

File
TONEY ANAYA
GOVERNOR

DENISE D. FORT
DIRECTOR



STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION

P.O. Box 968, Santa Fe, New Mexico 87504-0968
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CERTIFIED MAIL
RETURN RECEIPT REQUESTED

May 7, 1985

Mr. Harold Valencia, Manager
US Department of Energy
Los Alamos Area Office
Los Alamos, N.M. 87544

Dr. Donald Kerr, Laboratory Director
The University of California
Los Alamos National Laboratory
Los Alamos, N.M. 87544

RE: COMPLIANCE ORDER/SCHEDULE

Dear Messers. Valencia and Kerr:

Enclosed herein is a COMPLIANCE ORDER/SCHEDULE filed against the Los Alamos National Laboratory (LANL) pursuant to the New Mexico Hazardous Waste Act, Laws of 1977, ch. 313, presently compiled as 74-4-1 to 74-4-3, 74-4-4, 74-4-5, 74-4-8, 74-4-11 and 74-4-12 NMSA 1978. The Compliance Order/Schedule states that LANL has failed to comply with the Hazardous Waste Management Regulations promulgated under the authority of the New Mexico Hazardous Waste Act. These violations are specifically set out.

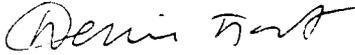
You are required to respond to this Compliance Order/Schedule within the required time frames. These time frames were developed and agreed to by both the EID and your staff on their March 7, 1985 meeting in Santa Fe. (We apologize for the delay in issuing this Order; however, your staff has known about these agreed upon dates, so proceeding toward compliance shouldn't have been delayed.) These time frames are provided as required under Section 74-4-12 of the New Mexico Hazardous Waste Act. If these time frames are not adhered to penalties of up to ten thousand (\$10,000) dollars per day per violation for failure to comply with this Compliance Order/Schedule will be sought in District Court by the EID. Note that each day the cited violations continue constitutes a new violation for which additional penalties may be imposed.



Los Alamos National Laboratory
May 7, 1985
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We await your response and are available for consultation on this matter. All questions should be addressed to Peter H. Pache of the Hazardous Waste staff. He can be reached at (505) 984-0020 Ext. 340.

Sincerely,



Denise Fort
Director

DF/JE/mp

cc: Guanita Reiter, EPA Region VI
Tito Madrid, EID, District II
Duff Westbrook, EID, Legal

ENVIRONMENTAL IMPROVEMENT DIVISION

IN THE MATTER OF:)	Docket Number
Los Alamos National)	<u>NMHW 001007</u>
Laboratory)	
Los Alamos, New Mexico)	COMPLIANCE ORDER / SCHEDULE
<u>EPA ID #NM0890010515</u>)	

The Compliance Order/Schedule is issued pursuant to Section 74-4-10 of the New Mexico Hazardous Waste Act, Laws of 1977, ch. 313, NMSA 1978 by the authority delegated by the New Mexico Legislature to the Director of the Environmental Improvement Division (EID).

Complainant, the Director of the EID, has determined that Los Alamos National Laboratory (this facility includes both the University of California [UC] and the Department of Energy [DOE]), EPA ID #NM0890010515, hereinafter referred to as Respondent, has violated the New Mexico Hazardous Waste Act and the regulations promulgated thereunder.

FINDINGS

1. Respondent is an owner or operator of a facility which generates and treats, stores and/or disposes of hazardous waste at its facility located at Los Alamos, New Mexico.
2. Pursuant to Section 202.B. & 202.D. of the New Mexico Hazardous Waste Management Regulations (HWMR-2), Respondent timely notified EPA that it was a generator and treatment, storage and/or disposal (TSD) facility for hazardous waste.
3. This notification and Part A submittal (dated August 12, 1980) included: disposal in a landfill (D80); disposal in a surface impoundment (D83); and treatment by physical, chemical, thermal or biological means (T04).
4. Since the initial notification and Part A submittal one valid subsequent Part A has been submitted; dated July 25-26, 1985. This included: storage in containers (S01); disposal in a landfill (D80); treatment in a tank (T01); and treatment by physical, chemical, thermal or biological means (T04). It deleted treatment in a surface impoundment (D83).
5. Since there was not a closure plan submitted and approved for the surface impoundment that component still has interim status and must comply with HWMR-2.
6. On or about May 22, 1984 LANL was conducting their business of operating a research laboratory and generating, treating, storing and/or disposing of hazardous waste.
7. On or about May 22, 1984 LANL was inspected by member(s) of the EID Hazardous Waste Section's staff.

