

Enclosure A

RESULTS FROM RCRA INSPECTION

(Notice to LANL generators of apparent
deficiencies/violations cited by EPA/EID during the March
1990 RCRA CEI)

March 21, 1990



15056

TC

Cy to M-Division Group Leaders / Safety Committee members, please. For action
17 *Info*

Los Alamos

Los Alamos National Laboratory
 Los Alamos, New Mexico 87545

memorandum

	LAG	
✓	QJE	
✓	TRM	
	JRT	
	LWH	
✓	FAD	
✓	PAJ	3/23
	EBS	
	AKB	
	BFB	3/23
	FDE	
	File	
	Dist	

TO Distribution

DATE: March 21, 1990

FROM: Tony Grieggs, HSE-8 *TG*

MAIL STOP/TELEPHONE: K409/5-0451

SYMBOL: HSE-8:90-232

SUBJECT: **RESULTS FROM RCRA INSPECTION**

During the period March 5-9, the New Mexico Environmental Improvement Division (EID) and the Environmental Protection Agency (EPA) conducted a joint inspection of LANL facilities. The purpose of the inspection was to assess compliance with the Resource Conservation and Recovery Act (RCRA) which addresses treatment, storage, and disposal of hazardous and mixed wastes. Technical Areas visited during the inspection include: 3, 14, 15, 16, 21, 22, 35, 36, 39, 43, 46, 50, 53, 54, 59, and 61. Although the formal Notice of Violation (NOV) is not expected for several months, we need to take corrective action immediately. Some of the items we can expect to see listed include inadequate training, improper storage of hazardous waste, improper disposal of hazardous waste, lack of established procedures for handling hazardous waste. Specific areas and concerns were identified at the close-out and should be addressed immediately, they are listed below.

TA-3-38

(Improper storage) Open drums containing rags contaminated with hazardous waste were observed at several satellite accumulation points. The lid retaining rings were not in place.

All containers holding hazardous waste must be closed.

TA-3-39

(Improper storage) This <90 day storage area held an undated drum containing hazardous waste.

All containers holding hazardous waste in a <90 day storage area must be dated at the time they first receive waste.

TA-15-20 Shop 27

(Inadequate training) Hazardous waste handling procedures were not established. Employees could not locate satellite storage area.

Establish a hazardous waste storage area if necessary and immediately train personnel

TA-16-340

(Improper storage) At the time of the inspection, it was unclear whether several 80 gallon drums containing mixtures of water and solvents, and contaminated with HE were hazardous waste or process material. Employees were unable to satisfactorily explain their procedures. The employee stated that he was saving the material for possible further processing but that it was in its final form prior to being sent to the TA-16 burning ground. This would constitute illegal storage of hazardous waste if it is determined that the material is no longer needed.

If this practice continues, a <90 day storage area needs to be established. Contact HSE-8 for further guidance.

TA-16-460

(Improper storage) A drum containing flammable waste solvents (acetone) was heavily rusted and the bung was not in place.

All containers holding hazardous waste must be closed. Containers must be sound.

TA-22-91 (south side)

Satellite accumulation point exceeded capacity (55 gal). All containers were properly labeled and dated. Pickup was within the three day limit therefore no violation was cited.

TA-35-85 (east end)

(Improper storage) Inspectors were unable to determine the total volume of hazardous waste stored at this site. One drum labeled as hazardous waste may actually contain oil without any hazardous constituents.

Proper labeling and good housekeeping will eliminate any questions about the total volume of hazardous waste in storage. Oils are not a hazardous waste unless they contain a listed hazardous constituent or exhibit one or more of the hazardous characteristics (see attachments).

TA-35-125 (south side)

(Improper storage) Satellite storage area exceeded capacity (55 gal). One of the three drums present was not dated properly nor was it closed. The two drums that were dated had exceeded the three day holding period. Spillage from transfer operations had not been cleaned up.

When capacity (55 gal. of hazardous waste or 1 qt. acutely hazardous waste) has been exceeded, the generator must immediately date the containers. He then has 3 calendar days to dispose of all hazardous waste in storage. All spills must be cleaned up immediately.

TA-39-2-8

(Improper storage) Satellite storage area exceeded capacity. Containers holding rags contaminated with hazardous waste were open (retaining rings were not in place) and undated. Containers holding free liquids were undated. Disposal paperwork had not been submitted.

