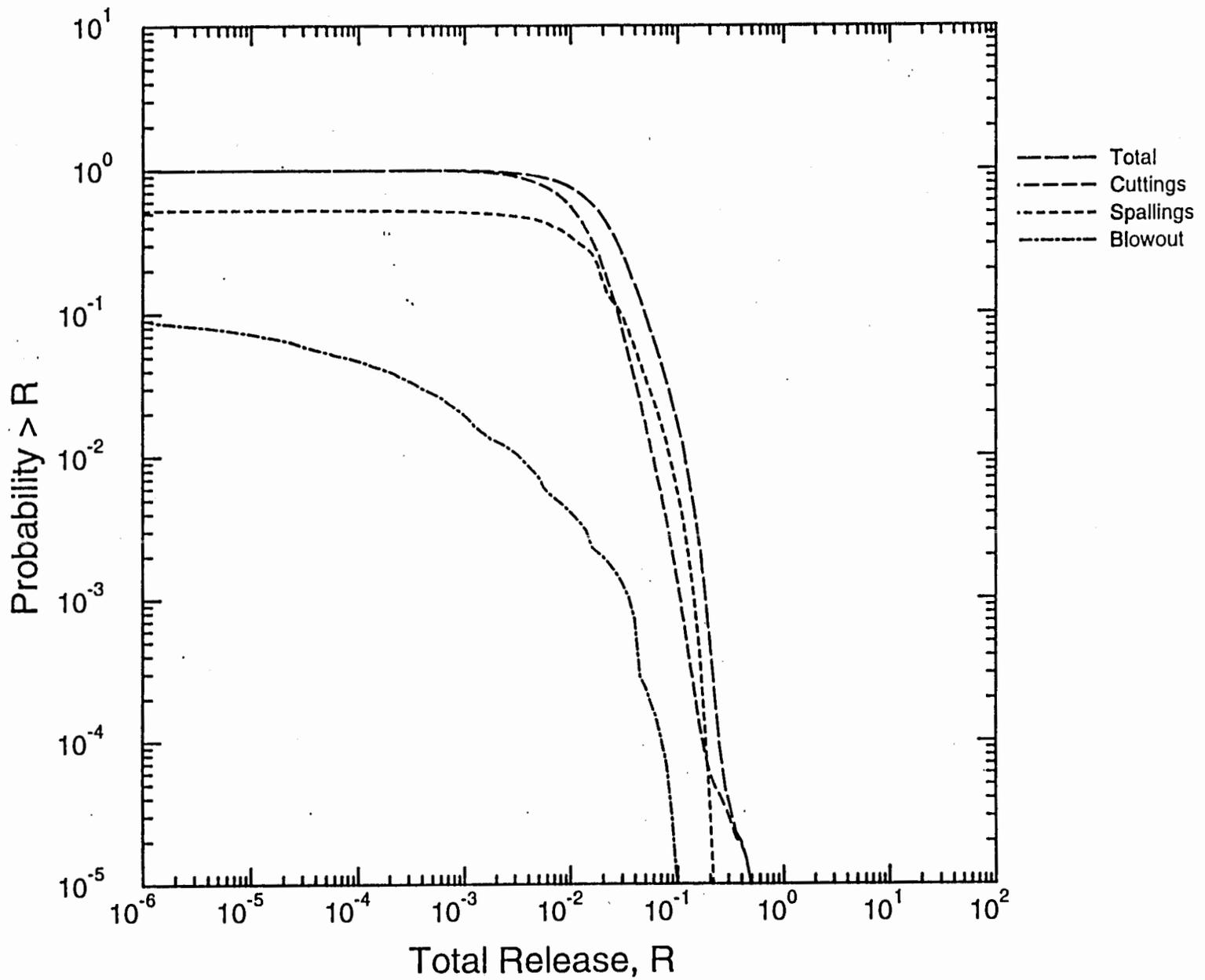
Mean Releases
Cuttings, Spallings, Direct Brine Releases, R1

