WIPP Quarterly Review
January 25, 1996

Activities Update for NMED's RCRA Permits Program

1. Meetings and Presentations

   - Testified on behalf of Secretary Weidler before Radioactive and Hazardous Materials Committee of the legislature in Carlsbad, October 23 - 24, on the status of the WIPP RCRA permit application.

   - Presented "Update on WIPP RCRA-Related Activities" at National Governors Association (NGA) State Task Force TRU meeting in Carlsbad, December 5.

   - Attended meeting between Secretary Weidler and representatives from three citizen groups (SRIC, CCNS, CARD) requesting enhanced public participation opportunities, December 18.

   - Will present "NMED and the WIPP Disposal Permit Application" at the NM Conference on the Environment in Albuquerque, March 12-14.

2. RCRA Part B Permit Application - Technical Review

   - Performed "semi-simultaneous" review of multiple chapters, starting with the more substantial chapters (waste characterization, risk analysis, closure plan) and ending with less controversial chapters.

   - Conducted informal discussions with DOE between October 26 and November 29.

   - Issued requests for additional information to DOE November 2, 16, and 30.

   - HRMB released a revised schedule (12/8/95) delaying all subsequent activities by two months, based upon a DOE request for further discussions.

   - DOE submitted Revision 5.2 (six volumes) on January 17, incorporating comment responses and revisions to Part B permit application.

   - Currently reviewing revised application, developing items for a Notice of Deficiency (**NOD**).

   - Will issue a formal NOD by February 19.

3. Development of Draft Permit

   - Assuming no delay in DOE response to NOD, determination of technical adequacy and draft permit development to begin in mid-March.

   - EPA Region 6 is developing draft HSWA module of permit as a service to NMED, since the state is now authorized to administer corrective action portion of RCRA

   - Projected issuance of draft permit for public comment is September 1996.

   - Remaining schedule is tenuous due to uncertainties surrounding public comment process (requests for public hearing, extension of comment period, etc).

*** FINAL AGENDA ***

53rd WIPP QUARTERLY REVIEW MEETING
January 25, 1996

Marquez Place/Health Department Conference Room
525 Camino de los Marquez
Santa Fe, NM

8:30 AM	Welcome and Opening Remarks	10 min.	Steve Zappe, NMED
8:40 AM	U.S. Department of Energy: Status/Activity Report * Including Budget Forecast	30 min.	George Dials, DOE/CAO
9:10 AM	Environmental Evaluation Group: Status/Activity Report	30 min.	Robert Neill, EEG
9:40 AM	NMED DOE Oversight: Status/Activity Report	15 min.	Keith McKamey, NMED
9:55 AM	NMED Haz/Rad Materials: RCRA Permit Status/Activity Report	15 min.	Steve Zappe, NMED
10:10 AM	N.M. Radioactive Waste Task Force: Status/Activity Report	20 min.	Chris Wentz, NMEMNRD
10:30 AM	BREAK	15 min.	
10:45 AM	Accelerated Compliance Status - Applications Schedules - Experimental Program Status - 40 CFR 194	75 min.	Mike McFadden, DOE/CAO
12:00 PM	Lunch	75 min.	
1:15 PM	NTP Update - Waste Management Plan Schedule - WAC Rev 5 - BIR Rev 2 and Schedule for Rev 3 - RH TRU Study	90 min.	Kent Hunter/Don Watkins, DOE/CAO
2:45 PM	BREAK	15 min.	
3:00 PM	Sealing Systems Design Report Overviews	20 min.	Mike McFadden, DOE/CAO
3:20 PM	Q&A/Discussions - Waste Characterization Activities - Revised Definitions (Defense TRU Waste, RH Waste) - Technical Exchange Meetings - Engineered Alternatives Study - Modeling Direct Releases	60 min.	All Participants
4:20 PM	Action Item Commitments/Closeout	10 min.	Steve Zappe, NMED
4:30 PM	Adjourn		

53rd WIPP Quarterly
Jan 25, 1996

Name	Org	Ph
Steve Zappe	NMED	505/827-1561
Patricia Kilgore	CAO/OPA	234-7302
Anthony P. Fernandez	Westinghouse	234-8226
ALISON E. MINER	DOE/CAO	234-7321
E. K. HUNTER	CAO	234-7456
Keith McKamey	NMED/DOE-OB	234-8984
Lindsay Lovejoy	NMAGO	827-6695
Benito J. Garcia	NMED/HRMB	827-1557
John Parker	NMED	827-1536
TOM CLEMO	EEG	828-1003
MATTHEW SICUA	EEG	505-828-1003
Bill Bartlett	EEG	828-1003
Jim Kenney	EEG	(505) 885-9675
WILLIAM W-L. LEE	EEG	505 828-1003
LOKESH CHATURVEDI	EEG	505-828-1003
Robert O'Neill	EEG	828-1003
CHRIS J. WENTZ	N.M. Rad. Waste Task Force	827-5950
Heidi Snow	EMNRD	827-1377
Dennis Hurtt	CAO	234-7327
Michael H. McFadden	CAO/ORC	234-7486
DONALD E. WATKINS	CAO	505/234-7478
MICHAEL J. IRWIN	SNL	505-848-0884
ANITA S. REISER	SNL	(505) 848-0131

53rd Quarterly Jan 23/96

Dials - Ask Lindsay about legal opinion on dose assessments + backfill. Lindsay said backfill required under C+C - still an action item. Dials wants to resolve it up-front rather than in court. His position is LWA supercedes C+C agreement (but see section 21). Discussion of backfill between Lokesh + George Benito suggested any discussions on C+C include representative from executive branch (NMENRD or NMED). George said Cooper has spoken with legal in both departments.

Bureau of Mines report will be sent out by CAO

EPA will issue 194 in early Feb.

Questions raised about public attendance at RCRA/NMVP meetings - Benito said NMED treating DOE/WIPP like any other applicant.

Status of LWA amendments - referred to committee in Senate, no action on House side

Bob Neill - SWR VOC monitoring

Keith - comments on DCCA, facilitate proposed plugging of H-19b1

Combined DOE + NMED database files for environm. monitoring

→ EEG asked for reports of any NMED data. Lokesh said publishing would be helpful. Casing integrity at Yates #1 A IT Fed (injection well) - testing shows good integrity

Jim Lwenke - see handout

Mike McFadden - Reg Compliance update

Continued reference to final RCRA permit 8/96 - appeared on DDP Rev 2 (date 10/6/95) and again in this ltr - doesn't account for 2 month delay at request of DOE

Discussion of how DOE responded to EPA comments on DCCA

McFadden Experimental Programs
40 CFR 194 Status - discussed issues with draft criteria & how OMB resolved it.

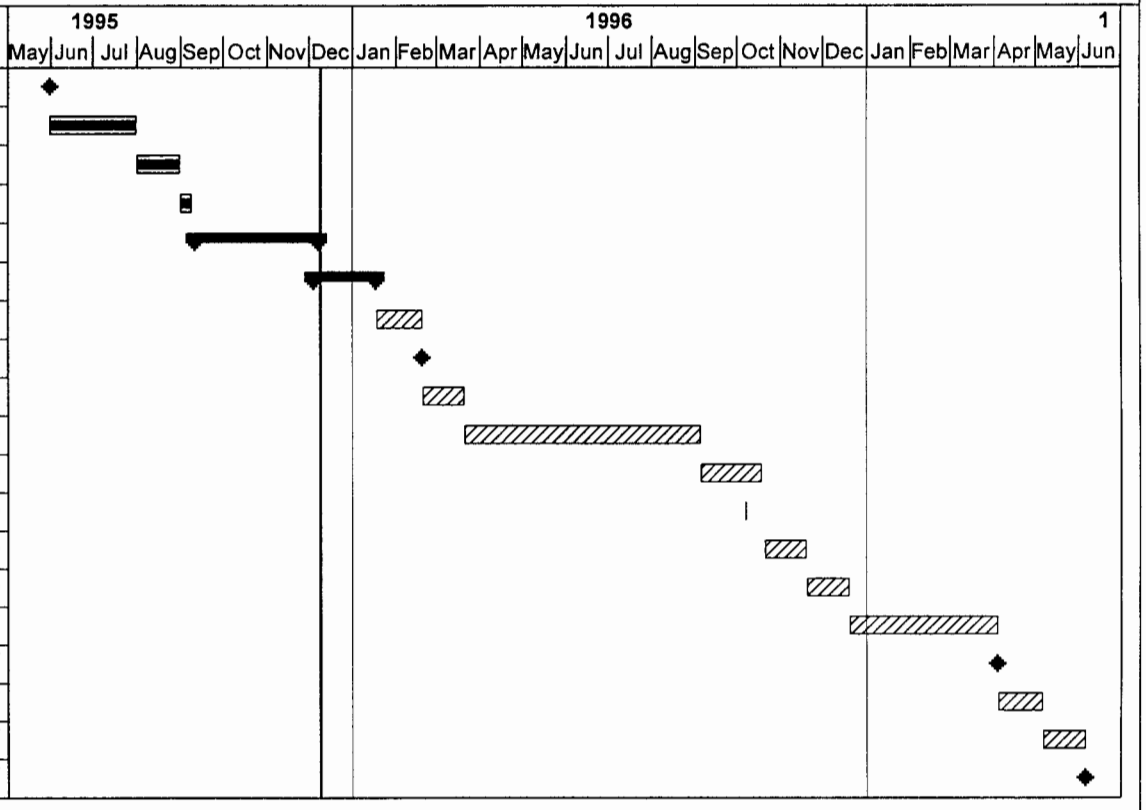
Dan Watkins Waste Mgmt Model - currently resolving Site Treatment plans. Plan outline to be issued 3/31/96. Draft out in May, comment resolution during summer, final plan 9/96.
First output from waste stream model in Feb.
Discussion of processed waste from Idaho
WAC Rev 5 - currently out for review. Some items for test phase removed, want to get it out by end of Feb.
Major changes - divide CH & RH into two sections.
VOC limits by NMVP, EPA codes according to RCRA appl.
Characterization
BIR rev 2 in the mail. BIR will change annually

