

Mar,

7/6/87

Los Alamos incinerator trial burn
report review indicates:

General comments

① It appears the test contractor did an inadequate job.

- ② a) did not follow the trial burn plan
- b) inadequate QC/QA
- c) didn't follow EPA guidance

③ A.T. Kearney analysis is picky at points especially noting as a finding (should be a minor comment) that the DRE + HCl calculation should have been done on analytical results of feed instead of the wastes. AT Kearney redid the calculations and found negligible difference.

④ LANL should have their contractor ~~detail~~ provide detailed response to the comments and explain why the deviation from the trial burn plan and why the test should not be redone.

④ The state should write the permit and include conditions that are protective not to be directed by the LANL trial burn result report comments on ^{permit} conditions.



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⑤ I really can't believe the contract was as bad as the Kearney contractor reports. This is because Phil Schwintz witnessed the trial runs (Should obtain a copy of Phil's report.)

Henry

Comments on AT Kearney significant comments:

1. Chain - of-Custody

LANL should provide chain-of-custody doc as noted.

2. DRE Deficiencies

a. HEPA filters & activated carbon bed

LANL should identify the procedures used to ensure the carbon filters do not desorb the CCl_4 or other POHCs between test burn runs. LANL will not to show that normal operation ensures DRE is met. Problem is that the carbon filters are before the DRE compliance point. LANL should answer AT Kearney's concerns.

b. Instrument calibration

The laboratory contractor must as part of a good QC/QA program ensure the calibration of their instruments. The laboratory must address the calibration concern & note if the calibration issue effected accuracy or precision.

c. QC Results

The laboratory has a real QC problem. Their analytical results have too much variance. Looking through are their results:

TCE recovery = 86, 106, 190%

CCl_4 recovery = 60, 150, 180%

It appears the lab was ~~high~~ on the high side
 This is to say that they reported greater concentration
 than true amount.

Per table 1 the lowest DRE was for CCl₄
 test 4-1 of 99.99848. If ^{we} were to
 recalculate the DRE for CCl₄ on this
 run assuming the laboratory results were
 only 60% of the concentration, then the
 calculations would be:

(simple way since DRE

$$\frac{W_{in} - W_{out}}{W_{in}} \times 100\% \text{ is to take}$$

DRE + multiply the 1 - DRE by $\frac{1}{60\%}$)

$$99.99848 = 0.52 \times \frac{10}{6} = 25.8$$

DRE revised = 99.99747 which is still
 above DRE of 4-9's

other way

from comment report page 49

$$\frac{3.28 \text{ lb}}{\text{min}} \times 30\% \text{ CCl}_4 \times \frac{\text{min}}{60 \text{ sec}} \times \frac{454.5 \text{ g}}{\text{lb}} = 7.45389/\text{sec}$$

$$7.45380 + \left(\frac{1.102 \times 10^{-4} \times \frac{10}{6}}{1 - 6.4 \times 10^{-4}} \right) = \frac{7.453636}{7.45380}$$

DRE = 99.99780 still above 4-9's

c. Minimum Btu/lb

agreed w/ Kearney comment

d. Waste feed rate

Limit to maximum Btu & agree
w/ Kearney comment

e. Water injection rate

It would be nice to test all possible wastes & waste mixes. However, let's remember that we are doing only a limited test on very specific conditions. Then when the incinerator is retested, test special conditions including water injection.

Other Problem Areas

4. Designation of Trichloroethylene as a PCHC
Let LANL or NMEID explain
5. Minimum Temperature in Primary Chamber
See previous comment on primary combustion temperatures. Note the primary chamber temperature dropped to the 1300's.
6. Minimum Temperature in SCC
Since LANL did not operate the incinerator at the low temperatures of 1550 or 1750, LANL should have a permit condition limiting the SCC to 2000°F.
7. Equipment Calibration
The contractor for LANL should provide.
8. Method 5 Sampling Train Leak-Checks
The contractor for LANL should provide.
9. Deviations from Sampling Protocols
The contractor for LANL should explain.
10. Deviations from Sampling Protocol for Used Activated Carbon
The contractor for LANL should explain.

3. ~~Comment~~ 3. Lack of Justification of Permit Conditions

a. Primary combustion temperature

Primary combustion temperature is not required to be ~~regulated~~ permit conditions per the regulations nor the current RCRA incineration guidance. ~~This was~~ in the draft guidance to regulate primary combustion temperature. The discussions were that it was not a critical operating item and therefore EPA did not have to regulate. We will have to see what the final guidance says as Robin Anderson and Y J Kim were the primary people behind it.

11. Vost Internal Standards

Agree with Contractor, LANL's contractor should explain.

12. Marginal Acceptability

LANL's contractor should explain

13. Particulate Emissions in Run 4-2

LANL should explain why the particulate emissions in Run 4-2 were not calculated and if there is sufficient data, LANL should calculate.
(or have their contractor)

14. Waste Feed Cutoff System

Agree with comment.

15. Maximum Level for Appendix VIII Constituents

The Regional guidance as stated in previous permit (IT) + training course for insignificant level of Appendix VIII constituents is 100 ppm. There has been some discussions that there should be nationally a split level of 100 + 1000 ppm. The 1000 ppm is for the ignitable only constituents.

16. Emergency Waste Feed Cutoff Testing

The emergency waste feed cutoff testing must meet 264.347 ~~(b)~~ (c).

17. Liquid Feed Mixture Analytical Results

Agree with our contractor. LANL must explain.

18. POHC Analytical Results

LANL should supply to meet guidance.

19. Incomplete Quality Assurance Results

LANL should supply requested data.

20. Analytical Accuracy Objectives

LANL should explain QA.

21. Sample Preparation Procedures for Liquids and Solids

LANL should explain

22. Pitot Tube Coefficient

LANL should supply data

23. Stack Sampling Locations

No comment. If diagrams are needed, we should have requested in trial burn plan. When

trial burn plan was approved, we approved the sampling location.

24. Equation for Determining Analytical Accuracy

The actual equation + calculation should be shown.

25. Method 3 Sampling Train

Agree w/ contractor's comment.

26. Particulate Recovery Data

LANL must explain the weighing procedures and the basis of the method selected.

27. Field Data for Method 5 Sample Recovery

LANL contractor has to ~~show~~ provide the Method 5 data.

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28. Verification of Absence of Cyclonic Flow

The sampling location was preapproved and same as the PCB sampling location. Therefore not concerned with comment.