Mean Releases
100 Observations, 10000 Futures/Observation, R₁



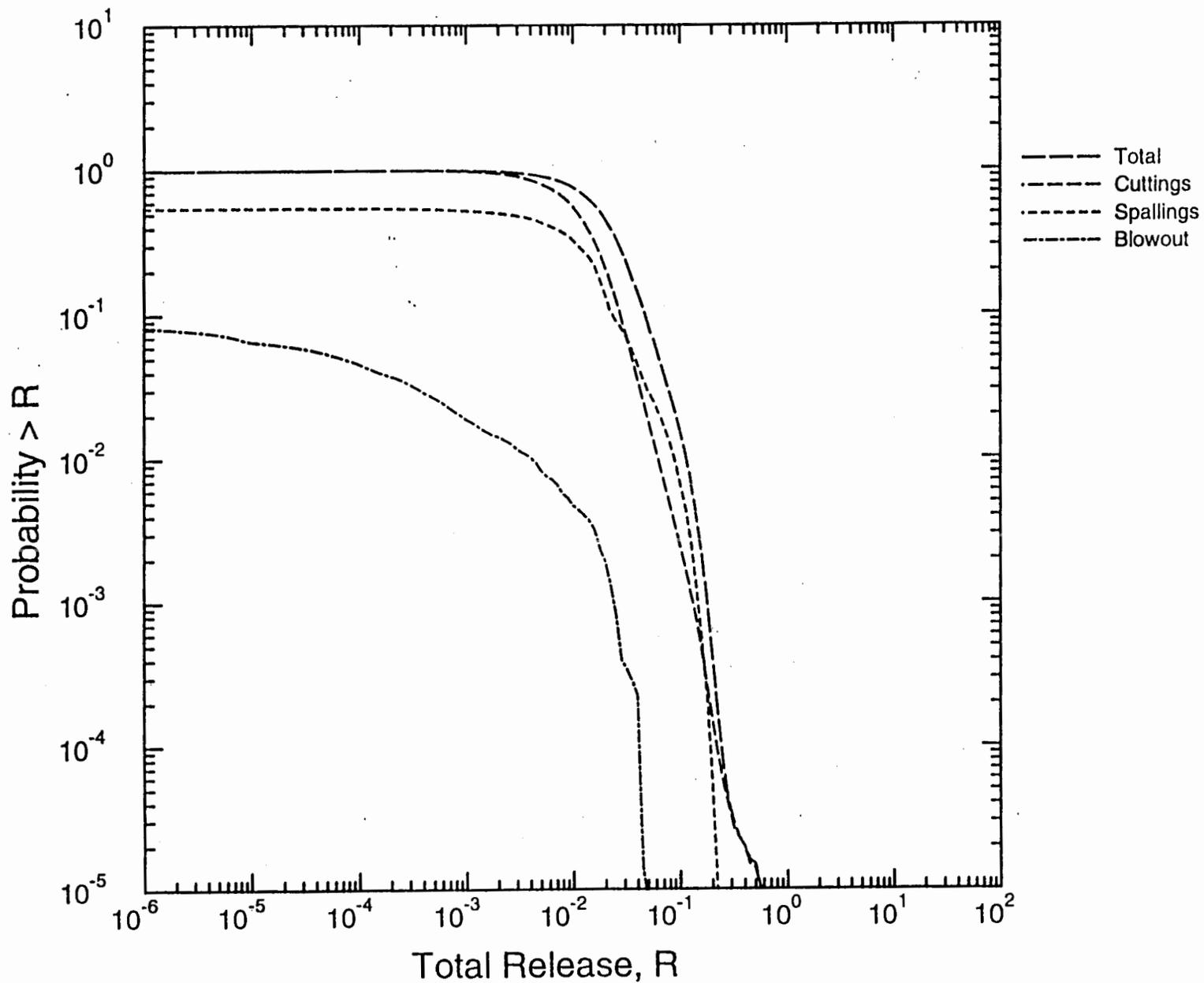
Mean Releases
Cuttings, Spallings, Direct Brine Releases, R2