Mike McT. Sealing Systems - very few changes
Future reports slide - changed
Tightness of seal ($<10^{-18}$) not demonstrated in Design Report - will be discussed at Tech Exchange

Next Quarterly April 25 in Carlsbad

WIPP RCRA Permitting Schedule

ID	Name	Duration	Sched Start	Sched End
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	9/11/95	12/7/95
67	DOE Submit Revisions	31d	12/4/95	1/17/96
76	NMED Evaluate DOE Final Response	23d	1/18/96	2/19/96
77	Issue Technical NOD	0d	2/19/96	2/19/96
78	Technical NOD Response	22d	2/20/96	3/20/96
79	Develop Draft Permit	120d	3/21/96	9/4/96
80	Public Notice/Comment	32d	9/5/96	10/18/96
81	Public Meeting	1d	10/7/96	10/7/96
82	Respond to Public Not/Mtg Comments	22d	10/21/96	11/19/96
83	Public Hearing(s)	22d	11/20/96	12/19/96
84	Finalize Permit/Respond to Comment	75d	12/20/96	4/3/97
85	Submit to NMED WWM Div. Director	0d	4/3/97	4/3/97
86	Permit Review by Director	22d	4/4/97	5/5/97
87	Permit Notice of Decision	23d	5/6/97	6/5/97
88	Final Permit Decision	0d	6/5/97	6/5/97



Notes to WIPP RCRA Permit Schedule:

1) Scheduled dates and durations are estimates as of 12/8/95

2) Duration days are working days, not calendar days.

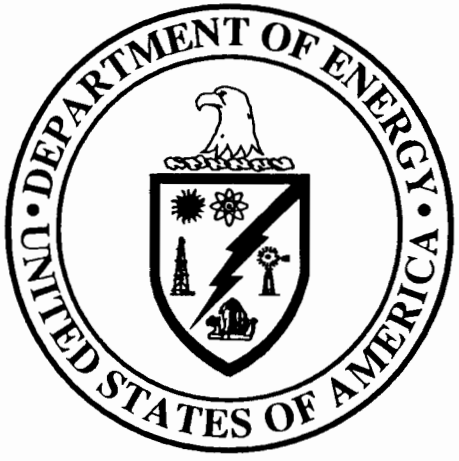
3) Some activities may not occur (e.g., Public Hearings), but have been included for completeness. Other activities may occur more than once (e.g., Issue Technical NOD).

4) Some activities have relatively certain durations (e.g., Public Notice/Comment) due to regulatory requirements. Other activities have highly uncertain durations (e.g., NOD Responses) due to the initial adequacy of the application and the applicant's ability to fully respond in a timely fashion.

Project: WIPP RCRA Permit
Date: 12/8/95

Critical Progress Summary
Noncritical Milestone Rolled Up

WIPP 53rd
QUARTERLY REVIEW



George Dials, Manager
Carlsbad Area Office

January 25, 1996

DDP MILESTONES

- **Completed DDP milestones since last quarter**
  - **Remote-handled study** *10/95*
  - **Sealing Systems Design Report** *10/95*
  - **Supplemental inventory data to PA based on waste characterization** *12/95*
- **Upcoming DDP milestones**
  - **EPA issue 40 CFR 194** *2/96*
  - **CCDF** *3/96*
  - **Final data input to models** *5/96*

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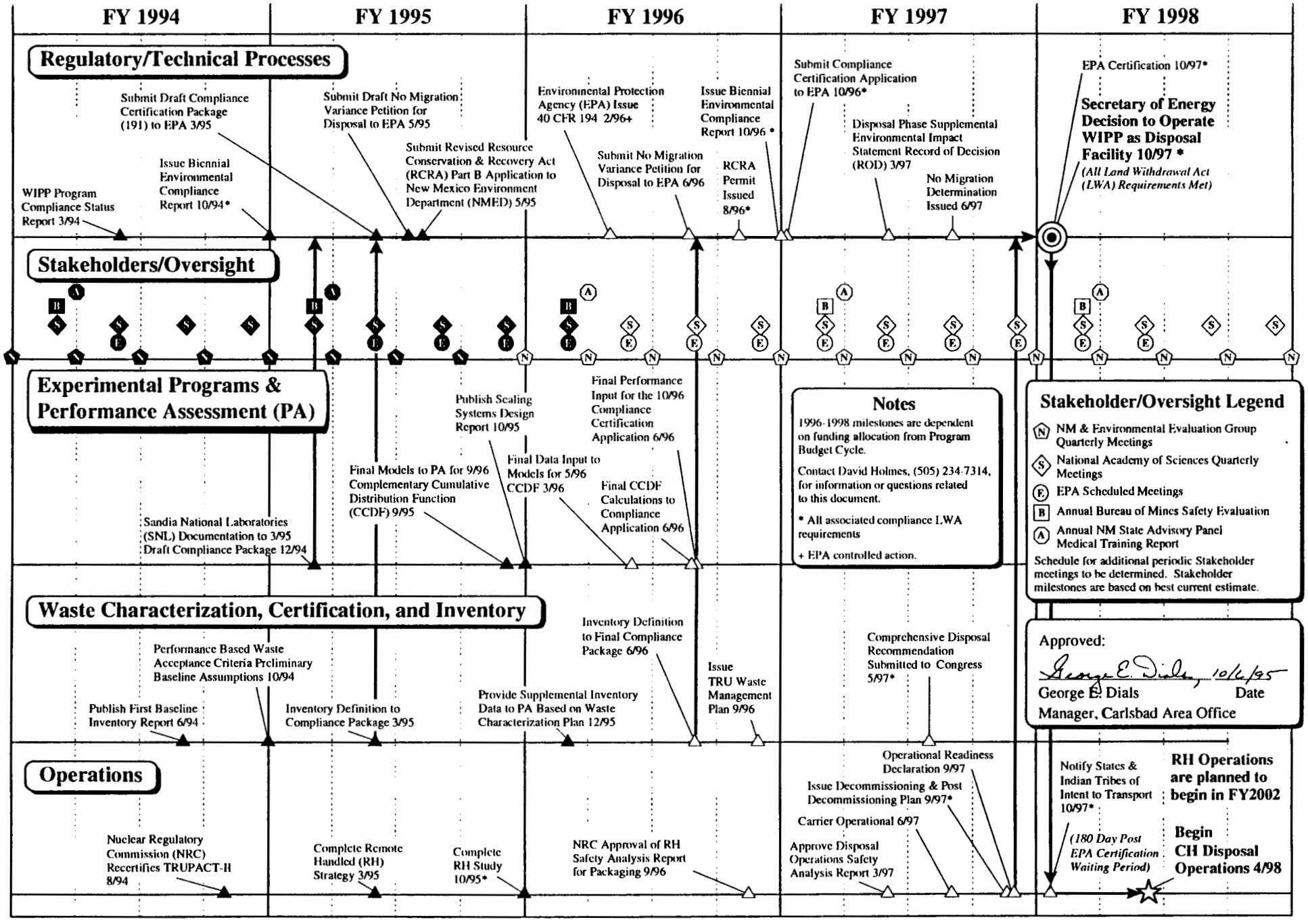
WIPP Disposal Decision Plan

Updated 1/4/96
Revision 2
October 6, 1995



PERFORMANCE ASSESSMENT CODES AND MODELS

- All models have been submitted to PA
- Twenty-four PA codes have been developed to QA level
- Final data input to models 3/96
  - Shaft seals and rock mechanics
  - Non-Salado flow and transport
  - Actinide source term and colloids

REMOTE-HANDLED HIGHLIGHTS

- Remote-handled transuranic waste study (required by WIPP Land Withdrawal Act, Section 6(c)(2)(b))
  - Completed 10/95
- Remote-handled systems assessment
  - Completed 10/95
- RH-72B cask safety analysis report for packaging being reviewed by DOE Headquarters prior to transmittal to NRC

196R:6893c

WIPP SHAFT SEALING SYSTEM PRINCIPAL REPORTS

- WIPP Sealing System Design Report
  - Completed 10/95
- Complete final design review 4/96
- Publish for compliance use 8/96

196R:6893r

TRU WASTE BASELINE INVENTORY REPORT (TWBIR) SCHEDULE

- TWBIR, Rev. 2, data call — *3/15/95*
- Draft Rev. 2, for CAO review — *10/17/95*
- DOE and stakeholder review — *11/7/95*
- Comments due back — *12/7/95*
- Publication of WTWBIR, Rev. 2 — *12/19/95*
- TWBIR, Rev. 3, data call — *1/11/96*
  - Certifiability data
  - Inventory of cement and chelating agent
  - Remainder of small-quantity sites
  - Rocky Flats waste volumes converted to reflect residues processed for waste disposal
- TWBIR, Rev. 3 publication — *6/30/96*

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NO-MIGRATION VARIANCE PETITION

40 CFR 268.6 Land Disposal Restrictions

- Draft petition submitted 5/95
- Final petition will be submitted 6/96
- Expect EPA decision 6/97

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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 5/31/95
- Carlsbad Area Office Disposal Decision Plan schedule calls for permit issuance 8/96

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COMPLIANCE CERTIFICATION APPLICATION

- Draft compliance certification application submitted 3/95
- Draft compliance certification augmented application submitted 7/95
- Final compliance certification application will be submitted 10/96
- Expect EPA compliance certification by 10/97

196R:6893k

COMMENTS ON THE DCCA

- EPA comments
  - General comments submitted 10/31/95
  - Detailed comments to be submitted 1/31/96
- CAO requests stakeholders follow EPA lead of timely reviews
- Responses will be general with specific references
  - Responses to general comments 12/31/95
  - Responses to detailed comments 3/30/96

DOE POSITIONS

- Passive institutional controls
  - Credit should be allowed because some aspect of PICs will remain effective
  - Inadvertent intrusions should be limited to exploratory drilling only
- Peer review
  - DOE's existing QA program includes peer reviews, independent reviews, and internal technical reviews
  - Program areas covered by the QA program should not be peer reviewed
- Release limits
  - Should be calculated based upon existing waste inventory knowledge
  - Includes assay data and process knowledge from waste generators

196R:6893m

WIPP SAFETY ANALYSIS REPORT

- Completed draft 1995 SAR — *10/30/95*
  - Released for external stakeholder review — *10/15/95*
- Final report — *4/30/96*
- Approve 1995 SAR for incorporation into WIPP controlled documentation — *11/30/95*
- External review comments submitted — *1/15/96*
- Resolution of all review comments on the 1995 SAR — *4/15/96*

196R:6893n

LAND WITHDRAWAL AMENDMENTS ACT

- HR 1663 - Skeen, Schaefer, Crapo
- S 1402 - Craig, Kempthorne, Johnston

196R:6893o

THE AMENDMENTS...