Disposal should be arranged before capacity is reached. If the capacity is exceeded, all containers must be immediately dated. The generator then has 3 calendar days to arrange disposal of all hazardous waste in storage. All containers must be kept closed.

TA-39-2 (outside)

(Improper storage) Containers holding rags contaminated with hazardous constituents were open (retaining rings were not in place).

All containers holding hazardous waste must be closed.

TA-39-6

(Improper storage) Containers holding hazardous waste were open.

All containers holding hazardous waste must be closed.

TA-46-76

(Improper storage) Unlabeled containers were observed at this satellite storage area. It was unclear whether they contained hazardous waste.

All containers holding hazardous waste must be labeled. Proper labeling of all containers, regardless of their contents, will prevent future confusion.

TA-46-154

(Improper storage) This satellite storage area held open, unlabeled containers of hazardous waste (solids and liquids). Legal capacity was exceeded and none of the containers was dated.

Refer to the attachment titled "Summary of requirements for Satellite storage."

TA-53-15, 16, 30

(Improper storage) Containers holding rags contaminated with hazardous waste were not closed (the retaining rings were not in place).

All containers holding hazardous waste must be closed.

TA-53-17-Shop 44

(Improper storage) Container holding hazardous waste was not labeled.

All containers holding hazardous waste must be labeled.

TA-53-17-111A

(Improper storage, improper disposal) During questioning by an inspector, an employee stated that he disposed of rags contaminated with acetone and ethanol in the building trash. He further stated that if those same rags were radioactively contaminated he would dispose of them in the yellow "RAD" can. This same room had an established satellite storage area with an open container of hazardous waste. Other employees in the area stated that all hazardous and mixed waste was properly stored in the satellite storage area.

Distribution
HSE-8:90-232

-5-

March 21, 1990

Do not dispose of any hazardous or mixed waste in the building trash. Segregate hazardous, mixed, and radioactive waste and place them in clearly labeled containers. Contact HSE-8 for further guidance.

TG:bjh

Distribution:

C. Blackwell, CLS-DO, MS J563
F. Jackson, M-DO, MS P915
S. Helmick, INC-DO, MS J515
M. Hollen, MP-DO, MS H832
J. Graham, AT-DO, MS
K. Joy, SST-DO, MS D446
A. Valentine, J-DO, MS F670
E. Hadden, P-DO, MS D408
J. Clements, MST-6, G770
G. Allen, CLS-7, MS E525
L. Wampler, MEC-5, MS D475
M. Barr, WX-3, MS C934
J. Larkin, HSE-11, MS

Summary of requirements for <90 day storage sites.

- 1) Condition of loading/unloading areas. Area must be free of obstacles or deterioration that could cause a spill or accident.
- 2) Condition of storage area. Storage area should be kept free of obstacles that could prevent free access by emergency personnel. Containers must be spaced a minimum of two (2) feet apart to allow for visual inspection and entry by emergency personnel with equipment. Area should be free of possible ignition sources. Secondary containment structures must be inspected for damage.
- 3) Containers must be segregated according to the compatibility of the wastes that they hold. A storage container holding a hazardous waste that is incompatible with any waste or other material stored nearby must be separated from the other materials or protected from them by means of a dike, berm, wall, or other device. Sound laboratory practices must be followed when storing hazardous waste. (See attached compatibility chart or contact HSE-8 or HSE-7 for guidance)
- 4) Container material must be compatible with the waste. Do not store a waste that is corrosive to, or otherwise will, cause deterioration of the container. HSE-7 can assist you with choosing the proper container.
- 5) Container must be in good condition. Containers should be stored in a dry, preferably sheltered location. Deteriorated or damaged containers must be replaced immediately. Drums for liquid wastes should have a "bung" top. Do not package solids and liquids together.
- 6) All containers must be closed. When collecting rags in an open head drum, the drum is not considered to be closed unless the retaining ring is in place.
- 7) All containers must be properly labeled "HAZARDOUS WASTE" and the major hazardous constituents listed. If more than one type of hazardous waste is stored in different containers, then each container should also be labeled by content (e.g., solvents, acids, caustics, etc.).
- 8) An accumulation start date must be properly marked on all containers, at the time the container first receives waste.
- 9) No containers may exceed 90 days from date accumulation begins until they are delivered to TA-54 or TA-50. The 90 day period includes transport time by HSE-7. For disposal, submit a Chemical Waste Disposal Request (CWDR) form to HSE-7 at MS J593. Allow for a minimum of two weeks notice.