Mean Releases
100 Observations, 10000 Futures/Observation, R2



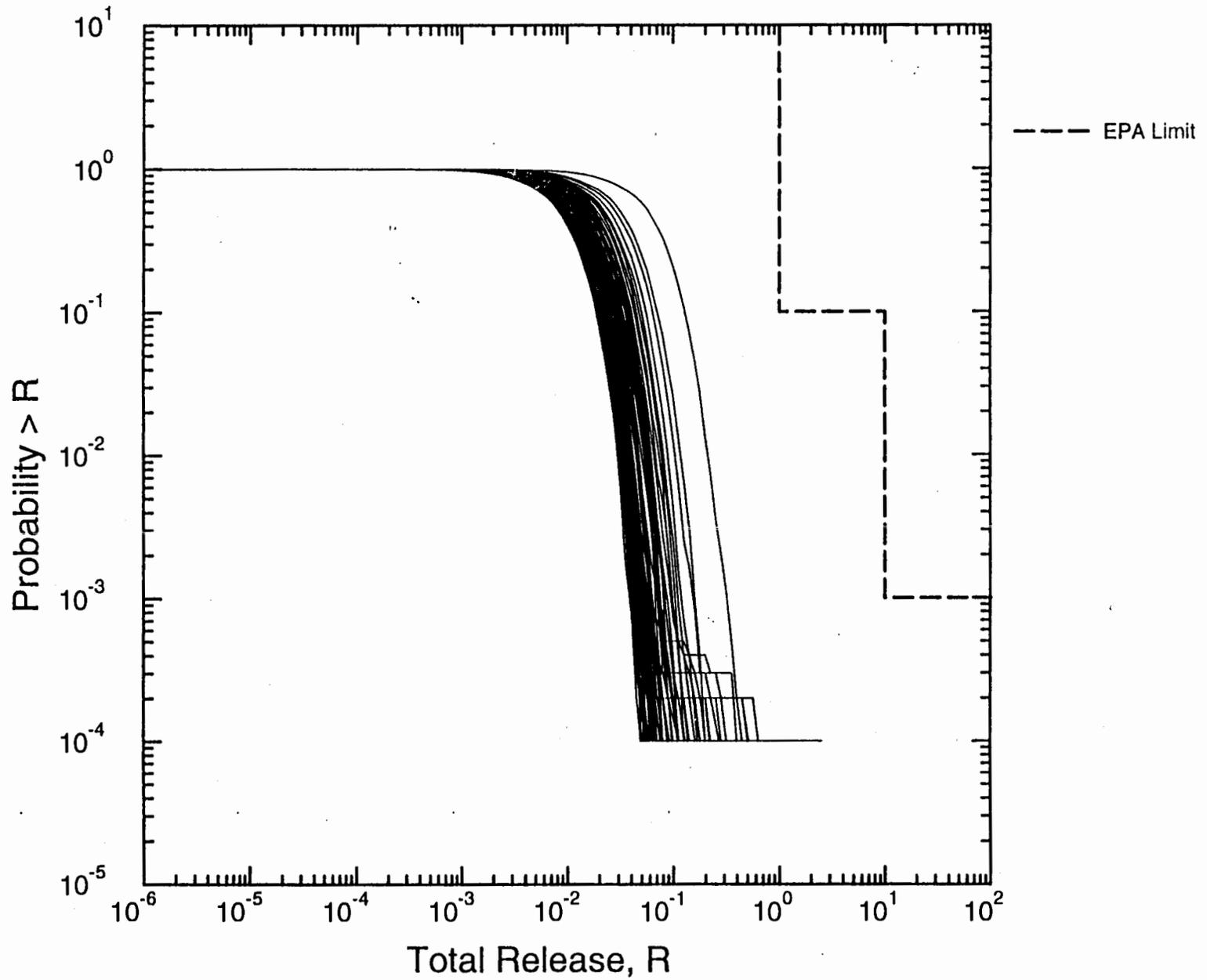
Mean Releases
Cuttings, Spallings, Direct Brine Releases, R3