- Change EPA's role
  - HR 1663 - EPA reviews (2 months)
  - S 1402 - EPA certifies, but scope limited (6 months)
- Repeal 180-day waiting period
- Eliminates plans/studies as disposal requirement
  - HR 1663 - repealed
  - S 1402 - plans/studies required at later date
- Exempts WIPP waste from RCRA land disposal restrictions
- Accelerates opening
  - HR 1663 - March 31, 1997
  - S 1402 - June 30, 1997

196R:6893p

40 CFR 194 ISSUES

- Consideration of mining in controlled area
  - Not required by 40 CFR 191
  - Must now consider hydrologic impacts
  - Will require some conceptual model changes, resulting in further quality assurance costs
  - Impacts may force the use of engineered barriers

40 CFR 194 ISSUES
(cont.)

- Drilling rate
  - Includes all holes drilled in the past 100 years

    Assumes this rate is constant forever
  - Includes all types of drill holes

    Exploratory and production wells

    Eliminates the "soon detect" provision of 40 CFR 191
  - May force the use of engineered barriers and modeling for borehole closure over time

40 CFR 194 ISSUES
(cont.)

- Minimal credit for permanent markers
  - Allows only credit for several hundred years
  - Markers are rendered "useless" when production wells must be considered in PA

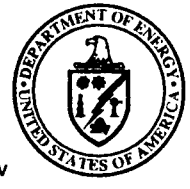
WIPP: **One valuable safe step toward solution of the national nuclear waste disposal problem**

- **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**

196R:6893q

ACTION ITEMS

Action Items	Action By
Provide EEG with copy of volume 1 or ORNL Treatment Feasibility Study dated September 15, 1995	Mike Brown, CAO *Letter and document sent October 27, 1995*
Provide EEG with copy of Hanford report on the use of existing facilities for making RH TRU ready for disposal	Mike Brown, CAO *Letter and document sent October 27, 1995*
Provide EEG with copy of Savannah River study on making waste ready for disposal as soon as the CAO has a copy of the report	Mike Brown, CAO *Savannah River is not doing an RH study*
Provide EEG with copy of Engineered Alternatives Cost/Benefit Study	Jim Mewhinney, CAO *Letter and document sent October 23, 1995*
Provide EEG with copy of RH TRU Assessment and arrange a November meeting	Mike Brown, CAO *Letter and document sent December 21, 1995. No response yet from EEG about the meeting*
Provide EEG with responses to EEG comments on the RH TRU Study for the 1992 WIPP Land Withdrawal Act	Jim Mewhinney, CAO *Completed October 23, 1995*
Provide EEG with copy of tenative agenda for EPA November 7-9 technical exchange on FEPs	Jim Mewhinney, CAO *Agenda faxed to EEG November 5, 1995*
Provide EEG with list of 73 FEPs currently under consideration and September 19 list of FEPs still included after screening	Jim Mewhinney, CAO *Completed January 19, 1996*
Provide EEG, NMED, and NMEMNRD with specific details of how stakeholder input was used in FEP selection and screening	Jim Mewhinney, CAO *Completed January 19, 1996*



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ACTION ITEMS

(cont.)

Action Items	Action By
Provide legal opinion on C&C Agreement requirement for on-site dose assessments (from 51st Quarterly)	Lindsay Lovejoy, NMAG
Provide legal opinion on C&C Agreement requirement for backfill in the WIPP (from 51st Quarterly)	Lindsay Lovejoy, NMAG
Coordinate sampling program workshop with EEG	Mike Brown, CAO; Jim Kinney, EEG *Workshop conducted January 17-18, 1996, at the CAO*
Provide EEG access to PA computer codes	Mike McFadden, CAO *PA codes are available at the SNL in Albuquerque*
Provide participants with status of the New Mexico Bureau of Mines Natural Resource Study which is being revised	Kent Hunter, CAO
Provide DOE with EEG comments on DCCA	Bob Neill, EEG
Provide copy of DCCA to Chris Wentz of NMEMNRD	James Maes, CAO *Sent January 19, 1996*

196R:6893w

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

LIII QUARTERLY MEETING

Department of Energy

Energy, Minerals and Natural Resources Department

Environment Department

Environmental Evaluation Group

Santa Fe

January 25, 1996

Providing an independent technical analysis of the Waste Isolation Pilot Plant (WIPP), a federal transuranic nuclear waste repository.

Recent EEG Activities

Completed

- Waste Hoist Report (EEG-59) Published, November 1995
- CAM Report (EEG-60) Published, January 1996
- Comments on SAR, January 1996
- Comments on Code of Federal Regulations Draft SAR Requirements, December 1995
- Comments on the Compliance Criteria (40 CFR 194), September 1995
- Comments on the Draft Compliance Application Guidance (CAG), December 1995
- Comments on RH-TRU Study, September 1995
- Comments on Craig/Johnston/Kempthorne Bill to Amend LWA, January 1996

DCCA

- **Inconsistent inventory estimates.**
- **Not all relevant disruptive scenarios (e.g. water flooding and potash mining) have been analyzed in the performance assessment.**
- **Failure to estimate probabilities for these unanalyzed scenarios renders the performance assessment incomplete. Implicitly assuming their probabilities to be zero is not good practice.**
- **Values for key input parameters are guesses, pending the results of the experiments.**
- **Considerable uncertainty in conceptual models.**
- **Much remains to be done by 10/31/96 DOE deadline for final certification application.**

Some Outstanding Requests

- **Rationale for screening out scenarios on Regulatory Basis (Aug. 23, 1995)**
- **SPM-II reports, especially Volume III containing the basis for the SPM decision (Dec. 19, 1995)**
- **Documentation volumes (Jan. 5, 1996)**
  - **FEP Screening**
  - **Software Quality Assurance**
- **Model Validation (Jan. 8, 1996)**

Comments on the Engineered Alternative Cost Benefit Study (EACBS)

1. The EACBS evaluated 18 engineered alternatives using 8 factors (some 20 sub-factors).

2. Some surprises:

- **Vitrification was screened out, but plasma processing left in.**

- **Several factors that did not contribute to ranking the alternatives were left in.**

3. EACBS provides a stock-guide type of information about engineered alternatives, but no guide for optimal action. This is necessary but insufficient information for decision-making. What is needed is an optimal collection of engineered alternatives based on this analysis.

4. The benefits of the various EAs were evaluated using the DESIGN ANALYSIS MODEL (DAM). The DAM, an alternative to the Sandia suite of computer codes for performance assessment, has not been documented, benchmarked or validated. Also the DAM, because it does not include the Culebra, was unable to evaluate any improvement related to colloids and radionuclide migration.

DOE/EEG/NMED QUARTERLY MEETING: JANUARY 25, 1996
(Status Report since October 19, 1995)

NMED/DOE-OB/WIPP

I. OVERSIGHT:

A) Commented on the 40 CFR 191 Compliance Certification Application (rev. 3-31-95):

1) Address Hydraulic Fracturing and include in the FEP's
2) Describe the mineralogy of Marker Bed 138 &139 in the chapter on Salado
3) Characterize the Dewey Lake hydrology since it is an aquifer in the area
4) Characterize P-18 hydrology, if water levels are rising due to bridge plug failure in Cabin Baby #1 as DOE contends, repair Cabin Baby #1 and monitor the natural groundwater conditions
5) Include borehole information within the 16-section boundary so that EPA can adequately determine compliance rather than listing the regulations for plugging wells
6) Include disposal/injection wells in the probability of occurrence

B) Facilitated the proposed plugging of H-19b1 according to N.M. State Engineer Rules and Regulations

C) Combined DOE and NMED database files to statistically compare data for the public

D) Witnessed the casing integrity test of the Yates #1 AIT Federal. Preliminary results indicate good integrity.

E) Commented on Rev. 1 of the Joint Powers Agreement:

1) Special conditions of drilling approval should require the operator to prove that all hydraulic fracturing and injection/disposal wells remain "in zone" by requiring periodic tracer studies.
2) Drilling approval should also require operator/leasee to allow DOE/NMED to monitor hydraulic fracturing fluids, drilling fluids, and groundwater well fluids to detect radiation resulting from and unlikely breech.

II. MONITORING/SAMPLING:

A) Biotics - Jackrabbit (archived)
B) Groundwater - WQSP 4, 5 (archived), and 6
C) Surface Water - None
D) Sediment - None
E) Soils - ERDA-9 SWMU (archived)
F) Misc.- Air effluent monitoring at Station "A"

III. RESTORATION:

Commented through the Voluntary Release Assessment/Correction Action Workplan for Solid Waste Management Units that mudpits on each location do not contain the same fluids and should not be characterized as such.

