



Department of Energy
Albuquerque Operations
Los Alamos Area Office
Los Alamos, New Mexico 87544

APR 21 1989

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

RECEIVED

APR 21 1989

C. Kelley Crossman
Permitting Supervisor
Hazardous Waste Bureau
Environmental Improvement Division
1190 St. Francis Drive
Santa Fe, New Mexico 87503

HAZARDOUS WASTE SECTION

Dear Mr. Crossman:

Enclosed are our comments on the final draft of the RCRA operating permit for Los Alamos National Laboratory (Laboratory). The following is a listing of the enclosures:

- 1) Comments on draft RCRA permit.
- 2) Attachment A, Revised Waste Analysis Plan.
- 3) Attachment B, Revised inspection forms to replace all forms currently in Attachment.
- 4) Attachment C, Revised job descriptions to replace all pages after page C-3.
- 5) Attachment D, Revised Contingency Plan.
- 6) Attachment F, Revised Container Management.
- 7) Attachment G, Revised Authorized Wastes.
- 8) Attachment H, Revised Batch Waste Treatment Unit Operation.
- 9) Attachment K, Revised Incinerator Operational Safety.

In addition, the DOE does not believe that Attachment I, Additional Data Submittal Schedule, should be included as a part of the permit conditions. A hazardous waste permit is issued to storage, treatment, or disposal facilities under HWMR-5 Part V, 264 and Part IX, 270. The generator requirements in HWMR-5, Part III, 262.11, which require a generator of solid waste to determine if he has a hazardous waste, are not part of the permitting requirements, and therefore, should not be a condition of the permit.



8372

TR

C. Kelley Crossman

-2-

Thank you for your cooperation during the technical review process. If you have any questions, please call me or Donna Lacombe at 667-5288.

Sincerely,

A handwritten signature in cursive script, appearing to read "J. A. Phoenix".

James Phoenix, Chief
Technical Programs Branch

9 Enclosures

cc:

A. Tiedman, ADS, LANL, MS A120

K. Hargis (HSE8-89-225), HSE-8, LANL, MS K490

R. Koenig, HSE-7, LANL, MS E518

COMMENTS ON DRAFT PERMIT, 3/31/89

1. Signature letter: Is University of California going to be added as the Permittee?
2. P. 14, 11: Replace "...at the modified facility..." with "...at the modified unit...".
3. P. 16, H.3.d: Because there are only three locations in TA-0 of concern, the table should be replaced with just a listing of those sites. They are TA-0-480, TA-0-1197, and TA-0-1237.
4. P. 16, H.3.e: Replace "...analysis and knowledge..." to "...analysis and/or knowledge...".
5. P. 18, E.2: Comments are as follow.

The stations listed on Table II-1 are only a partial selection of sites used to monitor the effects of the Laboratory on the environment. Complete coverage based on the hydrology of the area is now used by the Laboratory in its routine monitoring program and documented in the annual surveillance reports. There is an overlap between this selection in the EID draft and the EPA HSWA special conditions which represents a duplicate effort and should be resolved (see attached paragraph from EPA's draft HSWA permit). The selection of monitoring stations, surface and ground water, now operated by the Laboratory provide complete coverage to monitor the release of effluents from the Laboratory. The locations of stations were chosen to monitor the hydrologic pathways of effluents.

The selection of parameters for analyses (Table II-2) should be flexible to monitor for the type of contaminants that are released in that particular canyon. A complete set of metals, organic, or radiochemical might be taken only once to establish a basis for required analyses relevant to each location.
6. P. 20, g: Suggest the opening sentence be modified to say the Permittee shall keep the required records and documentation.... To require keeping "sufficient" records is too vague and open for interpretation for the Laboratory to know if it is in compliance or not.
7. P. 20, h: Does the extension of the retention period for records apply to all records or only those involved in the enforcement action?
8. P. 24, A.1.a: For consistency, the structure number should be 54-32 instead of MD-32.
9. P. 24, Figure references: In place of figures III-2 to III-5, please find the attached figure III-2. This one figure gives the layout for all the facilities of concern. Figure III-1 will be supplied as soon as it is available.
10. P. 25, A.3 & 4: Items 3 and 4 are incorrectly placed under a descriptor of > ninety day storage areas. Numbering sequence in Module III.A needs to be revised to reflect the difference between items 1 and 2 and items 3 and 4.
11. P. 26, C.3.b: The building number is missing. It should be 54-31.
12. P. 26, C.3.c and f: The "any" structure should be replaced with "each" for clarity.
13. P. 26, C.5.a: Suggest the last sentence read: "Procedures shall include determinations of container adequacy for chemicals that have a finite shelf life or may change in composition upon aging."

