



ENVIRONMENTAL EVALUATION GROUP



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# **RADIOACTIVE AND HAZARDOUS MATERIALS COMMITTEE NEW MEXICO LEGISLATURE**

## **WIPP UPDATE**

**Robert H. Neill  
Director**

**October 23, 1995  
Carlsbad**



Mr. Chairman, Members of the Committee:

Thank you for the opportunity to be here today to update you on the principal activities of EEG since last appearing before the Committee in June 1994.

### EEG Monitoring Program

The EEG monitoring program for radioactivity in the environment celebrates its 11th anniversary next month. Since 1985, the EEG has conducted specific radionuclides analyses of over 2,500 samples of air, water, biota, and soil. We have published 10 major reports, 3 related to on-site monitoring and 7 related to off-site monitoring. The most recent reports radioactivity at the Gnome site, located 5.5 miles southwest of the WIPP boundary. Prior to 1993 specific radionuclide analyses were performed by a commercial laboratory in Colorado. During 1993 the EEG established a radiochemical laboratory in Carlsbad. EEG has provided laboratory training for WIPP personnel and they plan to establish a similar capability for radionuclide in 1996.

The EEG laboratory continues to actively participate in the EPA's Performance Evaluation Studies Program and to receive high marks. EEG recently hosted a workshop demonstrating the use of new extraction chromatographic materials important in the measurement of transuranics in environmental samples, which was attended by WIPP laboratory personnel.

### EPA Criteria

We have commented on April 28 and September 14, 1995 on the January 30, 1995 proposed criteria to be issued by EPA for the disposal of TRU wastes at WIPP. The criteria to show compliance with the standards are scheduled to be issued by EPA in February 1996. These criteria and the standards will provide the yardstick to measure the long-term predicted behavior, scheduled to be completed by DOE in November 1996. We also testified on the proposed rule in March 1995. Principal concerns are:

- A) Credit should not be given to reduce a predicted drilling frequency for complying with required markers and records in libraries. They are independent events.
- B) Since the site does not meet the assurance requirement to avoid areas rich in mineral resources (past history of mining, rare mineral and high probability of future resource extraction), adopt requirements for additional engineered barriers. The purpose of all the assurance requirements is to improve confidence in the containment requirements. If a design is weak in one requirement it makes sense to strengthen another area as a compensatory mechanism.
- C) Require analyses for the impact of potash mining within the site and on adjacent properties by conventional methods and by solution mining.

#### EPA Advisory Committee

I serve on the EPA National Advisory Council on Environmental Policy and Technology (NACEPT) Committee on WIPP which met last month to discuss specific aspects of the proposed criteria. Other members for New Mexico are Secretary Jennifer Salisbury and Professor Rod Ewing of UNM. While EPA is behind schedule in issuing the criteria, they have been zealous in providing New Mexico every opportunity for input on the standards and criteria for safe TRU waste disposal by public comment, hearings, and committee meetings.

The standards were based on an allowable risk of 1,000 latent cancer deaths per ten thousand years, or one cancer death every ten years. Therefore, we need to ensure the standards are met and met with confidence.

#### Workshop on Potential Effects of Water Flooding

EEG held a technical workshop in June to address questions concerning the potential impact of salt water disposal and enhanced oil recovery on the WIPP repository. The technical

exchange included scientists and engineers from EEG, EPA, DOE, Sandia, the Bureau of Land Management, the New Mexico Oil Conservation Division, Westinghouse, and other groups with technical expertise on these issues. An EEG publication on the workshop is in preparation.

#### Draft Compliance Certification Application

The most important activity is to demonstrate that WIPP can meet the EPA standards for safe disposal. DOE hopes to complete their demonstration that it can be done safely by November 1996. To this end, DOE issued a 9 volume draft application in April and August 1995. Despite the fact that the application is substantially incomplete, EEG has supported their issuance of the document to enable review groups such as EEG to review and evaluate the document. We hope to complete most of our comments soon and provide them to DOE and EPA as well as others.