WIPP ACTIVITIES/ISSUES REPORT:

STATE OF NEW MEXICO
RADIOACTIVE WASTE TASK FORCE

53rd WIPP QUARTERLY REVIEW

By

CHRIS J. WENTZ
TASK FORCE COORDINATOR

January 25, 1996
Santa Fe, NM

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 JOINT PUBLIC MEETING WITH THE INTERIM LEGISLATIVE RADIOACTIVE AND HAZARDOUS MATERIALS COMMITTEE IN CARLSBAD, OCTOBER 23-24, 1995

* WIPP SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

  -- PROVIDED COMMENTS AND RECOMMENDATIONS ON THE PROPOSED SCOPE OF THE SEIS-II (LETTER OF OCTOBER 31, 1995 TO HAROLD JOHNSON, DOE/NEPA COMPLIANCE OFFICER)

* WIPP INFORMATION EXCHANGE

  -- DELIVERED A PRESENTATION (*LESSONS LEARNED: NEW MEXICO'S EXPERIENCE IN THE WIPP ROUTE DESIGNATION PROCESS*) AT A RADMAT ROUTING WORKSHOP

  -- WORKSHOP SPONSORED BY THE COUNCIL OF STATE GOVERNMENTS (MIDWEST OFFICE) AND THE SOUTHERN STATES ENERGY BOARD ON NOVEMBER 15, 1995

TASK FORCE ACTIVITIES SINCE LAST QUARTERLY: (CONTINUED)

* WIPP LAND WITHDRAWAL AMENDMENTS ACT

  -- PREPARED SECTION-BY-SECTION SUMMARY OF S. 1402 (CRAIG BILL) FOR DISTRIBUTION TO THE 10 WIPP CORRIDOR STATES IN THE WESTERN GOVERNORS' ASSOCIATION

  -- PROVIDED COMMENTS TO N.M. CONGRESSIONAL DELEGATION ON S. 1402 (LETTER OF NOVEMBER 28, 1995 TO SENATORS DOMENICI AND BINGAMAN)

* EPA CORRESPONDENCE

  -- REQUESTED INFORMATION FROM EPA REGARDING THEIR POSITION ON WHETHER WIPP COMPLIANCE WITH THE RCRA "NO-MIGRATION" REQUIREMENTS IS NECESSARY TO PROTECT PUBLIC HEALTH AND THE ENVIRONMENT

  -- PREPARED COMMENTS AND RECOMMENDATIONS ON THE DRAFT *WIPP COMPLIANCE APPLICATION GUIDE* (LETTER OF DECEMBER 20, 1995)

* WIPP LAND MANAGEMENT

  -- PREPARED COMMENTS ON THE REVISED WIPP LAND MANAGEMENT PLAN (LETTER OF JANUARY 8, 1996)

  -- PREPARED A (DRAFT) DOE/NM JOINT POWERS AGREEMENT FOR ENHANCING COMMUNICATIONS/ COORDINATION ON WIPP LAND MANAGEMENT ISSUES

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

* N.M. TRANSPORTATION OPERATIONS PROCEDURES MANUAL

  -- KEYS OFF THE WGA PROGRAM IMPLEMENTATION GUIDE

  -- NEW MEXICO-SPECIFIC DOCUMENT

  -- ADDRESSES PRIMARY FUNCTIONS AND PROTOCOL OF PARTICIPATING STATE AGENCIES

  -- UNDERGOING REVISION AND REFINEMENT

WIPP TRANSPORTATION SAFETY PROGRAM (CONTINUED)

* WIPP PUBLIC OUTREACH EFFORT: 1996

  -- CORRESPONDENCE SENT BY TASK FORCE CHAIR TO LOCAL, TRIBAL, AND STATE GOVERNMENT OFFICIALS ALONG NEW MEXICO WIPP CORRIDOR IN DECEMBER 1995

  -- PROVIDES INFORMATION ON AVAILABLE WIPP-RELATED RESOURCES AND ASSISTANCE (EMERGENCY RESPONSE TRAINING, FIELD EXERCISES)

  -- PRELUDE TO N.M. COMMUNITY "OPEN HOUSES" BEING SCHEDULED THROUGHOUT THE YEAR

* WIPP EMERGENCY RESPONSE EXERCISES

  -- TWO PER YEAR SCHEDULED

  -- FIELD EXERCISES IN 1996:

     1) ALBUQUERQUE/MORIARTY -- MAY/JUNE

     2) LAS VEGAS -- SEPTEMBER

UPCOMING EVENTS

*	FEBRUARY 6	WIPP MEDICAL WORKING GROUP MEETING AT THE EMS ACADEMY IN ALBUQUERQUE (10:00 AM)
*	FEBRUARY 20	WIPPTRAX (FIELD EXERCISE) STEERING COMMITTEE MEETING AT ALBUQUERQUE FIRE ACADEMY (9:00 AM)
*	FEBRUARY 20-23	WESTERN GOVERNORS' ASSOCIATION TECHNICAL ADVISORY GROUP ON WIPP TRANSPORT IN COLORADO SPRINGS, CO
*	FEBRUARY 25-29	WASTE MANAGEMENT '96 CONFERENCE IN TUCSON, AZ
*	MARCH 12-14	NEW MEXICO CONFERENCE ON THE ENVIRONMENT AT THE ALBUQUERQUE CONVENTION CENTER
*	MARCH 19	WIPPTRAX (FIELD EXERCISE) STEERING COMMITTEE MEETING AT ALBUQUERQUE FIRE ACADEMY (9:00 AM)
*	APRIL 1996	WIPP TOUR FOR IDAHO GOVERNOR BATT

WIPP ISSUES AND CONCERNS

* FLOW OF INFORMATION TO TASK FORCE
  - -- INEL ACTIVITIES
  - -- TRU WASTE PROGRAM DEVELOPMENTS
  - -- AVAILABILITY OF DOCUMENTS/COMMENTS

* DEFINITION OF "DEFENSE" TRANSURANIC WASTE

* POTENTIAL FOR EARLY REMOTE-HANDLED WASTE SHIPMENTS

* POTENTIAL FOR EARLY SHIPMENTS FROM LANL

* AMENDMENTS TO THE WIPP LAND WITHDRAWAL ACT

* FUTURE BUDGET CONSTRAINTS/SMOOTH FLOW OF FUNDING TO THE STATE OF NEW MEXICO

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OFFICE OF THE SECRETARY
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-5950

Jennifer A. Salisbury
CABINET SECRETARY

December 26, 1995

FIELD(name/address)

Subject: **NEW MEXICO'S WIPP TRANSPORTATION SAFETY PROGRAM: INFORMATION & OPPORTUNITIES FOR COMMUNITY INVOLVEMENT**

Dear FIELD(name):

I am writing to you on behalf of the New Mexico Radioactive Waste Consultation Task Force. The Task Force, created by statute in 1979 and composed of the Cabinet Secretaries from six New Mexico state agencies, is responsible for addressing various issues associated with the Waste Isolation Pilot Plant (WIPP).

As you are probably aware, WIPP is a mined geologic repository located 30 miles east of Carlsbad in southeastern New Mexico. It is a federal project being developed by the U.S. Department of Energy (DOE) and intended for the permanent disposal of defense transuranic radioactive waste. DOE currently estimates that WIPP could begin accepting waste as early as 1998--less than three years from now. I am bringing this information to your attention because you and your constituents are situated along the WIPP transportation route.

In preparation for the transport of WIPP wastes through New Mexico, a working group of Task Force representatives (WIPP Working Group) has developed over the past few years a WIPP Transportation Safety Program. This program is designed to ensure that potentially affected emergency response personnel are adequately prepared for a WIPP transportation incident. It includes such elements as intergovernmental communications and coordination; emergency response training and field exercises; and the provision of appropriate supplies and equipment.

With this letter, the WIPP Working Group is initiating an enhanced outreach to community leaders and local government organizations with a significant vested interest in the safety of WIPP shipments. As part of this effort, we want to inform you of several opportunities to learn more about the WIPP shipping campaign and assist you in preparing for it. First, members of our Working Group are available to brief you on the State's WIPP Transportation Safety Program. Any such briefing would generally cover all components of the program, including roles and responsibilities of various government organizations; however, the presentation would be tailored to meet your specific needs.

Second, I have enclosed a listing of the various WIPP-related emergency response training courses offered through the State of New Mexico. We stand ready to assist you and appropriate members of your local fire protection, law enforcement, and emergency medical service organizations in taking advantage of this training--which is offered at no cost to your community.

Third, on the reverse side of the listing of training classes I have included information on WIPP emergency response field exercises scheduled for calendar year 1996. You and others in your community are encouraged to participate in these exercises. The Working Group is also communicating with the emergency service providers in your area and coordinating with them on this effort.

Finally, enclosed are contact lists for both the N.M. Radioactive Waste Consultation Task Force and its WIPP Working Group. These individuals are available to discuss specific issues or concerns you may have about the transport of WIPP wastes in New Mexico.

Please call Chris Wentz or Heidi Snow of my staff at 505/827-5950 in Santa Fe to schedule a community briefing on the WIPP Transportation Safety Program or to discuss how the Working Group may best serve the WIPP-related needs of your community. Thank you.

Sincerely,

JENNIFER A. SALISBURY
Cabinet Secretary and Chair
N.M. Radioactive Waste Consultation Task Force

Enclosures (3)

c: Governor Gary E. Johnson

Preliminary Listing
of
WIPP TRAINING COURSES: 1996

* **Hazardous Materials Emergency Response: Awareness Level**

* **Hazardous Materials Emergency Response: Operations Level**

* **Hazardous Materials Emergency Response: Technician Level**

* **Incident Command System: Introduction for Public Officials**

* **Incident Command System: Awareness/Operations Levels**

* **Critical Incident Management**

* **Emergency Response Exercise Design and Evaluation Courses**

* **Hazardous Materials Emergency Response Operations for Emergency Medical Technicians and Paramedics**

* **Hospital Emergency Department Management of Radiation Accidents**

* **Radiological Materials Emergency Response: Awareness/Operations Levels**

* **Fundamentals Course for Radiological Monitors**

* **Fundamentals Course for Radiological Response Teams**

* **Radiological Transportation Emergencies Course: Mitigation**

* **Radiological Emergency Operations (REO) Course**

* **Radiological Emergency Training for Local Responders (RETLR) Course**

For additional information on the content and scheduling of these courses, please contact:

John Shea, WIPP Coordinator
N.M. Department of Public Safety
P.O. Box 1628
Santa Fe, NM 87504
505/827-9221

NEW MEXICO
RADIOACTIVE WASTE CONSULTATION TASK FORCE

The N.M. Radioactive Waste Consultation Task Force, sometimes known as the Governor's WIPP Task Force, is authorized by the *Radioactive and Hazardous Materials Act* [Section 74-4A-2 through 74-4A-14 NMSA 1978]. The membership is comprised of the Secretaries of the Energy, Minerals and Natural Resources Department, Taxation and Revenue Department, Department of Health, Environment Department, Department of Public Safety, and the State Highway and Transportation Department, or their designees. In addition, the Chairman and Vice-Chairman of the joint interim legislative Radioactive and Hazardous Materials Committee, or their representatives, participate as advisory members. The Governor appoints the Chair of the Task Force.