Mean Releases
100 Observations, 10000 Futures/Observation, R3



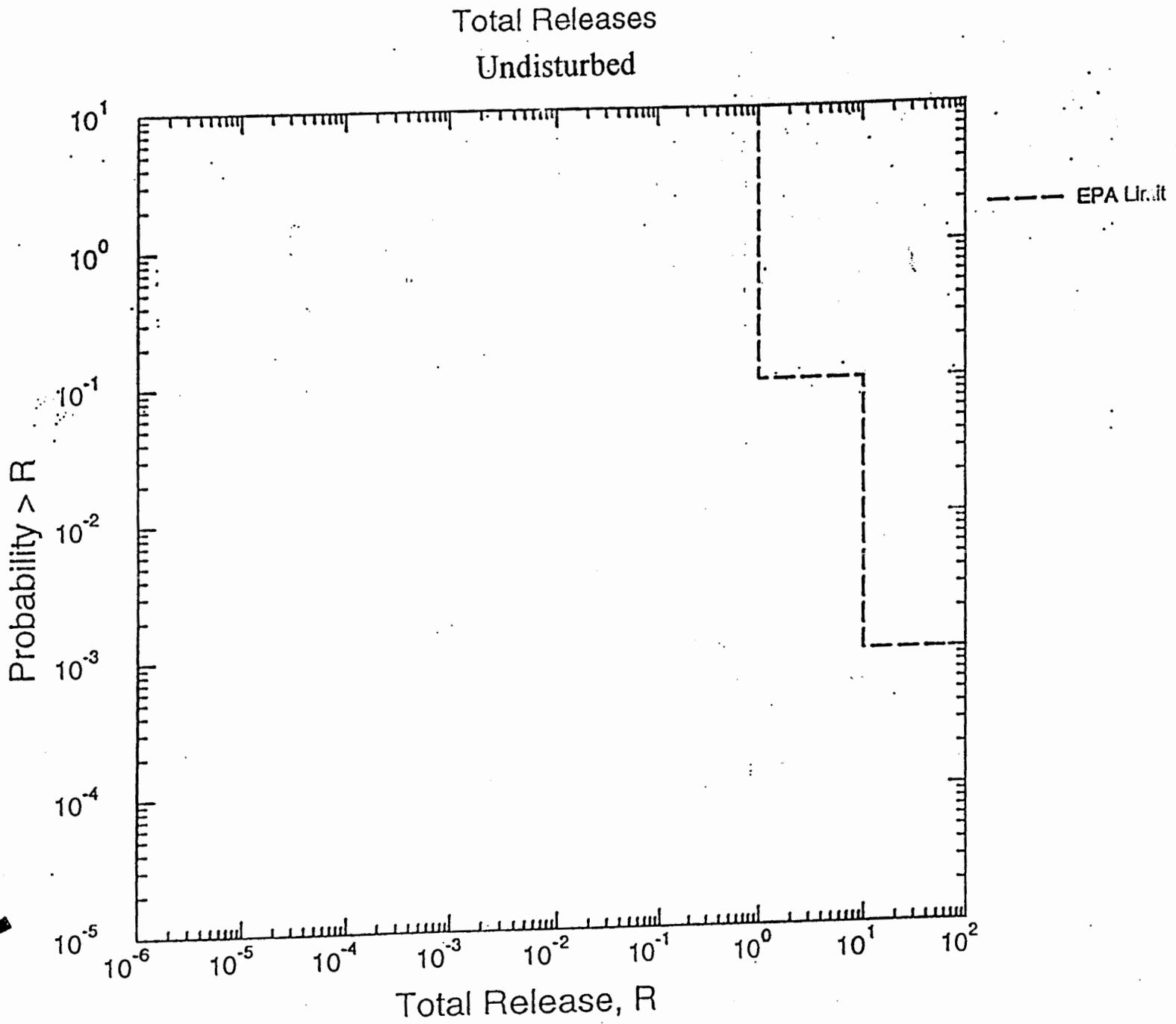
Hair Plot - Human Intrusion
Cuttings (1 set of 100)

