

STATE OF NEW MEXICO

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June 22, 1984

NOTICE OF VIOLATION

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

Mr. Harold Valencia, Area Manager  
Los Alamos Area Office  
U.S. Department of Energy  
Los Alamos, NM 87544

DATE REC'D      CONCURRENCES      DATE SIGNED

6-21      S. ASHER      RA 6-21  
R. HOLLAND

              A. DRYPOLCHER      6/20/84

              P. PACHER 6/18/84      6/15/84

DRAFTED BY: gm 5/29

Dear Mr. Crismon:

On May 23 and May 25, 1984, the New Mexico Environmental Improvement Division (EID) conducted a hazardous waste compliance inspection of the Los Alamos National Laboratory (LANL). This letter is EID's notice that, based on our recently completed review of the information obtained during the inspection, EID has determined that LANL has violated provisions of the New Mexico Hazardous Waste Management Regulations (HWMR-2). A copy of the HWMR-2 has been previously provided to LANL. At the termination of our on-site inspection, EID orally notified LANL about many of these matters. The purpose of the first part of this letter is to delineate in writing the violations and to require LANL to comply with the New Mexico Hazardous Waste Act and the HWMR-2.

Part One: Violations

The inspection indicated that the facility is in violation of the New Mexico Hazardous Waste Act and the HWMR-2 as follows:

1. Section 206.C.2.c.(1) reads:

- (1) The owner or operator must have a written closure plan. He must keep a copy of the closure plan and all revisions to the plan at the facility until closure is completed and certified in accordance with 206.C.2.f. This plan must identify the steps necessary to completely or partially close the facility at any point during its intended operating life and to completely close the facility at the end of its intended operating life. The closure plan must include, at least:
  - (a) A description of how and when the facility will be partially closed, if applicable, and finally closed. The description must identify the maximum extent of the operation which



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will be unclosed during the life of the facility, and how the requirements of 206.C.2.b., d., e., and f., and the applicable closure requirements of 206.C.5.e., 6.f., 8.g., 9.d., 10.e., 11.e., and 12.e. will be met;

- (b) An estimate of the maximum inventory of wastes in storage and in treatment at any time during the life of the facility;
- (c) A description of the steps needed to decontaminate facility equipment during closure; and
- (d) An estimate of the expected year of closure and a schedule for final closure. The schedule must include, at a minimum, the total time required to close the facility and the time required for intervening closure activities which will allow tracking of the progress of closure. (For example, in the case of a landfill, estimates of the time required to treat and dispose of all waste inventory and of the time required to place a final cover must be included.)

During the inspection, the inspectors were told by LANL representatives that LANL did not have a closure plan. Until this plan is submitted to EID, LANL will remain in violation of this Section.

2. Section 206.C.2.h.(1) reads:

- (1) The owner or operator of a disposal facility must have a written post-closure plan. He must keep a copy of the post-closure plan and all revisions to the plan at the facility until the post-closure care period begins. The post-closure plan must identify the activities which will be carried on after closure and the frequency of these activities and include at least:
  - (a) A description of the planned ground-water monitoring activities and frequencies at which they will be performed to comply with 206.C.1. during the post-closure period;
  - (b) A description of the planned maintenance activities and frequencies at which they will be performed, to ensure:
    - (i) The integrity of the cap and final cover or other containment structures as specified in 206.C.6.c. and f., C.8.g. and C.9.d., where applicable; and
    - (ii) The function of the facility monitoring equipment as specified in 206.C.1.b.; and

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- (c) The name, address, and phone number of the person or office to contact about the disposal facility during the post-closure period. This person or office must keep an updated post-closure plan during the post-closure care period.

During the inspection, the inspectors were told by LANL representatives that LANL did not have a post-closure plan. Until this plan is submitted to the EID, LANL will remain in violation of this Section.