The primary duties of the Task Force include negotiating on behalf of the State of New Mexico with the federal government in all areas relating to the siting, licensing, and operation of new federal disposal facilities for high-level, transuranic, and low-level radioactive wastes (*e.g.*, WIPP); conducting technical and policy analyses of related issues; recommending legislation to implement the State's policies with respect to new federal disposal facilities; identifying and disseminating information on impacts associated with those disposal facilities; and coordinating any related investigations or studies undertaken by State agencies. The Task Force is also required to meet with the Radioactive and Hazardous Materials Committee of the New Mexico State Legislature and keep them apprised of all actions taken by the Task Force.

WIPP SAFE TRANSPORT PROGRAM:

STATE OF NEW MEXICO CONTACT LIST

INFORMATION AND PROGRAM ADMINISTRATION

New Mexico Radioactive Waste Consultation Task Force — **505/827-5950**

Chris Wentz or Heidi Snow
New Mexico Energy, Minerals & Natural Resources Department
2040 South Pacheco, Santa Fe, NM 87505

INSPECTION OF WIPP TRUCKS

Motor Transportation Division — **505/827-0644**

Bill Brubaker
New Mexico Taxation and Revenue Department
P.O. Box 1028, Santa Fe, NM 87504-1028

EMERGENCY MEDICAL PREPAREDNESS

New Mexico Department of Health — **505/827-1400**

Ralph Davis
Emergency Medical Services Bureau
P.O. Box 26110, Santa Fe, NM 87502-6110

New Mexico Environment Department — **505/827-1557**

Bobby Lopez
Hazardous & Radioactive Materials Bureau
2044 Galisteo Street, Santa Fe, NM 87505

WIPP HIGHWAY CONSTRUCTION & ROUTING

State Highway and Transportation Department — **505/827-3228**

Tom Koglin
Transportation Planning Division
P.O. Box 1149, Santa Fe, NM 87504-1149

EMERGENCY RESPONSE GUIDANCE, TRAINING, & EQUIPMENT

New Mexico Department of Public Safety — **505/827-9221**

John Shea
Emergency Management Bureau
P.O. Box 1628, Santa Fe, NM 87504-1628

State Fire Marshal's Office — **505/827-3721**

George Chavez
P.O. Drawer 1269, Santa Fe, NM 87504-1269

New Mexico Environment Department — **505/827-1557**

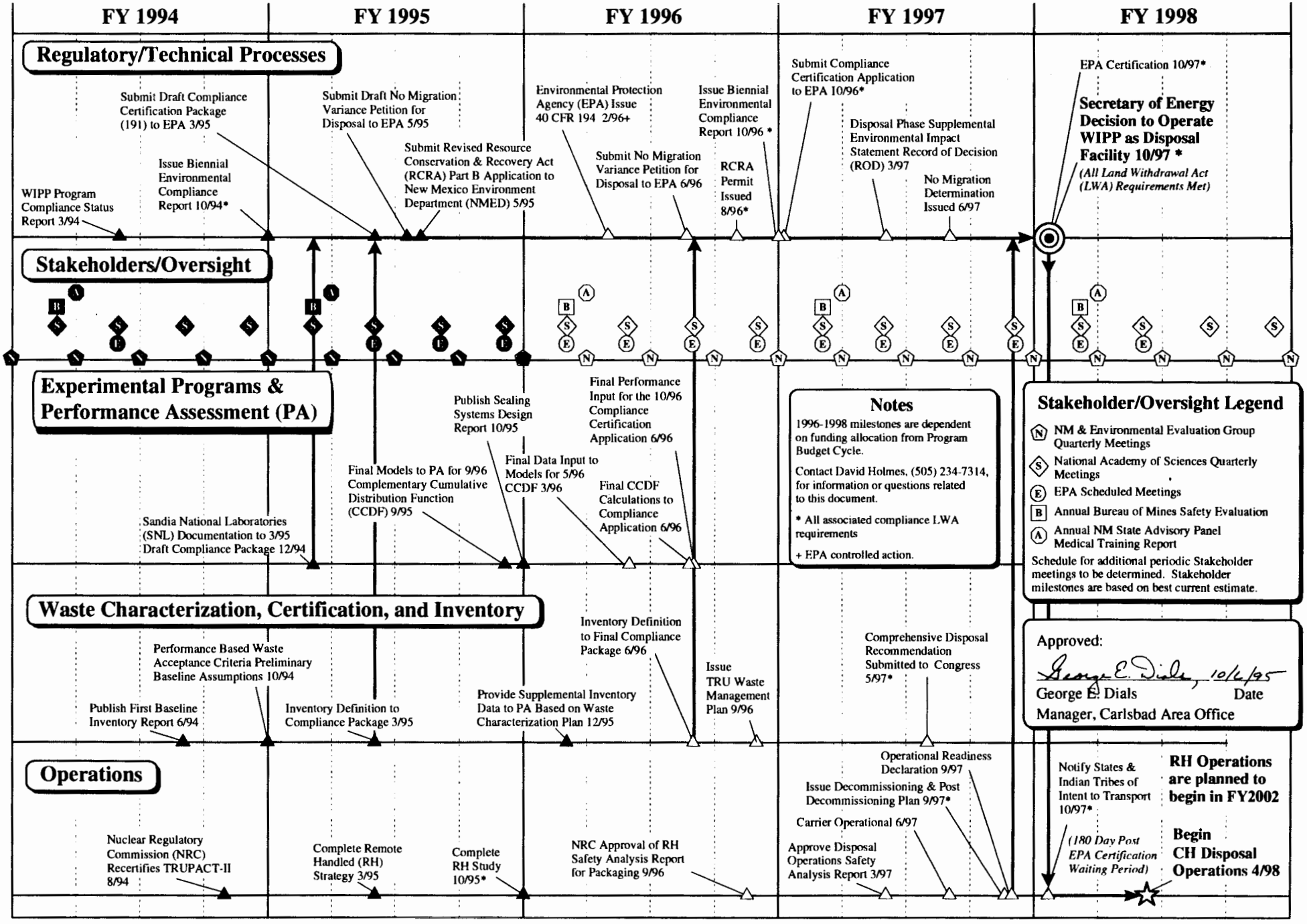
Bobby Lopez
Hazardous & Radioactive Materials Bureau
2044 Galisteo Street, Santa Fe, NM 87505

WIPP REGULATORY COMPLIANCE UPDATE

Michael H. McFadden
Assistant Manager
Office of Regulatory Compliance
United States Department of Energy

WIPP Disposal Decision Plan

Revision 2
October 6, 1995



Regulatory Compliance Drivers

- 40 CFR 264

  Standards For Owners And Operators Of Hazardous Waste Treatment, Storage, And Disposal Facilities

- 40 CFR 268.6

  Petitions To Allow Land Disposal Of A Waste Prohibited Under Subpart C of Part 268

- 40 CFR 191

  Environmental Radiation Protection Standards For Management And Disposal Of Spent Nuclear Fuel, High-Level And Transuranic Radioactive Wastes

40 CFR 268.6

- No Migration Determination for test phase issued by EPA in 1990
- Draft No-Migration Variance Petition (NMVP) for Disposal Phase submitted to EPA in May 1995
- Awaiting comments on the Draft Petition
- Technical Exchanges on Petition contents
- Respond to comments when received
- Submit Final NMVP to EPA in June 1996
- Anticipate EPA No-Migration Determination in June 1997

40 CFR 191

- Draft Compliance Certification Application (DCCA) submitted to EPA in March 1995
- Preliminary comments received from EPA in October 1995
- Respond to preliminary comments in December 1995
- Anticipate detailed comments in January 1996
- Technical Exchanges on DCCA contents
- Submit Compliance Certification Application (CCA) in October 1996
- Anticipate EPA Certification October 1997

CERTAINTIES

- We are ***improving our processes***
  - saving time
  - improving teamwork
  - maintaining open and clear communication with Regulators and Stakeholders
  - demonstrating effectiveness
- We ***will not sacrifice the quality*** of any compliance document
- We will ***open WIPP in 1998***

