**Department of Energy**
Carlsbad Area Office
P. O. Box 3090
Carlsbad, New Mexico 88221

September 5, 1997

Senator Dede Feldman, Chairwoman
Radioactive & Hazardous Materials Committee
In Care Of: Mr. Gordon Meeks, NM Legislative Council
311 State Capital
Santa Fe, NM 87503

Subject: Responses to comments made during the August 29, 1997, Radioactive & Hazardous Materials Committee Meeting in Carlsbad, New Mexico

Dear Senator Feldman:

I was deeply concerned by some of the testimony presented during the recent Radioactive & Hazardous Materials Committee meeting held in Carlsbad on August 29, 1997. I believe a portion of the testimony provided was either inconsistent or incomplete in that it did not fully convey an accurate rendition of the activities being briefed.

Therefore, I am enclosing two Memos for Record that I request be placed in your committee's records for the activities discussed during the Carlsbad meeting.

If you, or any of your distinguished colleagues, have questions regarding these enclosures, please contact me at (505) 234-7300.

Sincerely,

George E. Dials
Manager

Enclosure (2)

cc w/ encl.:
Governor Gary Johnson
Tom Udall, Attorney General
J. Heaton, Representative & Vice Chair
Radioactive & Hazardous Materials Committee
Mr. Gordon Meeks, New Mexico Legislative Council
F. Marcinowski, EPA
M. Weidler, Secretary NMED

DOE F 1325.8

United States Government **Department of Energy**

# memorandum

Carlsbad Area Office
Carlsbad, New Mexico 88220

DATE: September 5, 1997

REPLY TO: CAO:ORC:CAS 97-1930 {UFC 5486.00}

SUBJECT: New Mexico Radioactive and Hazardous Materials Committee Meeting August 29, 1997 in Carlsbad, NM

TO: Memo for Record

During the subject meeting several statements were made or implied that are not consistent with information that I was aware of. This memo will capture my understanding of:

1) Several issues as discussed by Dr. Mark Turnbough of MT & Associates, representing the Andrews Texas hazardous waste treatment, storage, and disposal facility, on behalf of Waste Control Specialists, and;

2) Statements by Dr. Ed Kelley of the New Mexico Environment Department (NMED), representing the State of New Mexico, with regards to the Waste Isolation Pilot Plant's hazardous waste permitting process.

**Andrews, Texas Hazardous Waste Facility**

Dr. Turnbough's statement:

Dr. Turnbough indicated/implied that the process of obtaining a hazardous waste permit for the Andrews, Texas facility took approximately three years.

My understanding:

The permitting process, from when the Hazardous Waste Disposal Permit application was submitted until the time the permit was issued, was approximately one and one half years.

Based On:

a. According to the facility's Environmental Manager, Mr. Pat McCarl, the hazardous waste facility permitting process took somewhere around a year and one half.

b. Mr. David Murry of the Texas Natural Resource Conservation Commission (TNRCC), the permitting agency, said the Andrews facility Part B permit application was submitted/received around March 15, 1993 and the permit subsequently issued August 5, 1994.

c. Mr. Jim Sales with the Environmental Protection Agency (EPA) Region VI Toxic Substance Control Act (TSCA) permitting section confirmed the dates from the TNRCC

Conclusion:

So, I believe the permitting of the Andrews facility took approximately one and one half years instead of the three years implied by Dr. Turnbough.

**NMED Permitting Activity for the WIPP**

Dr. Kelley's statements:

The NMED is unable to issue a permit any faster because: 1) errors with the DOE/WID's Revision 6.3 page changes to the permit application along with software deviations between the CAO/WID and the NMED; and, 2) impacts due to the amendment to the WIPP Land Withdrawal Act (LWA) and the large amount of additional material NMED requested and needed to review because of the LWA.

**FIRST**, regarding the errors with our submittal of the Revision 6.3 page changes along with software deviations:

My understanding:

The State was not significantly impacted in their permit development process due to the deficiency with the Revision 6.3 update.

Based On:

a. Mr. Steve Zappe, the permit writer for the NMED, had previously indicated that the errors did not impact the preparation of the draft permit by much more than a week because he was working on modules for the draft permit that were unaffected by the errors. Mr. Zappe has kept working on the modules of the draft permit, was not significantly impacted by these errors, and was able to continue his work with minimal impact on the schedule.

b. Verbally we offered the NMED the use, on a loaner basis, of a new computer with updated software to facilitate their development of the permit. This offer was declined.

Conclusion:

Dr. Kelley's statements about the impacts of the Revision 6.3 errors are greatly exaggerated.

**SECOND**, with regard to the WIPP Land Withdrawal Act Amendments (LWAA):

My understanding:

The WIPP LWAA did not impact the permitting activities of the NMED.