14. P. 30, D.1.c: Add the following to the existing verbage: "unless the waste was listed solely because of a characteristic and the residue no longer exhibits that characteristic."
15. P. 30, D.1.d: Change to "The process tank and associated plumbing will be cleaned before and after treatment operations if similar waste is not to be treated in the next batch."
16. P.33, A.3: The last sentence currently reads "...Subpart O, shall be grounds...". We believe this should be "may be grounds" since not all situations of noncompliance will result in a permit modification. Therefore the shall is unnecessarily restrictive.
17. P. 37, G.2: Add the following to the existing verbage: "unless the waste was listed solely because of a characteristic and the wastewater and filters no longer exhibit that characteristic."
18. P. 37, (2): Due to the elimination of Permit Attachment J, Attachment K is now J.
19. P. B-1, B.1: Potential problems are listed on a daily/weekly inspection checklist. Add the underlined portion.
20. P. B-1, B.1.1: 2nd sentence, "leakage waste" should be "waste leakage".
21. P. B-3, 2nd Para.: Daily/weekly inspections.... Add the underlined portion.
22. P. B-3, 2nd Para.: In the middle of the paragraph is a reference to a "fire explosion". Something is missing.
23. P.B-3, B.2: In the 2nd sentence, the "and conducted" should be "are conducted".
24. P. B-5, Last Para.: "Tanks" in the 2nd sentence should be singular.
25. P. B-6, B.3.4: The copies are sent to HSE-8 not HSE-7.
26. P. B-6, B.4.1: Change "structure is" to "structures are" in the 1st sentence.
27. P. B-7, B.4.4: The copies are sent to HSE-8 not HSE-7.
28. P. B-8, 1st Para.: Change "TA-50 Storage Pad" to the plural.
29. P. B-8, B.5.4, 2nd Para.: ENG-8 not ENG-4 specifies the hydrant flow rates.
30. P. B-9, 2nd Para.: Drums are also placed in the storage units using drum slings. Suggest changing the sentence to "Drums are placed in the container storage using appropriate drum handling equipment and a forklift."
31. P. B-9, last Para.: Storage pad should be made plural.
32. P. E.1-2, 4th Para.: Replace the end of the sentence on "solution evaporated in open treatment tanks at TA-54, Area L" with "for sampling, analysis, and disposal". The sentence that follows that would be deleted.
33. P. E.1-3, E.1.6.1.1: Suggest that a portion of this section is better placed as a second paragraph to section E.1.6. It starts with the sentence in the 1st paragraph "Sample containers..." and runs to the end of the section.

34. P. E.1-3, E.1.6.1.1: Add "The following procedure may be ignored if disposable samplers are used."
35. P. E.1-5, E.1.6.2.1: Same as Comment 34.
36. P. E.1-11: Delete washwater evaporation residues.
37. P. E.2-1, E.2.2: Add to the 1st sentence of the 2nd paragraph the underlined portion "...to either the effluent tank/headworks..."
38. P. E.2-1, E.2.2, last sentence: Metal sludges recovered in the filters are sampled and solidified at TA-50. If offsite shipment is indicated the solidified sludges are placed in the appropriate storage unit until this can be accomplished.
39. P.E.2-2, E.2.3.2:
- 1st Para: Replace the sentences beginning "Nonhazardous wastes, or waste....the wastes will be shipped offsite for treatment and disposal." with the following. "The washdown water will be discharged to the industrial wastewater sewer per normal operational guidelines."
- 2nd Para: Replace the "for evaporation" in the 2nd to last sentence with "for sampling, analysis, and disposal." Delete the last sentence.
- 3rd Para.: Replace the "for evaporation" in the 3rd to last sentence with "for sampling, analysis, and disposal". Delete the last sentence.
- 4th Para.: Delete the last two sentences.
40. P. E.2-3, Top Para.: Remove the word solvent in the phrase "acid/solvent resistant coveralls". Solvents will not be present in the waste treated at TA-50 to a degree that resistant coveralls will be necessary.
41. P. E.2-4, E.2.7.1: Change this section to the following.
- This facility is located inside of a building. It is reasonable to assume that while the treatment unit may be removed the building will not. Therefore, soil sampling is inappropriate for the closure of this facility. If the building is also to be demolished this closure plan will be revised.
- Residues left on the concrete surfaces will be sampled and tested. Surface samples will be collected with a trowel or scoop. Drums of solid residues will be sampled with a core sampler. Drums not capable of being sampled will be assumed to be hazardous waste.
42. P. E.2-5, E.2.7.1.1: Same as Comment 34.
43. P. E.2-7, E.2.7.2.1: Same as Comment 34.
44. P. E.2-13: Delete washwater evaporation residues.
45. P. E.3-1, E.3.2: Add to the first sentence "...modular units at TA-50...". Also add the following paragraph.
- The modular units at TA-54, Area L will be used primarily for the storage of labpacked waste. Since six separate cells are available for storage, there may be up to six different types of waste stored there while awaiting treatment or disposal.