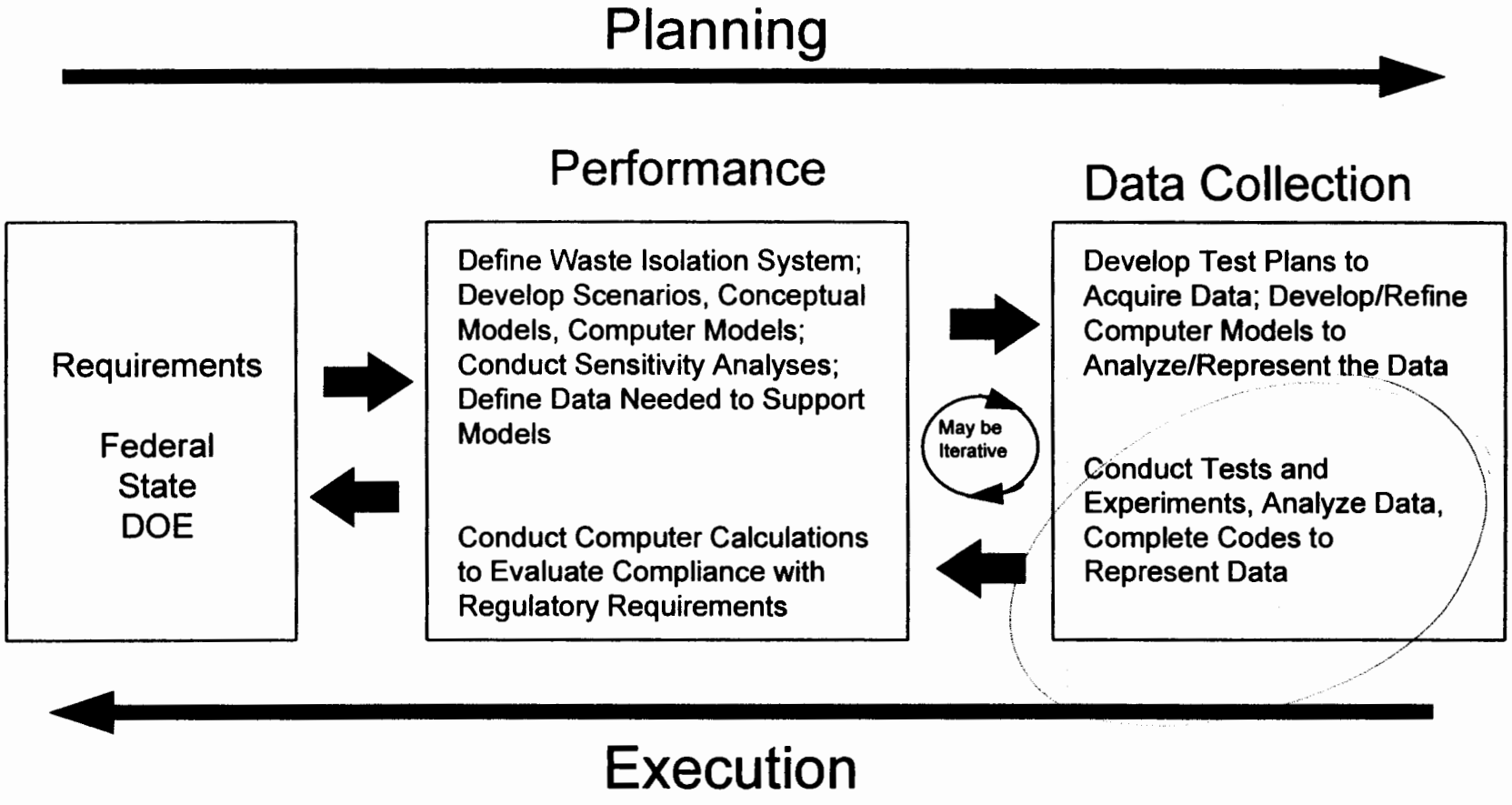
53RD WIPP QUARTERLY REVIEW MEETING

EXPERIMENTAL PROGRAM STATUS

MICHAEL H. McFADDEN

JANUARY 25, 1996

WIPP PA PROCESS OVERVIEW



Documented and Controlled in Accordance with Applicable QA Requirements

ACTINIDE SOURCE TERM

Base Case	• **Thermodynamic Equilibrium Solubility Model** • **Oxidation State Distribution**
Preliminary Status	• **+ III and +V Inorganic Model Completed** • **Others in Progress** • **Redox Measurements in Progress**

BLOWOUT RELEASES

Base Case

- Upgrade Blowout Model
  - 2-dimensional effects
  - 2-stage annular area
  - Isothermal and adiabatic flow

Preliminary Status

- Experiments assessing effects of waste strength on-going
- Model incorporating waste strength underway

CULEBRA FLOW AND TRANSPORT

Base Case

- **Characterize Flow and Transport in Culebra (H-19 Tests)**

Preliminary Status

- **Early Indications of Matrix Diffusion**
- **Complex Conceptual Model Incorporating transmissivity, fracturing, and transport**
- **Multi-Well Tracer Test Initiated December 1995**

ROCK MECHANICS AND SEAL STUDIES

Base Case	• **Multi-mechanism deformation coupled fracture model** • **Disturbed rock zone tests in the air intake shaft** • **Dynamic compaction test** • **Shaft seal system model**
Preliminary Status	• **Sealing system design report complete** • **Experimental activity complete** • **Data delivery to PA January 22, 1996**

CHEMICAL RETARDATION PROGRAM

Base Case	• **Empirical sorption using batch experiments** • **Supporting information from fractured-core column tests**
Preliminary Status	• **Both tests are underway**

COLLOIDS

Base Case	• **Stability and abundance of intrinsic colloids and humic, mineral and microbial carrier colloids in high-ionic strength brines**
Preliminary Outcome	• **Instability of mineral colloids** **Stability, abundance, and retardation experiments of other colloids types are underway**

GENERAL CONCLUSIONS

Experimental Program

- Is highly focuses
- Contains adequate contingencies
- Is providing data on schedule

Parametric Studies to Assess Potential Impacts as Data Become Available

CAO ASSESSMENTS OF EXPERIMENTAL PROGRAMS

- Surveillances combine both technical and Quality Assurance (QA) review
- Six surveillances and one audit in CY1995
  - Colloids
  - AST
  - Geochem
  - Seals
  - Culebra
  - Disposal room
  - QED
- Surveillances concluded that contractors QA and technical program are adequate and effective in their implementation
- Seven Corrective Action Requests (CARs) issued
  - Primarily documentation problems, none technical
- Four additional surveillances and three audits planned in support of inputs to performance assessment
  - Parameter
  - Independent review
  - Seals
  - Chemistry
  - Geohydrology

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SANDIA QUALITY ASSURANCE WIPP CALIBRATION TRACEABILITY REPORT

- Establishes calibration traceability to nationally recognized standard
- Initial SNL WIPP calibrations performed in early 1980s
- At its peak, SNL performed 1500 to 2000 calibrations per year
- SNL's Primary Standards Laboratory is the DOE Weapons Complex Primary Standards Laboratory

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CONCLUSIONS

- Traceability always established
- 98.4 percent probability with 95 percent confidence level calibrations area traceable to National Institute of Standards and Technology
- The approach and conclusions exceeded EPA-ORIA "expectations"

53RD WIPP QUARTERLY REVIEW MEETING

40 CFR 194 STATUS

MICHAEL H. McFADDEN

JANUARY 25, 1996

Status - 40 CFR 194

- Final draft version submitted to OMB on December 4, 1995
- OMB asked DOE for response to final draft
- OMB set up phone conference and one meeting on DOE issues, followed by subsequent phone conferences.
- All EPA - DOE exchanges on issues mediated by OMB

DOE Issues with 40 CFR 194

- Drilling rate specified too large
- Inclusion of mining inside Land Withdrawal Boundary
- No credit for permanent makers allowed
- Peer Review requirements too extensive
- Statistical requirements on CCDFs unrealistic

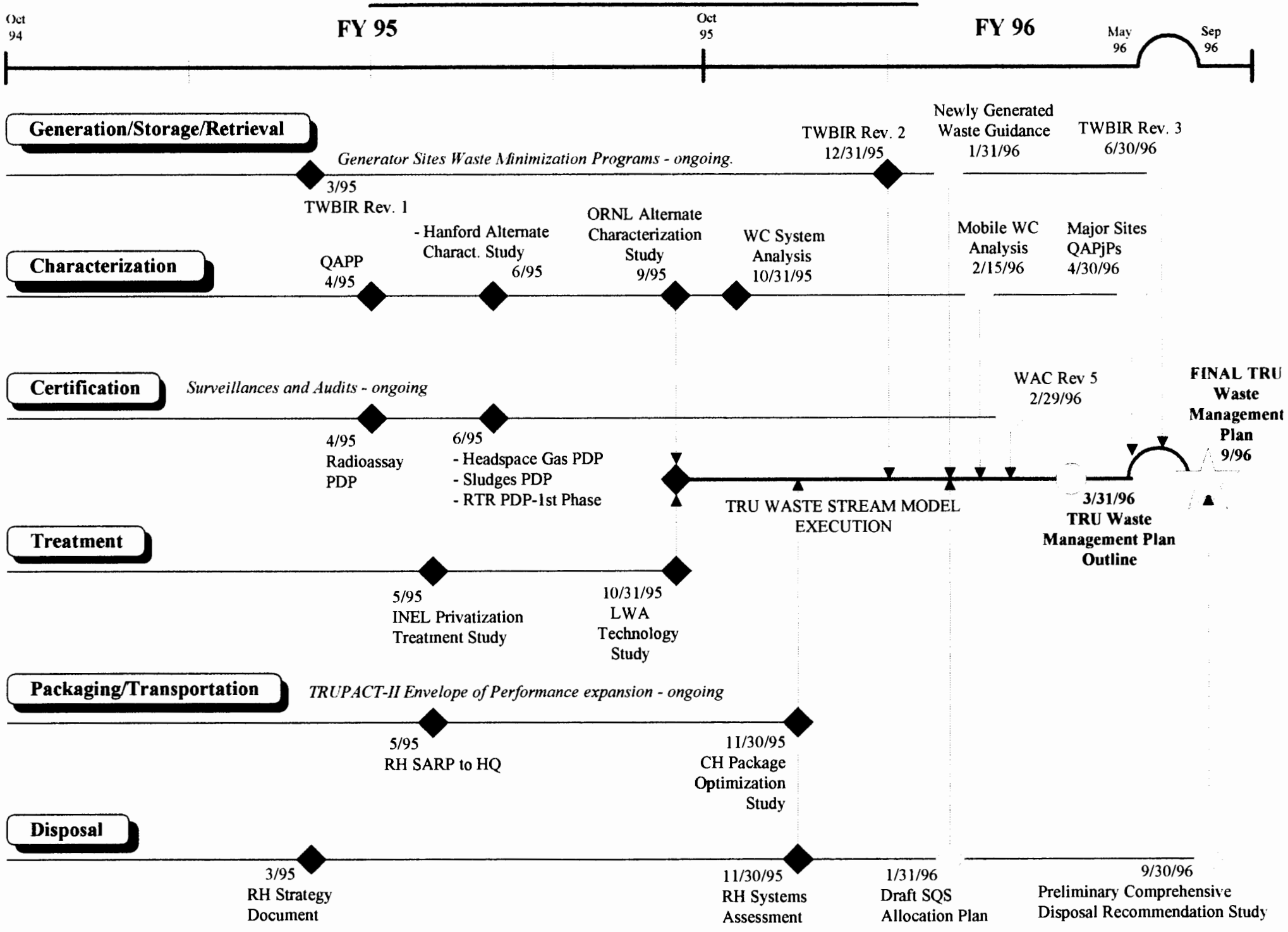
Issues Resolution

- Drilling rate - no change
- Mining inside LWA - no change
- Credit for permanent markers - partially reinstated
- Peer Review requirements better defined
- Statistical requirements better defined