8. On or about June 26, 1984 EID issued a Notice of Violation (NOV) enumerating the violations discovered as a result of the inspection.
9. LANL responded to the NOV in a letter dated July 26, 1984. This letter demonstrated compliance in six of the thirteen violations cited in the NOV.
10. The July 26, 1984 letter also responded to three of the four inquiries posed by the EID. These inquiries were part of the June 22, 1984 NOV.
11. On September 11, 1984, a meeting between LANL and EID was held. The purpose of the meeting was to discuss remaining issues and to present EID comments on several documents which had been submitted by LANL. EID posed two additional inquiries at this meeting.
12. On September 26, 1984 another meeting was held to discuss compliance issues. At that time the fourth inquiry of the June 22, 1984 NOV was responded to and LANL agreed to submit the following:
 - A. By November 1, 1984 new evidence of compliance with:
 - a. Waste analysis provisions;
 - b. Personnel training provision;
 - c. Submit an accurate Part A; and,
 - d. Ground water monitoring waiver documentation.
 - B. By December 1, 1984:
 - a. Closure plans; and,
 - b. Post-closure plans.
13. Subsequent submittals were made by LANL; one dated November 1, 1984, the other November 30, 1984.
14. EID reviewed all of the submittals made by LANL in response to the NOV issued. EID found six items to be in compliance, four items (closure, post-closure, waste analysis and contingency plans) to have been submitted as requested (their adequacy will be determined via a Part B review). Seven issues remaining to be corrected.
15. A meeting was held on February 5, 1985 to discuss EID's findings. At that time the following items were presented as still being in non-compliance:
 - A. Ground water monitoring/waiver demonstration;
 - B. Biennial reports, notifications and other RCRA related documents were not being signed by appropriate officials from both DOE and UC;
 - C. All LANL TSD locations need to have and implement an inspection schedule;
 - D. All inspections must be documented and must follow the schedule required in 15 C above;
 - E. LANL personnel training program must be implemented;
 - F. A closure and a post-closure plan for the surface impoundment that treats lithium hydride; and,

5/17/85
Compliance
Over 15th Feb

G. Account for past disposal of EP (extraction procedure as defined by Section 201 of HWMR-2) toxic high explosive (HE) sands.

16. The result of the February 5, 1985 meeting was to meet again in four weeks to finalize a compliance order/schedule. In the interim, representatives from both LANL and EID would meet on the ground water waiver documentation issue and develop a suitable plan. Additionally, LANL would be able to use the interim to comply with the other existing violations.

17. A meeting was held on March 7, 1985 to finalize a compliance order/schedule. At this meeting the following violations were addressed:

A. HWMR-2, Section 206.C.1.a.(1) requires any owner of hazardous waste surface impoundment, landfill or land treatment facility to implement a ground water monitoring program capable of determining the facility's impact on the uppermost aquifer.

LANL does not have a ground water monitoring program at this time. They have requested a waiver as provided for by HWMR-2, Section 206.C.1.a.(3), but have failed to provide the necessary documentation required under that Section.

B. HWMR-2, Section 202.B. and D., 203.A.3., and 203.C.3., requires the signature of the owner and/or operator of a facility on notifications and biennial reports. At the time of the inspection these documents were being signed by other facility personnel.

At the March 7, 1985 meeting EID was presented with a document authorizing other specific facility staff to sign for the owner/operator.

C. HWMR-2, Section 206.B.5.b. requires facilities to develop and follow a written schedule for inspecting equipment and physical structures.

At the time of the inspection LANL was unable to produce a document meeting the requirements of the above cite.

D. HWMR-2, Section 206.B.5.e. requires that a record of all inspections be kept in an inspection summary.

At the time of the inspection LANL was not keeping a summary log of all inspections conducted at the LANL facility components.

E. HWMR-2, Section 206.B.6. requires all facilities to implement a personnel training program. This program must be presented to all personnel within six months of their employment. All personnel must take part in an annual review of the training. All training must be documented.

At the time of the inspection LANL did not have a training program in place. Also, LANL did not have any of the documentation required by the above cite.

- F. HWMR-2, Section 206.C.6.f. requires the owner/operator of a hazardous waste surface impoundment to develop and have available for review by an inspector a closure/post-closure plan.

At the time of the inspection LANL did not have closure/post-closure plan available for review by the inspector.