Based On:

a. Shortly after passage of the LWAA, the DOE sent a letter (October 21, 1996) to Benito Garcia of the NMED requesting a meeting with the legal and technical staffs to discuss any impacts the amendment may have had on the State's environmental regulations. On October 31, 1996, Mr. Garcia responded and said in part, "Because this change in the WIPP LWA does not affect our authority nor our current regulatory and permitting activities, NMED sees no need to engage in discussions with DOE on this subject." Therefore, NMED did not meet with us at that time. Mr. Garcia went on to say that NMED was currently developing the preliminary draft permit and will be coordinating some of these activities with the EPA Office of Radiation and Indoor Air to ensure consistent application of the environmental rules.

b. Subsequently, the Hazardous and Radioactive Materials Bureau (HRMB) sent the DOE a letter dated April 29, 1997, concerning the WIPP LWAA:

- The NMED stated in part, "the LWAA also adversely impacted HRMB's permitting activities and, as a result, will impact the timeliness of issuing a draft permit."

- This letter also requested a considerable amount of information, most of which was from the Compliance Certification Application (CCA).

c. DOE/WID requested and subsequently had a meeting in mid-May 1997 between our technical and legal teams and those of the NMED. Dr. Kelley was present at this meeting where the DOE/WID were told several things:

- The NMED pointed out that the material they were requesting in the April 29, 1997 letter having to do with the long term performance of the repository, i.e. material from the CCA and the No-Migration Variance Petition, would not need to be reviewed, as their technical contractor had already reviewed it under a separate contract with the EPA.

- The NMED indicated that this material would not become part of the permit, only that it was needed to be part of the official administrative record (docket) for the hazardous waste permitting activities.

Conclusion:

Dr. Kelley's implication that the significant factor in the delay of preparing the draft permit was the enormous amount of information they needed to review is a surprise and not consistent with the previous statements by the NMED.

Craig A. Snider
Compliance Engineer
Office of Regulatory Compliance
Carlsbad Area Office

Environment, Safety, and Health
234-8380
September 5, 1997

DA:97:13020
UFC:5486.00

NEW MEXICO RADIOACTIVE AND HAZARDOUS MATERIALS COMMITTEE MEETING HELD IN CARLSBAD, NEW MEXICO ON 8/29/97

Memo For Record

The purpose of this memo is to document and reflect on some of the key issues and discussions as presented by the New Mexico Attorney General's Office (NMAGO) during the New Mexico Radioactive and Hazardous Materials Committee Meeting held in Carlsbad, New Mexico on August 29, 1997. During the meeting, Mr. Lindsey Lovejoy, an assistant in the NMAGO, made a presentation to the members of the committee. His talk centered on two issues; the EPA process for review of the WIPP Compliance Certification Application (CCA), and the fact that the DOE has not incorporated the waterflooding scenario into the Performance Assessment for the CCA.

He made a number of points in his historical recap of the EPA process to date. Most of what he said was indeed factual. However, his characterization of the intent was in many cases wrong and he omitted some facts in cases where such facts are important. In his discussion of the waterflooding scenario, his main argument was that waterflooding can go wrong, and if it does - near the WIPP, it could be a disaster. However, he failed to adequately discuss the following:

- the assumptions NMAGO used in the construct of its consequence model;
- the geological differences between the Hartman location and those at the location of the WIPP site, and
- the fact that standard drilling practice in the Delaware Basin has changed dramatically since the 1930's when the Rhodes-Yates field was initiated.

The points that were emphasized during the course of the discussions at the meeting are highlighted in more detail below.

**1) The EPA process**

**Issue A Schedule constraints**

Mr. Lovejoy explained that the DOE submitted the CCA on 10/29/96 after issuing several earlier drafts. This is accurate and important because he implied later during the discussions that the current EPA schedule allows insufficient time for a good review of the application and of the EPA decisions forthcoming in the Proposed Rulemaking and in the Final Rule. The fact is that WIPP stakeholders have had many opportunities to review not only the application and several predecessor versions of the important components thereof, but are also being afforded more than the standard requires (the Administrative Procedures Act) for public participation in a regulatory decisionmaking process.

effectively, and in a business like manner; consistent with both the legislative and regulatory requirements.

**Issue F EPA withholding information**

Mr. Lovejoy then stated that the EPA has not made its technical basis for the altered input parameter values that they prescribed for PAVT available to the public. The fact is that, as is customary, the EPA will provide the explanation in its Technical Support documentation and/or its Background Information which will accompany the Proposed Rulemaking. The appropriate justification is very simply 1) that the parameters selected by EPA were important with regard to potential impact on the final calculation results, and 2) the altered parameter values are different, and more conservative, but not unreasonable in the Agency's opinion based upon the available information reviewed in the decisionmaking process.

**Issue G Peer review results**

Mr. Lovejoy then stated that the EPA is relying on the results of the peer reviews conducted by the DOE, that the materials provided to the Peer Panels were not made available to the public, and implied that this posed a problem. It is currently not clear what information set the EPA will rely upon in its certification decision; we will all find out together when the Proposed Rule is issued. In any event, all peer review results and reports were provided to the EPA WIPP dockets, which are available to the public.