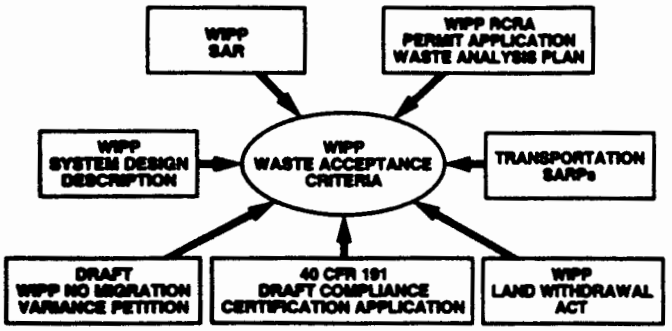
40 CFR 194 - future

- EPA wants to publish final rule in early February 1996
- EPA on schedule to accomplish this
- DOE assessing impacts of the final draft on WIPP program

TRU WASTE MANAGEMENT SYSTEM PROCESS



DERIVATION OF WAC CRITERIA



CRITERIA	CH REQUIREMENTS	RH REQUIREMENTS
CHEMICAL PROPERTIES		
Pyrophoric Materials	< 1% Radionuclides & No Non-radionuclides	Same as CH
Mixed Waste	Characterized per QAPP	Same as CH
Chemical Compatability	Chemicals must be allowable per CH TRAMPAC	Same as CH
Hazardous Constituents	Limited to those in RCRA Part A Permit	Same as CH
Explosives, Corrosives, & Compressed Gases	No Compressed Gases, & No Ignitable, Reactive or Corrosive wastes	Same as CH
PCB Concentration	< 50 ppm	Same as CH

CRITERIA	CH REQUIREMENTS	RH REQUIREMENTS
CONTAINER AND PHYSICAL PROPERTIES		
Container Description	DOT Type A 55-gal Drum or SWB	DOT Type A Canister
Container Weight	≤ 1000lbs/Drum ≤ 4000lbs/SWB	≤ 8000 lbs
Surface Contamination	≤ 20 dpm/100cm² alpha, & ≤ 200 dpm/100cm² beta, gamma	Same as CH
Container Marking	Bar Code, & Shipping Category	Canister ID #
Dunnage	Empty Drums or SWBs	Empty Drums
Filter Vents	Payload Containers Vented	CanisterVented
Liquids	No Liquid Wastes	Same as CH

CRITERIA	CH REQUIREMENTS	RH REQUIREMENTS
GAS GENERATION		
Decay Heat	≤ Wattages in CH TRUCON Tables	≤ Wattages in RH TRAMPAC
Flammable VOCs	≤ 500 ppm in Payload Container Headspace	≤ 500 ppm in Canister Headspace
VOC Concentrations	Limits on three VOCs	Same as CH
Aspiration	Per CH TRUCON Tables	None Currently Identified
Shipping Category	Per CH TRUCON Tables, & one category per TRUPACT-II	None Currently Identified
Confinement Layers	Per CH TRAMPAC & CH TRUCON	None Currently Identified

CRITERIA	CH REQUIREMENTS	RH REQUIREMENTS
NUCLEAR PROPERTIES		
Nuclear Criticality (Pu-239 FGE	< 200 g/55-gal Drum < 325 g/SWB	< 325 g/Cask
Pu-239 Equiv. Activity (PE-Ci	≤ 80 PE-Ci/55-gal Drum or ≤ 130 PE-Ci/ SWB	≤ 1000 PE-Ci/Canister
Contact Dose Rate	≤ 200mrem/hr	≤ 1000 rem/hr
Thermal Power	<40 Watts/TRUPACT-II	300 Watts/Canister
TRU Alpha Activity	>100nCi/g	Same as CH

CRITERIA	CH REQUIREMENTS	RH REQUIREMENTS
DATA		
Acceptance Data	WWIS & Certification Statement	Same as CH
RCRA Data	Waste Stream Profile Form & Uniform Hazardous Waste Manifest	Same as CH
Shipping Data	Payload Certification	Same as CH

TRU Waste Baseline Inventory Report

Don Watkins

National TRU Program

NATIONAL TRU PROGRAM
TRU WASTE INVENTORY

CH-TRU WASTE VOLUMES (BIR Rev. 2)

Site	Stored Volume (cubic meters)	Projected Volume (cubic meters)	Total Volume [Stored & Projected] (cubic meters)	Percent of Total Volume
INEL	29,000	0	29,000	25%
Hanford	13,000	36,000	49,000	42%
SRS	2,900	6,800	9,700	8%
LANL	11,000	7,700	18,700	16%
RFETS	710	4,500	5,210	5%
ORNL	1,300	260	1,560	1.4%
LLNL	230	710	940	.8%
NTS	620	9	629	.5%
Mound	270	0	270	.2%
ANL-E	11	130	141	.1%
All Others	18	871	889	.8%
TOTAL	59,000	57,000	116,000	

NATIONAL TRU PROGRAM
TRU WASTE INVENTORY

RH-TRU WASTE VOLUMES (BIR Rev. 2)

Site	Stored Volume (cubic meters)	Projected Volume (cubic meters)	Total Volume [Stored & Projected] (cubic meters)	Percent of Total Volume
Hanford	200	22,000	22,200	79%
ORNL	2,500	450	2,950	11%
Battelle	580	0	580	2%
ANL-W	19	1300	1319	5%
LANL	94	99	193	.7%
INEL	220	0	220	.8%
Bettis	0	7	7	.03%
ANL-E	0	0	0	0%
ETEC	1	0	1	.004%
TOTAL	4,000	24,000	28,000	

TRU Waste Baseline Inventory Data Call

TWBIR Rev 3 is update of Rev 2 Data With Limited New Data Requests

Cement & Chelating Agents are Only New Data Requests

Data to 2033 Instead of 2022

TWBIR and WASTE DESIGN

- The TWBIR provides the WASTE DESIGN ENVELOPE
- The WAC provides the CONTROL OF WASTE
- The WWIS provides the ACCOUNTING OF WASTE

TRU Waste Baseline Inventory Report Revision 3 Schedule

November 27, 1995
CAO Develops Questionnaire

January 10, 1996
Data Call Meeting Concord California

January 15-April 15
Site Visits by TWBIR Team to Acquire Rev 3 Data

WASTE DESIGN and PA

- PA will use TWBIR WASTE DESIGN ENVELOPE to determine compliance to 40 CFR 191
- CAO will test actual waste receipt using WAC and WWIS for conformance to TWBIR WASTE DESIGN ENVELOPE

TWBIR Rev 3 Schedule

continued

April 16, 1996
Freeze Data Base

April 16-June 3, 1996
Document Assembly and Review Period

June 30, 1996
Issue TWBIR Rev 3

PA & WASTE ACCEPTANCE

- If the WASTE DESIGN ENVELOPE and ACTUAL WASTE received differ, either

A new PA will be performed to expand the DESIGN ENVELOPE
or
Controls will be placed on waste to bring Actual WASTE back in compliance with the DESIGN

REMOTE-HANDLED SYSTEMS ASSESSMENT

Carlsbad Area Office

National TRU Program

January 25, 1996

CURRENT SITUATION

- Knowledge of inventory and quantity of inventory is changing
- No operating RH characterization facilities
- No RH specific data quality objectives, quality assurance program plan section, or quality assurance project plan section
- No off-the-shelf commercial characterization or treatment capabilities

VISION

- Provide for safe and efficient disposal of remote-handled (RH) transuranic waste

SYSTEM ASSESSMENT GOALS

- Near-term
  - Dispose of RH-TRU waste at WIPP starting in 2002
- Long-term
  - Obtain sustained RH-TRU throughput
  - Use all WIPP RH-TRU disposal volume
  - Maximize RH-TRU waste removed from the generator site

METHODOLOGY OF RH-TRU SYSTEMS ASSESSMENT

- Analysis of six RH life-cycle elements
  - Inventory and generation
  - Storage
  - Characterization
  - Treatment
  - Packaging and transportation
  - Disposal

STORAGE

- INEL and LANL have sufficient RH storage now or being built
- Hanford must identify or build facility
- Smaller facilities will need to ship waste
  - Do not have RCRA compliant storage
- ORNL must stabilize RH sludges
  - Highest priority with the state of Tennessee

INVENTORY AND GENERATION

- Inventory fluctuating (Hanford)
  - Schedules and budgets changing
  - More uncertainty in decommissioning waste estimates
- Sufficient RH-TRU waste to fill WIPP
- ORNL and Hanford have the bulk of RH-TRU

CHARACTERIZATION

- Current capabilities - one facility hot cell at LANL
  - NDA/NDE on low activity RH (1 rem/hr gamma, 0.1 rem/hr neutron with modifications)
- Other facilities limited and must have some modification or upgrades
- Must develop NDA/NDE methods for higher activity RH
  - >1rem/hr gamma, 0.1 rem/hr neutron

CHARACTERIZATION STRATEGY

- Near-term
  - Identify level of characterization knowledge of RH-TRU waste inventory
  - Select most known, "do-able" RH-TRU waste
  - Develop DQOs
  - Revise QAPP and QAPjPs
  - Work with EPA on RH-specific characterization requirements (risk/benefit, ALARA, and etc.)

TREATMENT (cont.)