- G. LANL was requested to submit documentation responding to EID's inquiry regarding the final disposition of EP toxic HE sands.

At the September 11, 1984 meeting LANL was requested to submit the documentation on the analytical results of EP toxic tests of the HE sands as well as a description of their final disposition.

COMPLIANCE ORDER/SCHEDULE

Based on the above findings the complainant hereby issues this compliance order/schedule (New Mexico Hazardous Waste Act, Section 74-4-10) to the Respondent. The following must be submitted (post-marked) to EID by the dates provided under each section.

18. LANL will submit a written schedule for conducting all inspections at each hazardous waste component of the LANL facility. This schedule must comply with all the provisions of Section 206.B.5. of HWMR-2. Included with the schedule will be a certification that the schedule has been implemented and the date when that implementation occurred. This task will be completed by May 1, 1985.
19. LANL will record the results of every inspection on each component of its hazardous waste facility. This record will be in log or summary form and will fulfill all the requirements of Section 206.B.5. of HWMR-2. Included with this documentation will be a certification declaring that each of the inspections will be conducted as scheduled and the date when the inspections were implemented. This task will be completed by May 1, 1985.
20. LANL will submit a copy of their personnel training program. This document will meet all the requirements of Section 206.B.6. of HWMR-2. This submittal will include but is not limited to: (1) Course outline; (2) A list of job titles and their associated job descriptions for all categories that are involved in the handling of hazardous waste; and, (3) A numerical figure that represents the number of individuals in each of the job classifications that handle hazardous waste, together with a generic description of these classifications, experience and education. This task will be completed by May 1, 1985.
21. LANL will implement the training program, required in 20, in its entirety. The implementation will follow all the requirements in Section 206.B.6. of HWMR-2. This task will include a submittal by LANL's responsible corporate or executive officer or his/her official designee, certifying the date which this program was implemented. This task will be completed by October 1, 1985.

22. LANL will be inspected for compliance with HWMR-2 in the fourth quarter, July through September, 1986. At that time LANL will have conducted its first annual review of the personnel training program.
23. LANL was required to submit documentation responding to EID's inquiry regarding the final disposition of HE EP toxic sands.

Prior to March 7, 1985 meeting LANL provided EID with a report detailing a number of old waste sites they are currently looking at. One of those sites was the disposal location for the HE EP toxic sands.

This will be addressed later under a corrective action program. This task is considered complete at this time.

24. LANL is required to submit a closure/post-closure plan for its surface impoundment. At the March 7, 1985 meeting the need for assessing the impoundment contents and any possible migration of contamination from the pond was discussed. It was decided that investigatory activities at the surface impoundment required activities similar to those negotiated for the ground water monitoring waiver demonstration. Therefore, the following tasks, with their completion dates, may coincide with waiver demonstration tasks:
 - A. All drilling, coring and sampling will be completed within eight months from receipt of this action.
 - B. All sample analysis and data interpretation will be complete in sixteen months from receipt of this letter.
 - C. A written report documenting the findings will be submitted to EID within eighteen months from receipt of this letter.
25. LANL will implement the following ground water monitoring/ground water waiver demonstration activities and comply with the indicated dates.

TASK 1.

Parameter / Task

Intrinsic permeability (k) of tuff.

Acceptable Method(s)¹

Constant head tests^{2,3}.

Frequency / No. of Samples

- a. At least 5 holes 125' deep; and,
- b. At least 1 test per horizon per hole with a minimum of 6 tests per hole.

Location(s)

Areas TA-54 area L and TA-54 area G

Reporting Date

- a. March 31, 1986 (a coherent report)
- b. March 31, 1987 (a publishable report)

Importance

- a. Basic rock characteristic
- b. k is referenced in RCRA ammendments
- c. Needed to analyze flow of gases

TASK 2.

Parameter / Task

Moisture characteristic curve for tuff () where θ is wetness and ψ is matrix potential.

Acceptable Method(s)¹

- a. Any of the standard lab methods; and,
- b. More than one method probably needed to include all moisture conditions⁴.

Frequency / No. of Samples

At least 5 samples from each of at least 4 horizons.

Location(s)

Areas L and G

Reporting Date(s)

- a. March 31, 1986 (a coherent report)
- b. March 31, 1987 (a publishable report)

Importance

- a. Basic rock characteristic
- b. Needed to predict unsaturated conductivity, vapor diffusion, effective porosity, seepage velocity, and to interpret task 5.

TASK 3.

Parameter / Task

Unsaturated hydraulic conductivity k () of tuff.