Cuttings Releases
100 Observations, 10000 Futures/Observation, R1



IMPORTANT PARAMETERS

Conditional CCDF for Undisturbed Performance



**Human Intrusion
Cutting**

+

**Human Intrusion
Spall**

+

**Human Intrusion
Direct
Brine
Release**

+

**Human Intrusion
Transport
through Culebra
& Marker Bed**

= **Summary**

Drilling Rate

Drilling Rate

Drilling Rate

No Release

Size of Bit

Pressure

Pressure

**Waste Shear
Strength**

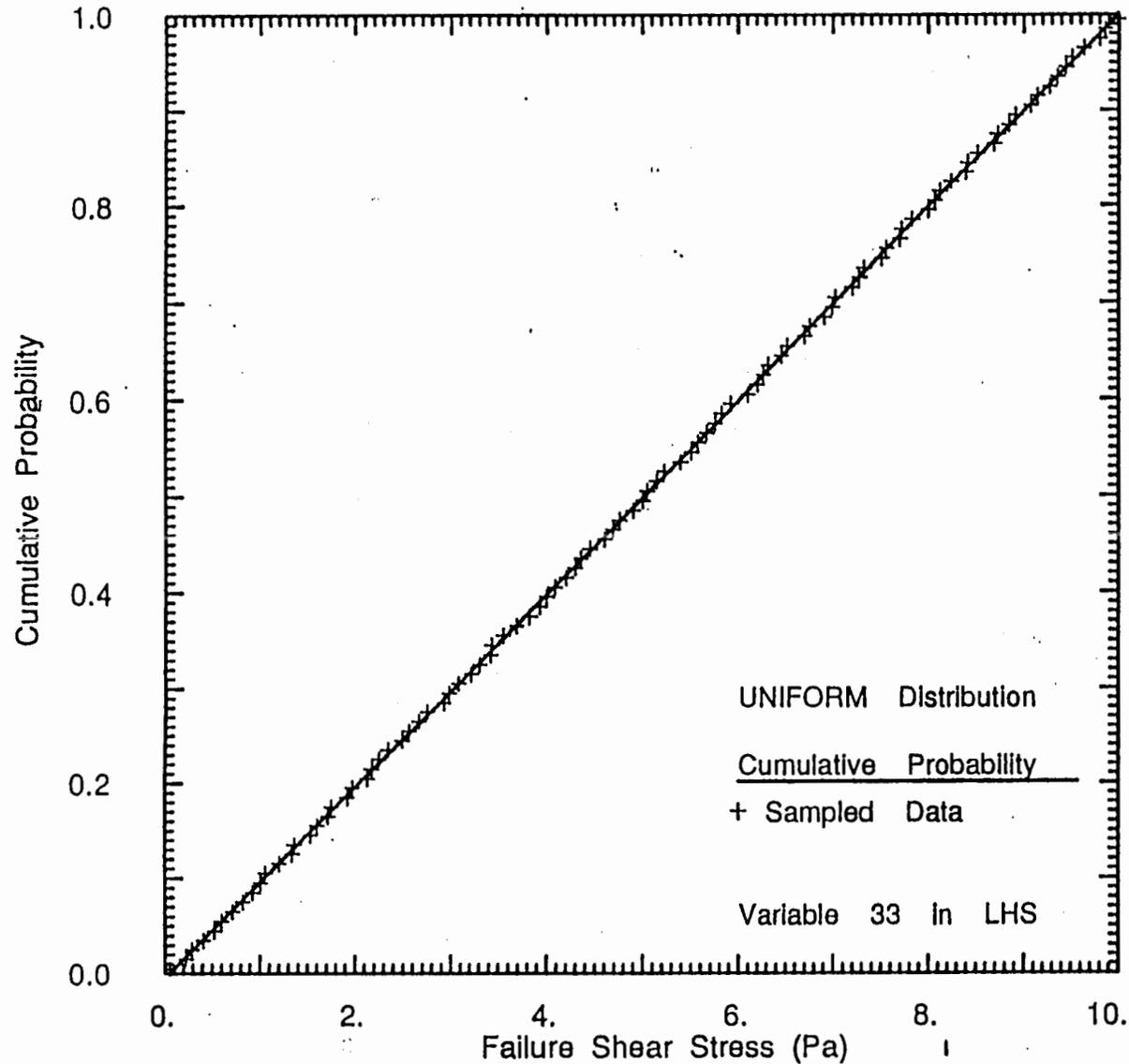
Particle Diameter

Waste Saturation

Tensile Strength

Solubilities

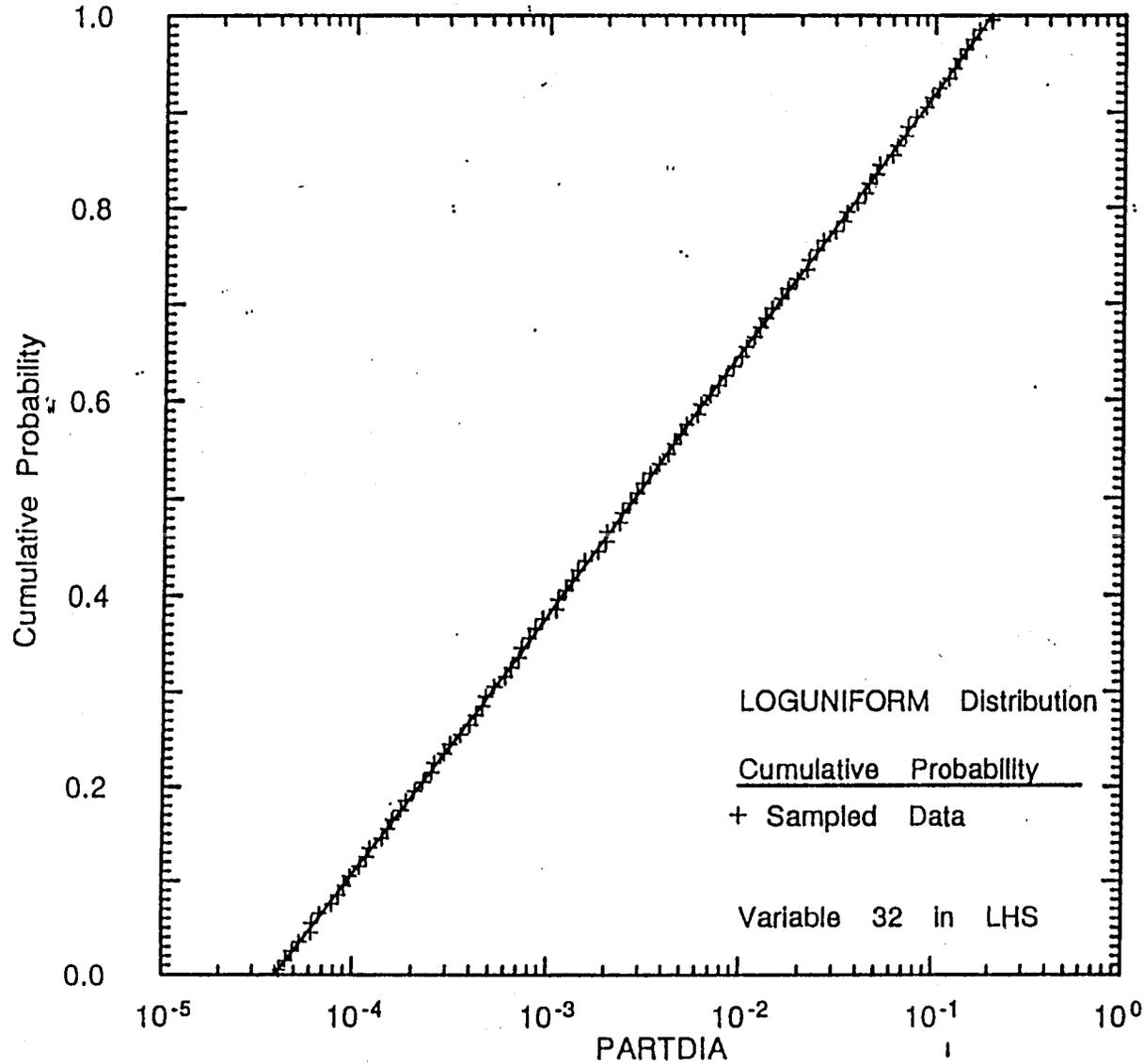
BOREHOLE TAUFAIL



Parameters HI - Cuttings