#### DOE Advisory Committee on External Regulation of Nuclear Safety

Proposed WIPP legislation would have DOE self-regulate WIPP for long-term disposal. As a member of the Secretary of Energy's Committee, we have addressed the issue of self-regulation by DOE. While the final report has not been completed, the Committee voted last week to oppose the continuation of self-regulation by DOE. We note that the DOE Carlsbad Area Office has also supported continuing EPA in a regulatory capacity rather than in an oversight capacity.

#### Safety Analysis Report

EEG has continued to review revisions to the FSAR. The EEG staff has had several specific technical exchange meetings with DOE and WID staff on topics such as probabilistic risk assessment, underground mine ventilation, and continuous air monitors. A notable change in the SAR, mutually agreed to by EEG and WIPP staff, will be to reduce the radioactivity

limit for contact handled (CH) drums from 1000 PuE-Ci to 80 PuE-Ci. This will result in a significant reduction in risks to WIPP workers and the potential consequences from or accidental environmental releases of radioactivity.

### Prioritization of DOE Environmental Restoration Activities

This summer I served on a National Research Council Committee to provide recommendations to DOE on the prioritization of work to clean up contaminated sites. DOE is to be commended for their efforts to try and tackle the estimated \$240 billion for environmental restoration cost more efficiently and rationally which includes \$12 million to clean up the Gnome site 20 miles east of Carlsbad, \$1.2 billion for Sandia, and \$4.4 billion for LANL.

WIPP, as you know, will dispose of 8 metric tons of Pu-239 at a projected cost of \$7.6 billion. The total estimated cost of environmental restoration and waste management activities in New Mexico is \$14 billion.

### EEG Reports

The following reports have been published in 1994 and 1995.

- EEG-54      Kenney, Jim W., Preoperational Radiation Surveillance of the WIPP Project by EEG During 1992, February 1994.
- EEG-55      Silva, Matthew K., Implications of the Presence of Petroleum Resources on the Integrity of the WIPP, June 1994.
- EEG-56      Silva, Matthew K., and Robert H. Neill, Unresolved Issues for the Disposal of Remote-Handled Transuranic Waste in the Waste Isolation Pilot Plant, September 1994.
- EEG-57      Lee, William W.-L., et al., An Appraisal of the 1992 Preliminary Performance Assessment for the Waste Isolation Pilot Plant, September 1994.

EEG-58 Kenney, Jim W., Paula S. Downes, Donald H. Gray, and Sally C. Ballard, Radionuclide Baseline in Soil Near Project Gnome and the Waste Isolation Pilot Plant, July 1995.

I'll be happy to respond to any questions.

### Reports and Publications

Lee, W. W.-L. and L. Chaturvedi. 1995. Radionuclide Retardation Mechanisms in the Culebra Aquifer at the Waste Isolation Pilot Plant. In Proceedings of the Conference on Radioactive Waste Management and Environmental Remediation, ICM '95, held in Berlin, Germany, September 3-7, 1995, edited by S. Slate, F. Feizollahi, and J. Creer. New York, NY: American Society of Mechanical Engineers, 877-881.

Chaturvedi, Lokesh and D. R. Anderson. 1995. The Treatment of Conceptual Model Uncertainty for the Waste Isolation Pilot Plant. In The Role of Conceptual Models in Demonstrating Repository Post-Closure Safety: Proceedings of an NEA Workshop, Paris, 16-18 November 1993, by the Organisation for Economic Co-operation and Development Nuclear Energy Agency. Paris, France: Organisation for Economic Co-operation and Development, 125-135.

Neill, Robert H. and Lokesh Chaturvedi. 1995. Outstanding issues for Transuranic Waste Disposal at WIPP. In Proceedings of the Sixth Annual International Conference on High Level Radioactive Waste Management, Las Vegas, Nevada, April 30 - May 5, 1995, by the American Society of Civil Engineers and American Nuclear Society. La Grange Park, IL: American Nuclear Society, 451-453.