46. P. E.3-1, E.3.3.2, 2nd Para.: In the 2nd to last sentence, place "for evaporation" with "for sampling, analysis, and disposal". Delete the last sentence.
47. P. E.3-2, top Para.: In the 2nd to last sentence replace "for evaporation" with "for sampling, analysis, and disposal."
48. P. E.3-2, 2nd Para.: Delete this paragraph.
49. P. E.3-4, E.3.7.1.1: Same as Comment 34.
50. P. E.3-5, E.3.7.2.1: Same as Comment 34.
51. P. E.3.11: Delete evaporation washwater residues.
52. P. E.4-1, E.4: 2nd sentence, "throughout" should be "throughput".
53. P. E.4-2, E.4.3.2: Replace the third paragraph with the following.

Once all the waste inventory has been properly disposed of, decontamination will take place as follows: First, process components (incinerator, associated lines and pumps, air pollution control devices) will be disassembled and inspected. Components which are amenable to decontamination will be cleaned by washing with Liquinox (@) or Alconox (@) solution in water, followed by thorough steam cleaning. The spent cleaning solution will be collected and analyzed for hazardous waste characteristics. If no characteristic hazardous wastes are detected, these components will then be considered closed. If hazardous waste characteristics are detected, further cleaning may be repeated until no detectable hazardous waste characteristics are found. Those components for which thorough decontamination may not be practical (e.g., incinerator refractory) may alternately be sealed and sent to an approved disposal facility. All radioactive components will be decontaminated to the extent practicable and disposed of according to appropriate Department of Energy Orders.
54. P. E.4-4, E.4.7.1: Same as Comment 41.
55. P. E.4-4, E.4.7.1.1: Same as Comment 34.
56. P. E.4-5, E.4.8.2.1: Same as Comment 34.
57. P. E.4-12: Delete evaporation washwater residues.
58. P. E.5-2, Top Para.: Replace "for evaporation" in 2nd to last sentence to "for sampling, analysis, and disposal". Delete the last sentence.
59. P. E.5-3, E.5.8.1: Same as Comment 41.
60. P. E.5-3, E.5.8.1.1: Same as Comment 34.
61. P. E.5-4, E.5.8.2.1: Same as Comment 34.
62. P. E.5-11: Delete washwater evaporation residues.
63. P. E.6-1, E.6.2: The amount listed is 220 gallons. This should be 440 gallons.

64. P. E.6-2, E.6.5, 2nd Para.: Replace the 2nd sentence with "The resulting used wash solution will be placed in approved DOT containers and stored for sampling, analysis, and disposal." Delete the last sentence.
65. P. E.6-5, E.6.9.1.1: Same as Comment 33.
66. P. E.6-5, E.6.9.1.1: Same as Comment 34.
67. P. E.6-6, E.6.9.2.1: Same as Comment 34.
68. P. E.6-12: Delete washwater evaporation residues.
69. P. E.7-1, E.7.3: Modify the 2nd to the last sentence to "...may be stored at any of the units." Delete the last sentence.
70. P. E.7-2, 2nd Para.: Replace 5th sentence with "The resulting wash solutions will be placed in approved DOT containers for sampling, analysis, and disposal." Delete the 6th sentence.
71. P. E.7-4: This is an extra page.
72. P. E.7-5, E.7.8.1.1: Same as Comment 34.
73. P. E.7-6, E.7.7.2.1: Same as Comment 34.
74. P. E.7-12: Delete washwater evaporation residues.
75. P. E.8-2, E.8.5.1: Replace the 3rd sentence with "The washwater will be placed in approved DOT containers for sampling, analysis, and disposal."
76. P. E.8-5, E.8.9.1.1: Same as Comment 33.
77. P. E.8-5, E.8.9.1.1: Same as Comment 34.
78. P. E.8-6, E.8.9.2.1: Same as Comment 34.
79. P. E.8-12: Delete washwater evaporation residues.
80. P. E.9-4, E.9.9.1.1: Same as Comment 33.
81. P. E.9-4, E.9.9.1.1: Same as Comment 34.
82. P. E.9-5, E.9.9.2.1: Same as Comment 34.
83. P. E.9-12: Delete washwater evaporation residues.
84. Attachment I: This attachment does not have relevance to the Permit per se. It should therefore be removed.
85. Attachment J: This attachment was incorporated into Permit Attachment A and should be deleted.
86. Attachment K: This attachment has been reassigned as Attachment J since that attachment was eliminated.