**2) The Waterflooding Scenario**

Mr. Lovejoy then moved to a discussion of a technical matter that has been the topic of several exchanges with both the EPA and stakeholder groups since 1995[1]. His proposed issue, stated generally, is that the waterflooding scenario has not been incorporated into the WIPP PA - and it is inappropriate for the DOE to exclude it. He then discussed the Hartman scenario (with which several committee members seemed to be familiar) and explained that he had subcontracted with Mr. John Bredehoeft to develop a model which would predict the consequence of the waterflooding scenario for WIPP. Here is where he failed to tell the whole story and consequently misrepresented the importance of including the waterflooding scenario in WIPP PA calculations. The following are the more compelling arguments which defend the DOE position - that waterflooding is not of consequence to the WIPP even if it does occur in the vicinity of the site and even if the injection fluids fail to stay in the permitted injection interval. The DOE's position is based on a comprehensive screening argument presented in the CCA where scientific evidence is used to show waterflooding to be inconsequential. The basis for the NMAGO's argument is the Hartman vs. Texaco legal decision. In this case a non-technical jury found in favor of Hartman. Hartman based his case on the hypothesis that the Texaco injection well was the only logical cause of the water flow encountered at the Hartman drilling site. It is this legal decision - which the NMAGO has extended to represent scientific fact - that is the basis for the assumptions made, the material properties assigned, and the model boundary conditions used by Mr. Bredehoeft in design and implementation of the NMAGO waterflood consequence model.

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The following is a list which has been verified complete:

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| 1. | June 1995 | EEG Workshop on Fluid Injection | Albuquerque, NM |
| 2. | November 1995 | EPA Technical Exchange Meeting | Washington, DC |
| 3. | October 1996 | EPA Technical Exchange Meeting | Carlsbad, NM |
| 4. | May 1997 | NAS/WIPP Panel Meeting | Washington, DC |
| 5. | July 1997 | EEG Quarterly Meeting | Santa Fe, NM |

It is important to know the following before passing any judgment on either the appropriateness of the NMAGO consequence model for predictions at the WIPP location, or the appropriateness of the DOE decision to screen this scenario from the WIPP PA.

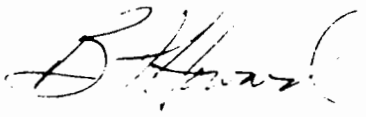
1) The WIPP site is approximately 30 miles from the location where the Hartman event occurred. There are appreciable differences in the geologies and hydrologies at these two locations which make the model comparisons uninformative. The fact that the two models predict quite different behavior should not surprise anyone.
2) The standard oilfield practices used in the Delaware basin have changed considerably since injection activity began at the Texaco well which is supposedly the cause of the Hartman event. Operators, driven both by the economic need to be more effective and efficient and the regulations which govern deep well injection, simply do not go about the business of waterflooding for reservoir stimulation the same way it was approached in the 1960's. The point here is that even if the Texaco well was the cause for the Hartman event, it would not likely occur again anywhere because the operators are much more careful to ensure their floods stay in the permitted injection interval.

There are other arguments which have been made by the DOE that effectively bolster their case. For example, the Rhodes-Yates field, where the Hartman lease is located, was developed in the 1930's. Typical oil field technology at that time included the use of nitroglycerin to induce fractures in the target formation. This method was very effective in increasing permeabilities, but is no longer an acceptable method. The area in the WIPP vicinity has been developed in recent years using more modern techniques.

The Rhodes-Yates field is not a suitable analogy for WIPP. This not withstanding, there is still a technical difference of opinion regarding the appropriate way to model a hydrofracture. This difference of opinion is not important with respect to the certification decision. No matter how one models the phenomena, while it poses a stimulating platform for technical discussion and future study, such "runaway" injection events simply don't occur. The WIPP PA is required by regulation to represent the set of potential future events which could impact the performance of the repository consistent with current drilling practices used in the Delaware Basin. The level of care used by operators currently would make such an event extremely unlikely - and if it did occur - it would be noticed by the operator and acted on in a matter of days rather than assuming the 150 year period of continuous operations which was conservatively assumed by both DOE and the NMAGO in their respective consequence models. This type of treatment would render the scenario inconsequential using either model for WIPP evaluations.

**3) The Appropriateness of NMAGO Involvement at a Detailed Technical Level**

During the final question and answer session which followed Mr. Lovejoy's presentation, one other noteworthy point was made. Several members of the committee seemed quite interested in the appropriateness of the NMAGO having past and current involvement at such a detailed, technical level. The members seemed quite bothered by the fact that the NMAGO felt it was within his charter to expend taxpayer funds for detailed technical criticisms of a purely regulatory decisionmaking process. The committee cautioned the NMAGO office to consider this issue, and in any event, be much more careful about what it poses as issues in the future.



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