Acceptable Method(s)¹

- a. Both theoretical (based on task 2.) and laboratory methods are required; and,
- b. sufficient number of different methods must be employed to give trustworthy predictions⁴.

Frequency / No. of Samples

At least 5 samples from each of at least 4 horizons.

Location(s)

Areas L and G same location as task 2.

Reporting Date(s)

- a. March 31, 1986 (a coherent report)
- b. March 31, 1987 (a publishable report)

Importance

Needed to predict seepage velocity and fluxes and to interpret task 5.

TASK 4.

Parameter / Task

Infiltration and redistribution of meteoric water into tuff.

Acceptable Method(s)¹

Both tuff moisture content and matrix potential must be measured by neutron logging and either moisture blocks and/or psychrometry.

Frequency / No. of Samples

- a. At least 4 holes; two 50' deep and two 100' deep;
- b. Each two weeks neutron logging with daily logs after two autumn storms; and,
- c. 10 potential sensors per hole.

Location(s)

Two at TA-54 Area L and two at TA-54 Area G.

Reporting Date(s)

- a. Equipment in place and functioning by March 31, 1986 (a coherent report)
- b. March 31, 1987 (a publishable report).

Importance

- a. Gives potential gradients in tuff;
- b. Allows integration of tasks 2. and 3. into overall picture; and,
- c. Gives actual infiltration rates and water fluxes.

TASK 5.

Parameter / Task

Core and pore gas analysis.

Acceptable Method(s)¹

- a. Standard methods of soil science for inorganics to be done on cores; and,
- b. GC or GC/MS for VOs both on cores and on gas samples collected in field.

Frequency / No. of Samples

- a. At least 6 holes of varying depths;
- b. Cores analyzed for inorganic contaminants and VO scan at 10' intervals; and,

- c. Pore gas samplers in bottoms of holes (at least one per hole); and,
- d. Analyze quarterly.

Location(s)

4 at TA-54 Area L and 2 at TA-54 Area G.

Reporting Date(s)

- a. Core analysis by November 30, 1985; and,
- b. Pore gas results by July 31, 1986 and quarterly thereafter.

Importance

- a. Direct measurement of movement of wastes in tuff; and,
- b. Surveillance prior to closure of impoundment at Area L

TASK 6.

Parameter / Task

Analysis of perched water

Acceptable Method(s)

Observation wells in side canyons and report summarizing applicability of research in Mortandad Canyon

Frequency / No. of Samples

- a. 6 wells bottoming in tuff screened throughout maximum saturated thickness ; and,
- b. Samples and water levels quarterly.

Location(s)

Three in Canada del Buey and three in Pajarito Canyon

Reporting Date(s)

- a. Analysis by November 30, 1985; and,
- b. Hence quarterly.

Importance

- a. Monitoring of hazardous constituents in perched water
- b. Helps quantify thickness, seasonal extent, and fate of perched water in side canyons.

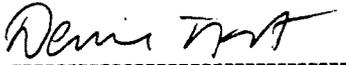
- 1 This means a coherent (by March 31, 1986) and publishable (by LANL standards by March 31, 1987) report should be written based on the methods indicated and any other ancillary work required.
- 2 Tests conducted with water must involve CO₂ flooding and unsaturated flow analysis.
- 3 Flow tests or pressure transient tests may be used, as appropriate. Analysis must include fracture logging and may include analysis of fracture contribution.
- 4 Drying curve only required.

26. Compliance with these requirements does not relieve the Respondent of its responsibilities under any other statutes or regulations. Compliance with this order will not necessarily fulfill the requirements for completion of the Respondent's Part B application.

PENALTY

27. The Complainant, in accordance with its enforcement policy for the Hazardous Waste Section, has pursued this matter to the end of its administrative options. If for any reason the Respondent should default on any provision of the enclosed compliance order/schedule, the Complainant will file an action in District Court to enforce this order/schedule and seek court penalties pursuant to Section 74-4-12 (Civil Penalties) of the New Mexico Hazardous Waste Act which provides for a civil penalty of up to ten thousand (\$10,000) dollars per day for each violation.
28. All correspondence relating to this compliance order/schedule shall be sent by Registered Mail or Certified Mail, return receipt requested, to the following address:

Peter H. Pache, Program Manager
Hazardous Waste Section
P. O. Box 968 - Crown Building
Santa Fe, New Mexico 87504-0968



Denise Fort, Director
Environmental Improvement Division