DRAFT

MONITORING OF SURFACE AND GROUND WATER

Extensive monitoring of surface and ground water is now conducted and documented annually by the LANL environmental Surveillance Program in accordance with DOE Orders. This program shall be continued in order to demonstrate protection of the main aquifer, and the annual reports must be submitted to EPA. If EPA determines that this ongoing monitoring program is not sufficient, then EPA may impose additional monitoring requirement as a modification to this permit.

SEDIMENT TRAPS MORTANDAD CANYON

The Permittee must, through the maintenance of existing sediment traps or construction of new sediment traps, ATTEMPT to insure containment of all residual sediment contamination within the facility boundary.

PROTECTION OF THE MAIN AQUIFER

Any boring drilled to a depth of 300 feet or deeper must grout in a surface casing to prevent any downward migration of surface contamination along the wellbore. Any boring drilled into the main aquifer that encounters perched water must set conductor pipe to the top of the main aquifer and hydraulically isolate the main aquifer from the perched aquifer. The annular space must be sealed with a bentonite grout or equivalent to prevent shrinkage cracking.

VADOSE ZONE RESEARCH INVESTIGATION AT TA-54

The Permittee shall continue the quarterly pore gas sampling program and resume the Vadose zone research program at TA-54. Due to the unique hydrogeologic conditions throughout this facility, effective monitoring of the unsaturated zone will be essential for a successful RFI/CMS. The information gathered from this research now will help provide direction for investigations to be conducted during the RFI.

VERTICAL EXTENT OF SATURATION

The Permittee shall conduct a subsurface investigation of saturation by drilling test holes through the shallow alluvial perched aquifer in Mortandad Canyon. Construction of the test holes will hydraulically isolate the perched aquifer from the underlying unsaturated tuff. This perched aquifer is recharged in part from wastewater treatment discharges located upstream. The investigation should provide an initial evaluation of the maximum extent of the VERTICAL AND ~~horizontal~~ water and contaminant movement into the unsaturated tuff beneath the saturated alluvium. The study should attempt to recover cores from the tuff to be used to determine laboratory values for unsaturated hydraulic conductivity conductance, specific retention and specific yield, effective porosity and saturated permeability. The boring should be analyzed for applicability of installation of neutron moisture probes access tubes to determine moisture over time. Chemical and radiochemical analyses of the cores shall also be made to assist in the determination of fluid movement from the perched alluvial aquifer into the underlying unsaturated tuff.

no caps

- I. Addressable Remediation or Containment Processes
 - A. Vacuum extraction of Volatiles
 - B. Bioremediation for Organics
 - C. Grouting (impermeable curtain)
- II. Flow Phenomenology
 - A. Saturated or unsaturated flow
 - B. Two Phase Flow (air & water)
 - C. Fracture flow
 - D. Dual Porosity Model
- III. Transport Mechanisms
 - A. Coupled Darcy flow and continuity, advection, dispersion & diffusion
 - B. Biological substrate transport: aerobic/anaerobic bacterial dynamics
 - C. Dissolved Organics: Henry's law partitions liquid and vapor phases
 - D. Radioactive decay and decay chains
 - E. Sorption
- IV. Solution Method
 - A. Implicit or explicit finite-difference method
 - B. Very fast matrix solution scheme
 - C. 1D, 2D (planar or cylindrical) or 3D (Cartesian)
 - D. Regular meshes only
- V. Program Support
 - A. Complete users' manual (model physics + required input + samples)
 - B. LANL Publication LA-9667-MS, TRACR3D: A Model of Flow and Transport in Porous/Fractured Media, 1984; YMP Milestone Report T421, 1988.
- VI. Quality Control
 - A. Run under YPM QA environment
 - B. LA-9967-MS (see above); LA-10263-MS, Validation of the TRACR3D Code for Soil Water Flow Under Saturated and Unsaturated Conditions in Three Experiments, 1985; LA-10532-MS, Two-Dimensional Numerical Simulation of Geochemical Transport in Yucca Mountain, 1987.
 - C. Has been used by industry, e.g. Hydro Geo Chem, Inc. for vacuum extraction & bioremediation studies of specific sites.
 - D. Currently being used to develop a capped generic waste site at LANL
- VII. General I/O CPU Considerations
 - A. TRACR3D & T3DBIO run on SUN, VAX and CRAY systems.
 - B. Grid generation pre-processor
 - C. Contour/Line/Movie/Video post-processor