Chaturvedi, Lokesh, William W.-L. Lee, Matthew K. Silva and Robert H. Neill. 1995. Unresolved Performance Assessment Issues for the WIPP. In WM '95 Conference Proceedings: HLW, LLW, Mixed Wastes and Environmental Restoration -- Working Towards a Cleaner Environment, February 26 - March 2, 1995, edited by Roy G. Post. Tucson, AZ: Laser Optics, 53-3.

Neill, R. H., W. W.-L. Lee, and L. Chaturvedi. 1995. Evaluation of the Proposed Compliance Criteria (40 CFR 194) for the WIPP. In WM '95 Conference Proceedings: HLW, LLW, Mixed Wastes and Environmental Restoration -- Working Towards a Cleaner Environment, February 26 - March 2, 1995, edited by Roy G. Post. Tucson, AZ: Laser Optics, 9-7.

- Neill, R. H. and W. W.-L. Lee,. 1995. Non-Conservative Assumptions in the 1992 Performance Assessment for the Waste Isolation Pilot Plant. In Scientific Basis for Nuclear Waste Management XVIII: Symposium held October 23-27, 1994, Kyoto, Japan, edited by Takashi Murakami and Rodney C. Ewing. Pittsburgh, PA: Materials Research Society, 519-526.
- Chaturvedi, Lokesh and Robert H. Neill. 1994. Current Status of the Waste Isolation Pilot Plant. In Proceedings of the Symposium on Waste Management Tucson, Arizona, February 27-March 3, 1994, edited by Roy G. Post. Tucson, AZ: WM Symposia, Inc., 1: 523- 525.
- Weiner, Ruth F. 1994. Effects of assumptions about gas behavior on modeled releases of volatile organic compounds from the WIPP. In Proceedings of the Symposium on Waste Management Tucson, Arizona, February 27-March 3, 1994, edited by Roy G. Post. Tucson, AZ: WM Symposia, Inc., 2: 1523-1528.
- Lee, William L. 1994. An Evaluation of the 1992 Performance Assessment for the Waste Isolation Pilot Plant. 1994 Federal Environmental Restoration III and Waste Minimization II Conference and Exhibition Proceedings, April 27-29, 1994. New Orleans, LA: Hazardous Materials Control Resource Institute, 2: 1400-1406.
- Neill, Robert H. and Lokesh Chaturvedi. 1994. Effects of Policy and Other Changes on Transuranic Waste Disposal at WIPP. In High Level Radioactive Waste Management: Proceedings of the Fifth International Conference, Las Vegas, Nevada, May 22-26, 1994, by the American Society of Civil Engineers and American Nuclear Society. La Grange Park, IL: American Nuclear Society, 1: 280-284.
- Silva, Matthew. 1994. The Impact of the DOE Decision Making Process at the Waste Isolation Pilot Plant with Respect to Petroleum Reserves. In High Level Radioactive Waste Management: Proceedings of the Fifth International Conference, Las Vegas, Nevada, May 22-26, 1994, by the American Society of Civil Engineers and American Nuclear Society. La Grange Park, IL: American Nuclear Society, 3: 1753-1761.
- Weiner, Ruth F. 1994. How Can a Radioactive Waste Disposal Facility achieve Compliance With RCRA?. In High Level Radioactive Waste Management: Proceedings of the Fifth International Conference, Las Vegas, Nevada, May 22-26, 1994, by the American Society of Civil Engineers and American Nuclear Society. La Grange Park, IL: American Nuclear Society, 3: 1525-1531.
- Lee, William W.-L. 1994. A Perspective on the 1992 Performance Assessment for the Waste Isolation Pilot Plant. In Proceedings of the International Topical Meeting on Nuclear and Hazardous Waste Management SPECTRUM '94, August 14-18, 1994, Atlanta, GA, by the American Nuclear Society et al. La Grange Park, IL: American Nuclear Society, 2: 1539-1544.