- Drilling Rate 47
- Size of Bit 12.25 in.
- Waste Shear Strength

SPALL PARTDIA



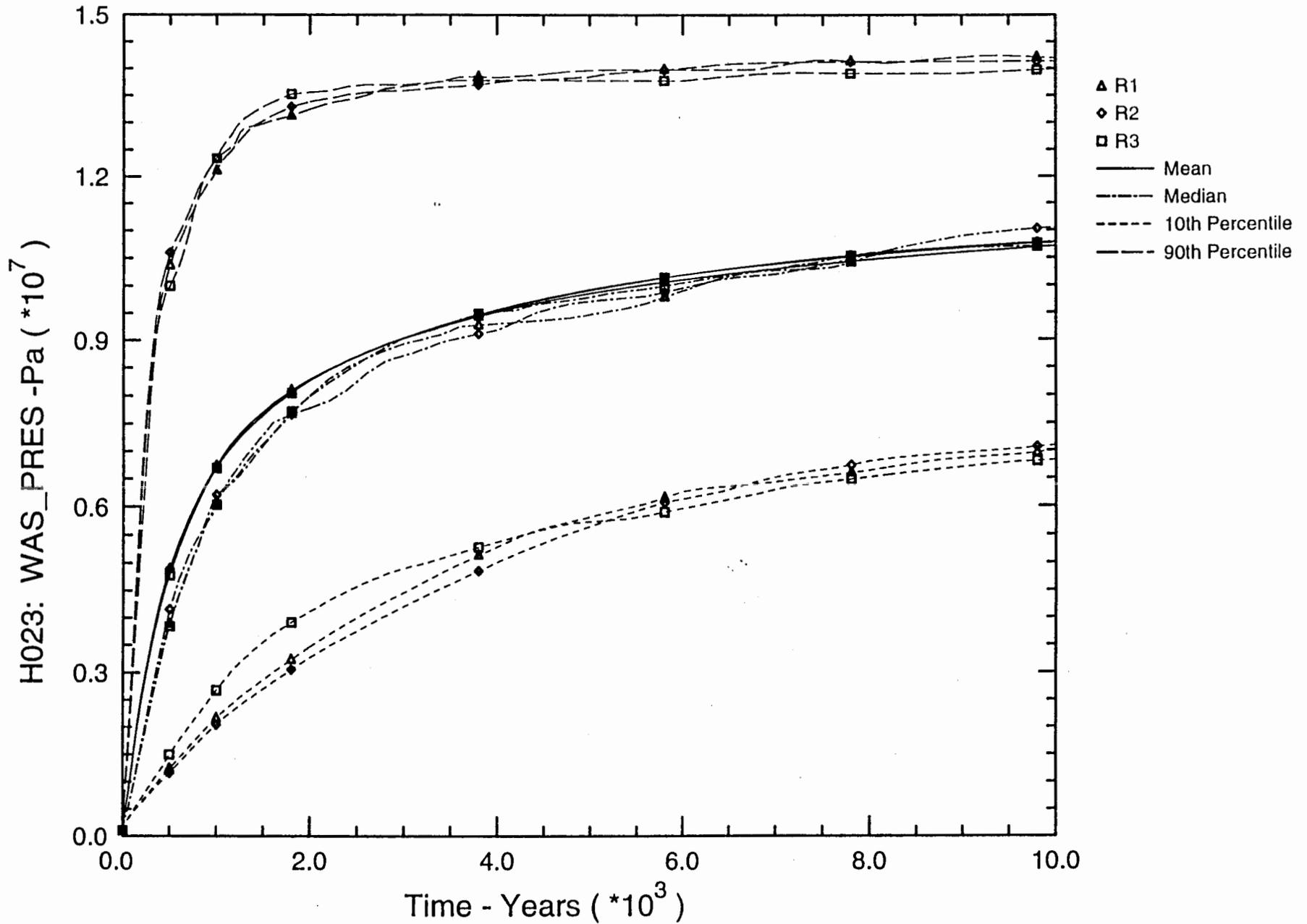
Parameters

HI - Spall

- Drilling Rate 47

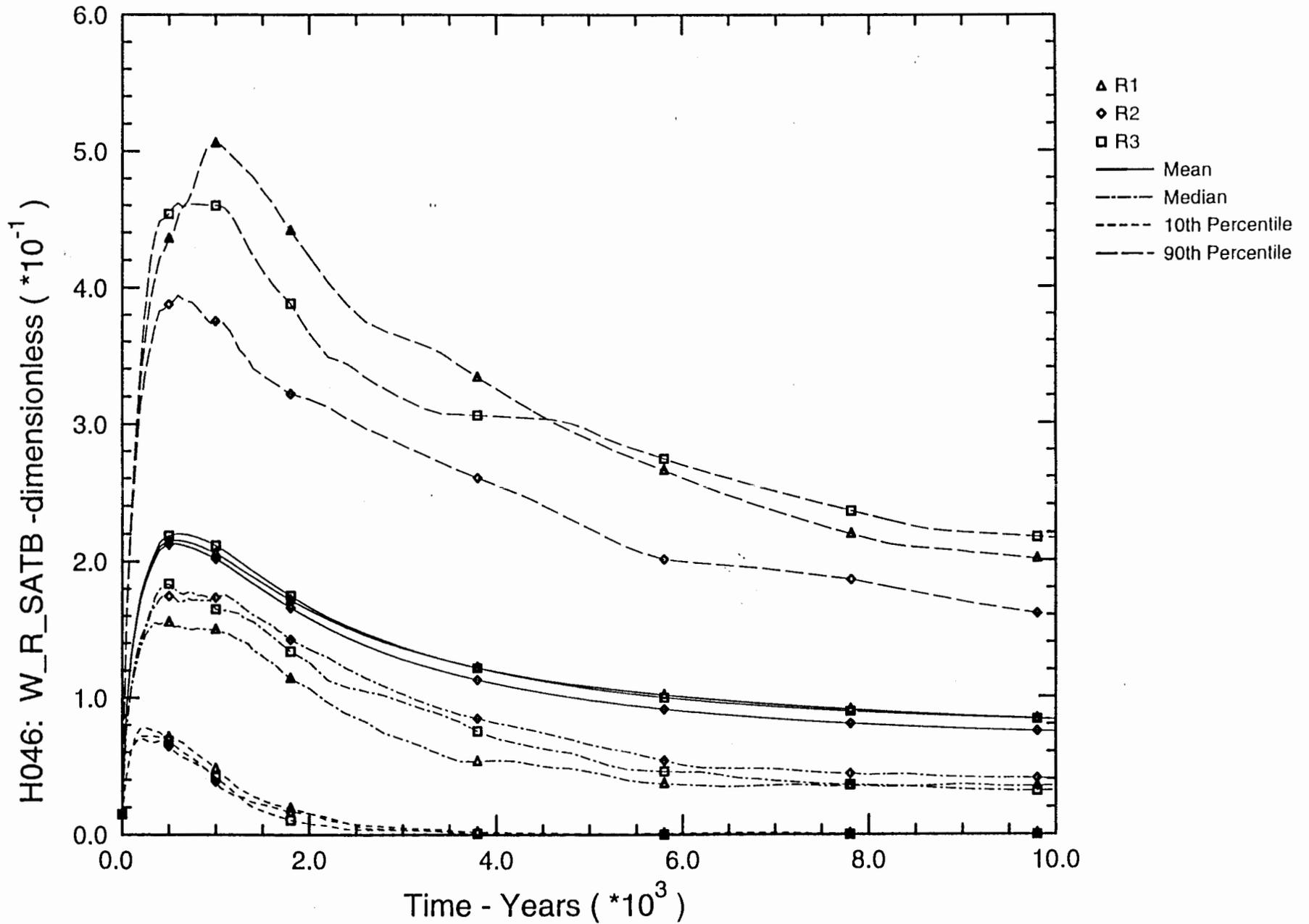
SNL WIPP PA96: BF STATISTICAL SUMMARY (CCA Scenario 1)

Volume-Averaged Pressure in Waste Panel



SNL WIPP PA96: BF STATISTICAL SUMMARY (CCA Scenario 1)

Volume-Averaged Brine Saturation in Waste Panel plus Rest of Repository



Conclusions

- **WIPP Complies**
- **3 Main Contributors to Release**
 - **Cuttings**
 - **Spall**
 - **Direct Brine Releases**
- **Sensitivity Analyses Identified the Important Parameters**