3. Sections 206.C.1.a.(2) and 206.C.1.a.(3) read:

- (2) Except as 206.C.1.a.(3) and (4) provide otherwise, the owner or operator must install, operate, and maintain a ground-water monitoring system which meets the requirements of 206.C.1.b. and must comply with 206.C.1.c. through e. This ground-water monitoring program must be carried out during the active life of the facility, and, for disposal facilities, during the post-closure care period as well.
- (3) All or part of the ground-water monitoring requirements of 206.C.1. may be waived if the owner or operator can demonstrate that there is a low potential for migration of hazardous waste or hazardous waste constituents from the facility via the uppermost aquifer to supply wells (domestic, industrial, or agricultural) or to surface water. This demonstration must be in writing, and must be kept at the facility. This demonstration must be certified by a qualified geologist or geotechnical engineer and must establish the following:
  - (a) The potential for migration of hazardous waste or hazardous waste constituents from the facility to the uppermost aquifer, by an evaluation of:
    - (i) A water balance of precipitation, evapotranspiration, runoff, and infiltration; and
    - (ii) Unsaturated zone characteristics (i.e., geologic materials, physical properties, and depth to ground water); and
  - (b) The potential for hazardous waste or hazardous waste constituents which enter the uppermost aquifer to migrate to a water supply well or surface water, by an evaluation of:
    - (i) Saturated zone characteristics (i.e., geologic materials, physical properties, and rate of ground-water flow); and
    - (ii) The proximity of the facility to water supply wells or surface

water.

Section 74-4-4.3, paragraph A, of the New Mexico Statutes Annotated (NMSA) reads:

A. Any person who generates, stores, treats, transports, disposes of or otherwise handles or has handled hazardous wastes shall, upon request, furnish information relating to such wastes and permit the director or his authorized representatives:

- (1) to enter at reasonable times any establishment or other place maintained by any person where hazardous wastes are or have been generated, stored, treated, disposed of or transported from; and
- (2) to inspect and obtain samples from any person of any such wastes and samples of any containers or labeling for such wastes.

LANL does not have the ground-water monitoring program described in Section 206.C.1.a.(2). LANL either does not have the waiver demonstration required in Section 206.C.1.a.(3), or, in failing to show this demonstration to the inspectors, has violated Section 74-4-4.3 of the NMSA. Until LANL submits this waiver demonstration to EID, or until it implements a ground-water monitoring program, LANL will remain in violation of one of these requirements. Should a waiver demonstration be submitted, and the Director find it deficient, LANL will remain in violation until a ground-water monitoring program meeting HWMR-2 requirements has been implemented.

4. Section 203.C.3.a.(1) reads, in part:

- (1) The owner or operator must prepare and submit a single copy of a biennial report to the Director by March 1 of each even numbered year. The biennial report must be submitted on EPA Form 8700-138 or on forms supplied by the Division. The report must cover facility activities during the previous calendar year and must include the following information:

...

- (d) A description and the quantity of each hazardous waste received during the year. For off-site facilities, this information must be listed by the EPA identification number of each generator;

LANL's 1983 Biennial Report did not include a description of each hazardous waste generated. Use of the categories "reactive" and "corrosive", and the categories of "arsenic", "mercury", etc. to describe EP-toxic wastes containing these elements does not constitute an adequate description under this Section. LANL will remain in violation of this Section until it submits to the EID a revised Biennial Report that includes a chemical description of the waste generated.

5. Section 301.A. reads:

- A. The New Mexico Hazardous Waste Act requires a permit for the "treatment", "storage", or "disposal" of any "hazardous waste" as identified or listed under Section 74-4-4 NMSA 1978. The terms "treatment", "storage", "disposal", and "hazardous waste" are defined in 102. of these regulations. Owners and operators of hazardous waste management units must have permits during the active life (including the closure period) of the unit, and, for any unit which closes after January 26, 1983, during any post-closure care period required under 206.D.2.g., and during any compliance period specified under 206.D.1.g., including any extension of that compliance period under 206.D.1.g.(3).

Section 302.C.1. reads:

1. Qualifying for interim status.

- a. Any person who owns or operates an "existing HWM facility" shall have interim status and shall be treated as having been issued a permit to the extent he or she has:
- (1) Complied with the requirements of Section 3010(a) of RCRA pertaining to notification of hazardous waste activity;
  - (2) Complied with the requirements of 302.A.1.b. and c. governing submission of Part A applications; and
- b. When the EID determines, on examination or reexamination of a Part A application, that it fails to meet the standards of these regulations, it may notify the owner or operator that the application is deficient and that the owner or operator is therefore not entitled to interim status. The owner or operator will then be subject to EID enforcement for operating without a permit.