Weiner, Ruth F. 1994. Application of the Resource Conservation and Recovery Act (RCRA) to the WIPP. In Proceedings of the International Topical Meeting on Nuclear and Hazardous Waste Management SPECTRUM '94, August 14-18, 1994, Atlanta, GA, by the American Nuclear Society et al. La Grange Park, IL: American Nuclear Society, 3: 1957-1962.

Neill, Robert H. 1994. Perception of Radiation Risks Associated with the Disposal of Radioactive Transuranic Wastes in New Mexico. In International Conference on Radiation and Society: Comprehending Radiation Risks, October 24-29, 1994, Paris, France, by the International Atomic Energy Agency. [publication in process]

#### 1994

Silva, M.K.	9/14	"Implications of the Presence of Petroleum Resources on the Integrity of the WIPP," Citizens for Alternatives to Radioactive Dumping, Albuquerque
Lee, W.W.-L.	9/28-29	SPM Workshop, Carlsbad
Weiner, R.F.	9/30	"Possible Radiation Doses to TRUPACT-II Inspectors," Western Governor's Association Technical Advisory Group on WIPP Transportation, San Francisco, CA
Neill, R.H.	10/17	"Issues and Perspectives on TRU Waste Disposal at WIPP," Vanderbilt University, Dept. of Civil and Environmental Engineering, Hazardous Waste Engineering EWRE 355, Nashville, TN
Weiner, R.F.	10/21	Western Washington University, Seminar on WIPP and WIPP Regulation, Bellingham, WA
Neill, R.H.	12/1	National Transuranic Waste Update Meeting, San Antonio, TX

1995

Lee, W.W.-L.	2/6	Seminar, Hydrology Dept., NM Tech, Socorro
Neill, R.H.	2/9-10	"Role of EEG," NAS WIPP Committee, Washington, D.C.
Chaturvedi, L.	2/9-10	"Outstanding Issues for WIPP Disposal Decision," NAS WIPP Committee, Washington, D.C.
Neill, R.H.	2/14-16	"Waste Characterization," EPA Technical Compliance Workshop on WIPP, Washington, D.C.
Chaturvedi, L.	2/14-16	"Assuring the Quality of 'Old' Data for WIPP," EPA Technical Compliance Workshop on WIPP, Washington, D.C.
Silva, M.K.	2/14-16	"Passive Institutional Control: Experience to Date," EPA Technical Compliance Workshop on WIPP, Washington, D.C.
Neill, R.H.	3/13-14	"Some Perspectives on Environmental Restoration and the Disposal of Unwanted Residuals," Conference on Mixed Waste, Albuquerque
Neill, R.H.	3/20	"Background Material on EEG," EMNR Department tour of WIPP, Carlsbad
Chaturvedi, L.	3/20	"Why is WIPP Not Open Yet," Environmental Management Seminar, NMSU, Las Cruces
Neill, R.H.	3/21-23	EPA Public Hearings on 40 CFR Part 194 Proposed Rule, Carlsbad, Albuquerque, Santa Fe
Neill, R.H.	4/19	"Outstanding Issues for Radioactive Waste Disposal Including WIPP", Applied Radiation Technology, Radioactive and Hazardous Waste Management Dept., NMSU-Carlsbad
Neill, R.H.	4/21	"Outstanding Issues for Radioactive Waste Disposal Including WIPP," NM Health Physics Society Meeting, Albuquerque