- 10) Warning signs with the legend "DANGER-UNAUTHORIZED PERSONNEL KEEP OUT" must be readable and prominently posted. The storage area should be identified by a sign that reads "HAZARDOUS WASTE LESS THAN 90 DAYS STORAGE AREA." (Available from HSE-8)
- 11) <90 day storage areas must be inspected daily, and a copy of the inspection record form must be submitted weekly to HSE-8. All records must be maintained for a minimum of three years by the generator. Inspection forms should be sent to Tony Grieggs, HSE-8, MS K490, ph. 665-0451.
- 12) Hazardous waste leaks or spills must be cleaned up immediately and the resulting material handled as hazardous waste also.

Summary of requirements for satellite storage sites.
(Submittal of weekly forms is not required)

- 1) Waste must be accumulated in containers at or near the point of generation. Area must be free of obstacles or deterioration that could cause a spill, an accident, or prevent access by emergency personnel and equipment. Area should be free of possible ignition sources.
- 2) Waste must be under the control of the generator.
- 3) Containers must be in good condition. Containers should be stored in a dry, preferably sheltered location. Deteriorated or damaged containers must be replaced immediately. Drums for liquid wastes should have a "bung" top. Do not package liquid and solid wastes together. Containers should be far enough apart to allow for visual inspection and access by emergency personnel with equipment.
- 4) Container material must be compatible with the waste. Do not store a waste that is corrosive to or otherwise will cause deterioration of the container. HSE-7 can assist you with choosing the appropriate container.
- 5) Containers must be segregated according to the compatibility of the wastes that they hold. A storage container holding a hazardous waste that is incompatible with any waste or other material stored nearby must be separated from the other materials or protected from them by means of a dike, berm, wall, or other device. Sound laboratory practices must be followed when storing hazardous waste. (See attached compatibility chart or contact HSE-8 or HSE-7 for guidance)
- 6) All containers must be kept closed. When collecting rags in an open head drum, the drum is not considered to be closed unless the retaining ring is in place.
- 7) Containers must be labeled with the words "HAZARDOUS WASTE" and the major hazardous constituents should be listed.
- 8) Generators may accumulate a total of 55 gals of hazardous waste or 1 qt of acutely hazardous waste. This is the maximum allowable volume for a satellite storage area. If in doubt, contact the Solid Waste Section of HSE-8.
- 9) Wastes in excess of the above stated amounts may not be held more than 3 calendar days from the time the amount is exceeded. Dispose of all waste prior to this time. For disposal, submit a Chemical Waste Disposal Request (CWDR) form to HSE-7 at MS J593.
- 10) Containers holding the excess accumulation must be labeled as in (7) and marked with the date the excess amount began

- 11) Signs must be readable and prominently posted. Signs should read "SATELLITE HAZARDOUS WASTE STORAGE AREA." (HSE-8 will provide these)
- 12) Hazardous waste leaks or spills must be cleaned up immediately and the resulting material handled as hazardous waste also.

DETERMINING IF YOU HAVE A HAZARDOUS WASTE

- A. Characteristic Wastes: A material is a hazardous waste if it exhibits any of the following characteristics:
- 1) Ignitability
 - a) Flash point less than 60°C (140°F).
 - b) Is an ignitable compressed gas.
 - c) It is an oxidizer
 - d) Is not a liquid and is capable, under standard temp. and pressure, of causing fire through friction, absorption of moisture or spontaneous chemical changes.
 - 2) Corrosivity - Aqueous with a pH ≤ 2 or ≥ 12.5 , OR it is a liquid and corrodes steel at a rate greater than .25"/year.
 - 3) Reactivity
 - a) Normally unstable and readily undergoes violent change without detonating.
 - b) Reacts violently with water.
 - c) Forms potentially explosive mixtures with water.
 - d) Generates toxic gases, vapors, or fumes when mixed with water.
 - e) Is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors or fumes.
 - f) Capable of detonation or explosive reaction if subjected to a strong initiating source or if heated under confinement.
 - g) Capable of detonation or explosive decomposition at standard temperature and pressure.
 - h) Forbidden, Class A or Class B explosive.
 - 4) EP-Toxicity - The occurrence of the following metals in the stated concentrations as determined by EP-TOXIC procedures. Extraction Procedure (EP) is a specific analytical procedure required by the Environmental Protection Agency.