- Facilities required at Hanford and ORNL
  - ORNL to complete private sector feasibility study 12/96
  - ORNL RH sludge only facility about $100 million (baseline $350 million)
  - Hanford study complete

    Looking for facility to handle several waste forms

    Modify WNP-1 RX at over $700 million

TREATMENT

- About 93 percent of all stored RH-TRU waste must be repackaged or treated
  - ORNL sludges major concern
- Smaller sites TBD
  - Mobile not currently feasible
  - If the site can charscterize waste the waste could be moved

PACKAGING AND TRANSPORTATION

- Existing alternatives to the RH-72B limited
- Transportation - initially ship by truck
  - BCLDP, Battle, KAPL, LANL do not have rail access
- Use of shielded payload containers in TRUPACT-II/halfpack and a RH-72B-type cask is better than design basis

DISPOSAL

- WIPP requires about $3 million to activate design base system
- Design base disposal limited to less than 4300 cubic meters
- Alternative uses shielded payload containers and disposes of smaller RH payload container like a drum/short canister
  - Greater probability of reaching disposal limit

POSSIBLE DISPOSAL CONFIGURATIONS

- Anything other than design basis requires facility permit changes
- Shielded package handled like CH
- Smaller unshielded package placed in horizontal boreholes
- Unshielded package placed in a new configuration
- Unshielded package in vertical boreholes

DESIGN BASIS (RH-72B, CANISTERS, HORIZONTAL BOREHOLES)

- Advantages
  - Currently in permit applications
  - Workable, technology is there
  - Requires minimum change with stakeholder
- Disadvantages
  - Disposes of least amount of RH Maximum is about 4300 cubic meters
  - Closely linked to CH throughput
  - Costs highest per unit volume of waste disposed
  - Has single point equipment failures which could impact throughput

CONCLUSIONS

- Continue certification of RH-72B
- Actively consider use of shielded drums
- Evaluate changing RH-TRU disposal configuration to a shorter, smaller payload container
  - Emplace in horizontal borehole
- Support treatment/repackaging facilities at Hanford and ORNL

NEAR-TERM STRATEGY

- Work with ORNL and LANL to prepare waste for initial shipment
  - ORNL to make decision on facility 1/97, government, private, or combination
- Ship by truck
- Modify C of C of the TRUPACT-II for shielded payload containers
- Continue certification of RH-72B

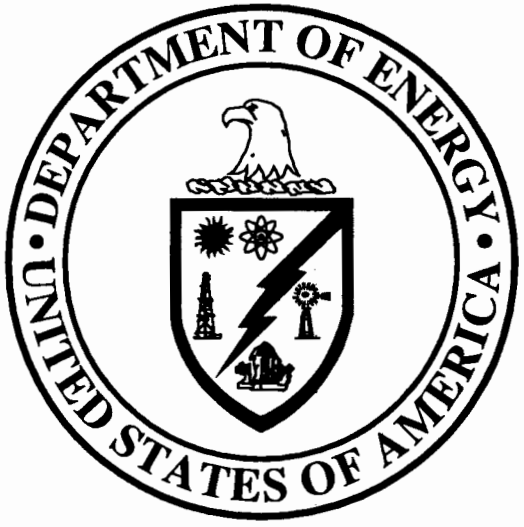
LONG-TERM STRATEGY

- Develop characterization technology
  - Continue efforts to develop RH-specific characterization requirements
- Get treatment /repackaging facilities on-line for sustained throughput
  - ORNL and Hanford
- Consider rail when facilities at Hanford or ORNL operational
- Develop small-site implementation plan

NEAR -TERM STRATEGY
(cont.)

- Improve knowledge of inventory
  - Develop work-off plan
- Select disposal alternative FY96
- Pursue new RH characterization strategy

WIPP 53rd
Quarterly Review
SHAFT SEALING SYSTEM



Mike McFadden
Carlsbad Area Office
January 25, 1996

WIPP SHAFT SEALING SYSTEM DESIGN REPORTS

Principal Products

Sealing System Design Report (shafts only)

- Completed draft - 5/95
- Published as DDP milestone - 10/95

Shaft Sealing System Compliance Submittal Design Report

- Complete final design review report - 4/96
- Executive summary text for CCA - 7/96
- Publish for compliance use - 8/96

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WIPP SHAFT SEALING SYSTEM REPORTS

- WIPP Sealing System Design Report
  - Issued 10/95
- Shaft seal design concept incorporates technology development
- Improved modeling of creep, fracture, and crushed salt consolidation
- PA calculations provide guidance
- Small-scale field tests show low permeability (less than $10^{-18}\ m^2$)
- Air Intake Shaft testing characterized permeability and extent of DRZ

196R:6892b

WIPP SHAFT SEALING SYSTEM DESIGN REPORTS

Materials and Design Approaches

- Shaft sealing system materials
  - Salt-saturated concrete
  - Asphalt
  - Clay
  - Salt
- Shaft seal design approaches
  - Multiple, common materials with low permeabilities
  - Demonstrated a compaction technology for construction processes
  - Multiple components to perform intended function
  - Entire length of shaft to effect seal system

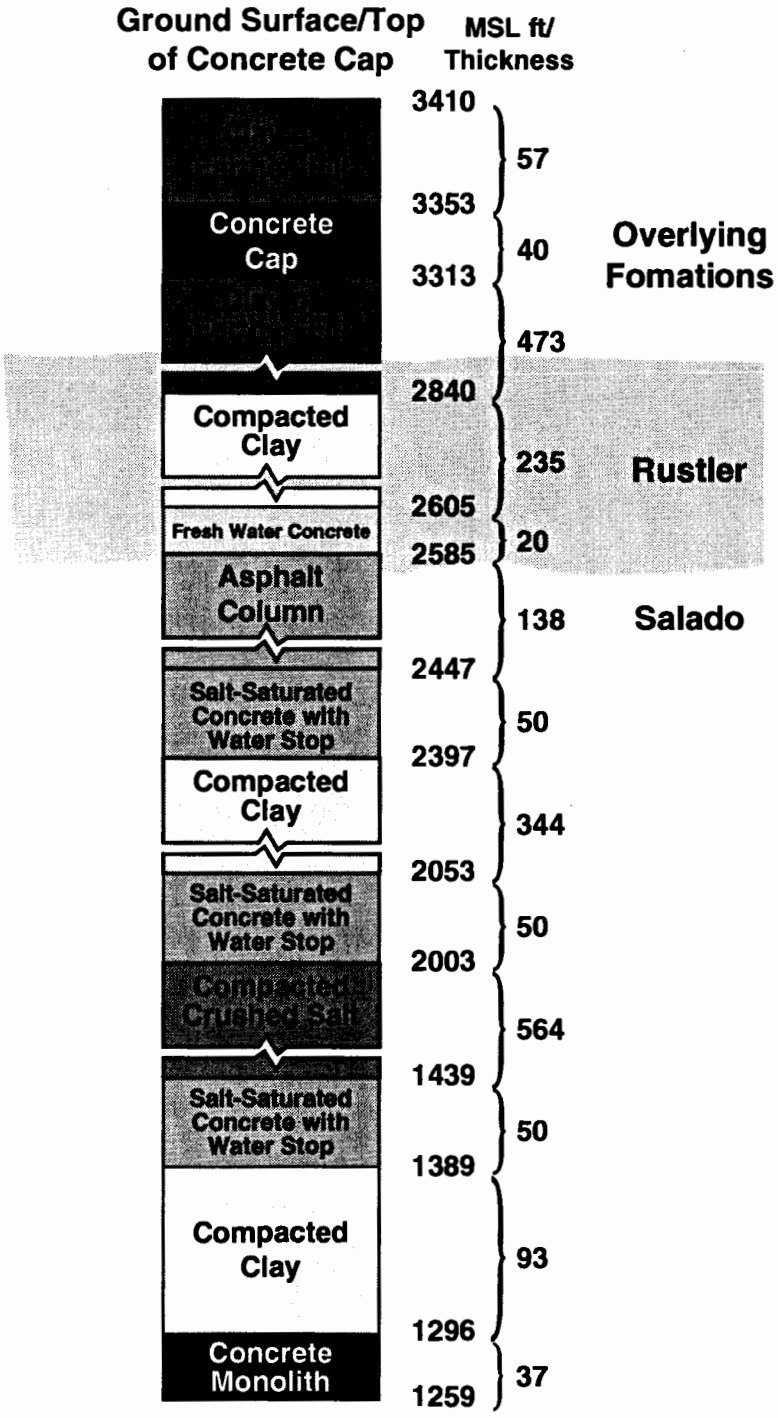
WIPP SHAFT SEALING SYSTEM DESIGN REPORTS

Design Features

- Permanent/long-term seal
  - Over 500 feet of compacted crushed salt barriers along with over 400 feet of clay barriers providing long-term seal
- Limited short-term brine inflow
  - Clay barrier within the Rustler Formation and combination of over 500 feet of asphalt, clay, and concrete barriers within Salado Formation
- Retard short-term gas flow
  - Combination of rigid concrete barrier (enhanced by asphalt component) and a compacted clay barrier over 100 feet in length

196R:6892d

WIPP Shaft Seal System Design Schematic



196R:6892

WIPP SEALING SYSTEM DESIGN REPORTS

Future Reports

- The "Sealing System Design Report" issued 10/95 forms the basis for the shaft seal system detailed design
- Design being reviewed by independent expert panel
  - To be completed 4/96
- 8/96 publish the WIPP Shaft Seal System Compliance Submittal Design Report
  - Will be used to incorporate the WIPP shaft seal system design in the compliance certification application submittal to the EPA, 10/96

196R:6892e

WIPP SHAFT SEALING SYSTEM DESIGN REPORTS

- Principal products
- WIPP shaft seal system design schematic
- Technology development and confirmation
- Materials and design approaches
- Design features
- Future reports

196R:6892f

WIPP SHAFT SEALING SYSTEM DESIGN REPORTS

Technology Development and Confirmation

- Permeability modeling and database development
  - Improved modeling of creep, fracture, and crushed salt consolidation
- Field demonstration of Disturbed Rock Zone (DRZ) healing
  - Small-scale seal performance tests show low permeability (less than 10^{-18} m^2)
- Field measurements of the Air Intake Shaft (AIS) DRZ
  - Fluid flow testing to characterize the extent and permeability of the AIS DRZ
  - Field testing completed 11/96

196R:6892h