Chaturvedi, L.	6/13	"Geologic Features Across the Oil Fields of Southeast New Mexico and West Texas," EEG Technical Workshop on Potential Effects of Oil and Gas Activities on the Future Performance of the Waste Isolation Pilot Plant, Albuquerque
Lee, W.W.-L.	6/13	"Need for Water Flooding Scenario in WIPP Performance Assessment," EEG Technical Workshop on Potential Effects of Oil and Gas Activities on the Future Performance of the Waste Isolation Pilot Plant, Albuquerque
Silva, M.K.	6/13	"Potential Effects of Oil and Gas Activities on the Salado and Overlying Formations," EEG Technical Workshop on Potential Effects of Oil and Gas Activities on the Future Performance of the Waste Isolation Pilot Plant, Albuquerque
Kenney, J.W.	6/26-27	DOE Focus Group Discussion on Chaturvedi, L. Engineered Alternatives Cost/Benefit Study, Carlsbad and Albuquerque
Neill, R.H.	7/14	"WIPP Issues and Activities," NM Radioactive Waste Consultation Task Force Meeting, Santa Fe
Bartlett, W.T.	7/24-27	"Status of the EEG's Review of the WIPP Safety Analysis Report," Health Physics Society Meeting, Boston, MA
Neill, R.H.	8/18/95	Briefing for Congressional Staff, Carlsbad
Chaturvedi, L.	8/25	Briefing for Congressional Staff, Carlsbad
Neill, R.H.	9/6-7	NACEPT WIPP Review Committee Meeting, Albuquerque

# Radioactive and Hazardous Materials Committee

## October 23, 1995

### NMED/HRMB Update for WIPP RCRA Permit Application

#### 1. RCRA Part B Permit Application

- Received on May 26, 1995, prior to the May 31 deadline imposed by NMED Secretary order of September 2, 1994. *How big -*
- NMED issued a letter closing the order on June 20, 1995.
- Public notice concerning NMED's receipt of Part B was published June 15, and notification mailed to over 1100 stakeholders.
- Public notice also listed locations of application for public review.

*→ deals only w/ hazardous constituents*

#### 2. RCRA Part B Permit Application - Administrative Completeness

- HRMB conducted an administrative completeness review prior to finalization of contract with A.T. Kearney.
- Issued a letter of determination of completeness to DOE on July 25, 1995.
- Review did not address technical adequacy of application.

#### 3. RCRA Part B Permit Application - Technical Review Method

- HRMB established a revised schedule for technical review activities.
- Alternative strategies suggested by contractor were either consecutive chapter reviews or simultaneous chapter reviews.
- Settled on a "semi-simultaneous" review of multiple chapters, starting with the more substantial chapters and ending with less controversial chapters.
- HRMB is conducting informal discussions with DOE, requesting clarifying information which provides iterative feedback during the technical review process.
- Anticipate issuing a formal Notice of Deficiency (**NOD**) in mid-December for all unresolved issues.

#### 4. Development of Draft Permit

- Assuming no delays in DOE response to NOD, draft permit development is projected to begin in mid-January.
- Projected issuance of draft permit for public comment is mid-1996.
- Impact of DOE submitting final No-Migration Variance Petition when draft permit issuance is scheduled is currently under study.
- Remaining schedule is tenuous due to uncertainties surrounding public comment process (extension of comment period, requests for public hearing, etc).

Steve Zappe  
Hazardous and Radioactive Materials Bureau  
New Mexico Environment Department

**Locations of Public Copies of the  
WIPP Hazardous Waste Disposal Permit Application**

NMED Hazardous & Radioactive Materials  
Bureau  
525 Camino de los Marquez, Suite 4  
P.O. Box 26110  
Santa Fe, NM 87502  
Ph (505) 827-4308

NMED District I Office  
4131 Montgomery Blvd, NE  
Albuquerque, NM 87109  
Ph (505) 841-9472

NMED District III Office  
P.O. Box 965  
1001 North Solano Drive  
Las Cruces, NM 88001  
Ph (505) 524-6300

NMED District IV Office  
1914 West Second  
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325 Don Gaspar  
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New Mexico Junior College  
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Hobbs, NM 88240

Carlsbad Public Library  
101 South Halagueno Street  
Carlsbad, NM 88220

Zimmermann Library  
Government Publications Department  
University of New Mexico  
Albuquerque, NM 87138

WIPP Public Reading Room  
National Atomic Museum  
U.S. Department of Energy  
Albuquerque Field Office  
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