<u>Contaminant</u>	<u>Concentration</u>	<u>Units</u>
Arsenic	5.0	mg/l
Barium	100.0	mg/l
Cadmium	1.0	mg/l
Chromium	5.0	mg/l
Lead	5.0	mg/l
Mercury	0.2	mg/l
Selenium	1.0	mg/l
Silver	5.0	mg/l

- B. Listed Wastes: A material may be a hazardous waste if it is contaminated with a "listed" hazardous constituent.

The entire list of hazardous constituents is too extensive to include in this document. Some of the more common hazardous constituents that may be encountered at the laboratory are listed below. (The list will be attached to the revised AR 10-3)

Halogenated solvents

Tetrachloroethylene
Trichloroethylene
Methylene chloride
1,1,1-trichloroethane
Carbon tetrachloride
Chlorobenzene
Ortho-dichlorobenzene
Trichlorofluoromethane
1,1,2-trichloro-1,2,2-trifluoroethane

Non-halogenated solvents

Xylene
Acetone
Ethyl acetate
Ethyl ether
Toluene
Methyl ethyl ketone (MEK)
Methyl isobutyl ketone (MIK)
n-butyl alcohol
Cyclohexanone
2-nitropropane

Methanol
Cresols
Cresylic acid
Nitrobenzene
Carbon disulfide
Isobutanol
Pyridine
Benzene
2-ethoxyethanol

Enclosure B

ALL SATELLITE HAZARDOUS WASTE ACCUMULATION SITE OPERATORS

(Notice for World Services management to all generators of
hazardous waste at World Services on drum closure at
satellite accumulation areas)

March 6, 1990

MEMORANDUM

TO: ALL SATELLITE HAZARDOUS WASTE ACCUMULATION SITE
OPERATORS

FROM: Supervisor, PENV

=====

DATE: March 06, 1990

MEMO No. PENV 90-155

SUBJECT: DRUM CLOSURE REQUIREMENTS AT SATELLITE HAZARDOUS
WASTE ACCUMULATION SITES

A recent inspection by the NM Environmental Improvement Division and the US Environmental Protection Agency indicated that our current method of closure on drums containing hazardous waste, primarily solvent soaked rags, is inadequate. For closure to be effective a drum must be sealed as otherwise solvent vapors escape. Since this is a compliance item the following steps must be taken immediately:

i) All drums that are used for the containment of solvent soaked rags must be sealed between use. In the case of drums with a metal lid-clamp, the clamp must be in place and holding the lid down, although not necessarily completely tightened down until the end of the work period.

ii) All drums containing liquid hazardous waste must be sealed with a threaded bung when not in use. It is not acceptable to leave funnels in drums unless the funnel seals against the drum opening and is itself fitted with a sealing cover.

iii) Any drum that cannot be sealed in the above manner must be replaced with one that can be sealed as described above.

PENV understands that these requirements are cumbersome, and we are working on some ideas to simplify the approach. As soon as approval is obtained for an alternative method you will be notified. Meanwhile these new requirements are necessary for the company to remain in compliance with the Resource, Conservation and Recovery Act. Your cooperation with this requirement is appreciated. Please call PENV at 7-0104 if you have any questions.



Michael Brown

cy: S.J. Calanni, VP/General Manager, PMGR
A. L. Da Silva, Manager, Operations, OMDO

J. J. Lopez, Manager, PHSE
T. Carter, Manager, MDDO
D. Castaneda, Manager, CDDO
D. Lyerly, Manager, SSDO
S. Nalley, Manager, UMDO
G. Vavra, Manager, NMDO
Jim White, HSE-8, K490
Charlie Barnett, PENV
reading file
file

List of individuals who received this memo:

Victor Romero, MDPE,
Manny L'Esperance, MDSG,
Benito Martinez, MDSR,
Tony Gutierrez, MDSS,
George Lujan, CALD,
Dave Maestas, EMTD
Reuben Salazar, UWGW
Fred Thronas, NMDO
Paul Sparks, NMDO
Joe Ortiz, UESD
Teri Monaghan, PENV

Enclosure C

**ES&H POLICY/GUIDANCE: DISPOSAL OF SOLVENT-CONTAMINATED RAGS
(AND KIMWIPES)**

(Memorandum from HSE-8 to HSE-7 on establishing a uniform
policy for management and disposal of solvent-contaminated
waste rags)

DRAFT

Pat Josey, HSE-7

Ken Hargis, HSE-8

ES&H Policy/Guidance: Disposal of Solvent-Contaminated Rags
(and Kimwipes)

In an effort to eliminate the confusion over the management of solvent-contaminated rags (and Kimwipes), HSE and Pan Am World Services (PENV) have developed a disposal policy applicable to all laboratory personnel, including contractors. Solvent-contaminated rags are disposed material used to wipe off surfaces which have been exposed to organic solvents or degreasers. According to the Environmental Protection Agency (EPA) and the New Mexico Environmental Improvement Division (EID), these rags, whether soaked, moist, or bone dry, are considered contaminated and must be disposed of as hazardous waste. While the hazardous waste regulations allow for different methods of disposal or treatment depending on the type of organic compound used for solvent or degreasing properties, the laboratory and PENV are establishing a uniform management and disposal policy.

I. Management of Rags at Individual Workstations

The current hazardous waste regulations are meant to address all generators of hazardous wastes in the U.S. Thus, they often appear vague and counterproductive. However, the regulations also allow room for constructive interpretation in order to enhance sound management of hazardous wastes.

To ease the burden of managing solvent-contaminated rags at workstations far removed from satellite accumulation areas, the generator will be allowed to place discarded rags in temporary sealable containers, such as Zip-Lock baggies. These containers should have the following statement, "Solvent-Contaminated Rags", written on the side with an indelible marker. They should always be sealed after placing a waste rag and only one should be used for organic solvents at each workstation. At the end of the day, workshift, or the operation (whichever comes first) generating the waste rags, the generator must discard the container in the nearest satellite accumulation container used for storage of solvent-contaminated waste rags.

II. Management of Solvent-Contaminated Rag or Kimwipe Containers

In observance of the regulation affecting the management of hazardous wastes at satellite accumulation areas [Title 40, Part 262.34(c)(1)], each container accumulating hazardous wastes must be closed at all times except during the moment of placing the wastes. The generator must assure that the container where his solvent-contaminated rags were placed is properly closed by observing the intent of the closing mechanism of the container (i.e. bung cover, container cover, ring seal).

III. Intermingling of Rags Contaminated with Different Solvents

Literally hundreds of organic compounds may be used for their solvent properties. Many of these solvents are hazardous while others are not. The EPA has determined that certain solvents become hazardous wastes when discarded either because they are toxic, flammable, or may damage the ozone layer in the atmosphere.

Rags contaminated with any of the following chemicals listed below may be discarded in the same container:

1. Acetone
2. Benzene
3. N-butyl alcohol
4. Carbon disulfide
5. Carbon tetrachloride
6. Chlorinated fluorocarbons (freons)
7. Chlorobenzene
8. Cresols
9. Cresylic acid
10. Cyclohexanone
11. 2-Ethoxyethanol
12. Ethyl acetate
13. Ethyl benzene
14. Ethyl ether
15. Isobutanol
16. Methanol
17. Methylene chloride
18. Methyl ethyl ketone
19. Methyl isobutyl ketone
20. Nitrobenzene
21. 2-Nitropropane
22. Ortho-dichlorobenzene

23. Pyridine
24. Tetrachloroethylene
25. 1,1,1-Trichloroethane
26. 1,1,2-Trichloroethane
27. 1,1,2-Trichloro-1,2,2-trifluoroethane
28. Trichloroethylene
29. Trichlorofluoromethane
30. Toluene
31. Xylene

Rags which contain ignitable (flash point less than 140° F.) organic solvents and are not listed above should be placed in a separate satellite accumulation container. Do not mix solvent-contaminated rags with other substances or radioactive components. Solvent-contaminated rags which are contaminated with radioactive components should be managed the same way as non-radioactive solvent-contaminated rags. However, a separate container must be used to store solvent-contaminated, radioactive rags. The attached decision flowchart will assist you in determining the proper method of disposal for contaminated rags.

The preceding policy addresses only solvent-contaminated rags. The policy is not applicable to liquid organic solvents. Contact the HSE-7 Waste Management Group (5-4000) for assistance in storing discarded liquid solvents.

JC:MB:

Attachment

Cy: T. Gunderson, HSE-DO
J. Jackson, HSE-DO
T. Drypolcher, HSE-7
M. Brown, PENV

Decision Flowchart for Determining Whether Rags
May Be Placed in the Same Waste Container