During the inspection, LANL representatives mentioned a storage area used for the storage of lithium hydride for greater than ninety days. This storage area was not identified on LANL's Part A permit application, does not have interim status, and is in violation of Section 301.A.

The inspectors were told by LANL representatives that this storage area had been in use prior to November 19, 1980, and that it is specially equipped for the storage of this reactive chemical waste. The EID finds that this storage is eligible for interim.

status, and LANL can come into compliance with Section 301.A. with respect to this storage area by amending its Part A permit application to add this storage area.

6. Another area of unpermitted storage, also in violation of Section 301.A., is the large (800 gallon) container for plating waste. LANL representatives indicated that this container holds regulated hazardous waste, and that wastes are sometimes held in this container for greater than ninety days. This container does not have interim status and may not be used for greater than ninety day storage.

7. Section 206.B.3.b., paragraphs (1) through (4), reads:

b. The owner or operator must develop and follow a written waste analysis plan which describes the procedures which he will carry out to comply with 206.B.3.a. He must keep this plan at the facility. At a minimum, the plan must specify:

- (1) The parameters for which each hazardous waste will be analyzed and the rationale for the selection of these parameters (i.e., how analysis for these parameters will provide sufficient information on the waste's properties to comply with 206.B.3.a.
- (2) The test methods which will be used to test for these parameters;
- (3) The sampling method which will be used to obtain a representative sample of the waste to be analyzed. A representative sample may be obtained using either:
  - (a) One of the sampling methods described in Appendix I of 201; or
  - (b) An equivalent sampling method as approved by the Administrator;
- (4) The frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up to date;

LANL's administrative requirement AR 10-3, entitled "Nonradioactive Chemical Waste", does not meet the requirements of paragraphs (1) through (4) of this Section. LANL will remain in violation of this Section until its analysis plan formally addresses these requirements.

8. Section 206.B.5., in its entirety, reads:

5. General Inspection Requirements.

- a. The owner or operator must inspect his facility for malfunctions and deterioration, operator errors, and discharges which may be causing - or may lead to - either a release of hazardous waste constituents to the environment, or a threat to human health.

The owner or operator must conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment.

- b. The owner or operator must develop and follow a written schedule for inspecting monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment (such as dikes and sump pumps) that are important to preventing, detecting, or responding to environmental or human health hazards. The schedule must:
  - (1) Be kept at the facility; and
  - (2) Identify the types of problems (e.g., malfunctions or deterioration) which are to be looked for during the inspection (e.g., inoperative sump pump, leaking fitting, eroding dike, etc.).
- c. The frequency of inspection may vary for the items on the schedule. However, it should be based on the rate of possible deterioration of the equipment and the probability of an environmental or human health incident if the deterioration or malfunction of any operator error goes undetected between inspections. Areas subject to spills, such as loading and unloading areas, must be inspected daily when in use. At a minimum, the inspection schedule must include the terms and frequencies called for in:
  - (1) 206.C.4.e., 5.d., 6.e., 10.d., 11.d., 12.d.; or
  - (2) 206.D.4.e., 5.d., 6.d., 7.d., 7.e., 8.g., and 10.d. as applicable.
- d. The owner or operator must remedy any deterioration or malfunction of equipment or structures, which the inspection reveals, on a schedule which ensures that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, remedial action must be taken immediately.
- e. The owner or operator must record inspections in an inspection log or summary. He must keep these records for at least three (3) years from the date of inspection. At a minimum, these records must include the date and time of the inspection, the

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name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions.

The only hazardous waste management area at LANL for which there was a written inspection schedule available to the inspectors was Area G. All other waste management areas are in violation of Section 206.B.5.b.; these areas in violation include:

- i) Area L, the chemical waste landfill, and
- ii) the treatment tank area in Building TA-50.

These areas are also in violation of Section 206.B.5.e., which requires that inspection logs be kept. There were no formal records of any inspections at these areas. LANL will remain in violation of these sections until inspection schedules are drawn up and inspection logs begun for all treatment, storage (greater than 90 days), and disposal areas, and until these schedules and logs are submitted to EID.

9. Section 206.C.4.e. reads:

e. Inspections.

The owner or operator must inspect areas where containers are stored, at least weekly, looking for leaks and for deterioration caused by corrosion or other factors. See 206.C.4.b. for remedial action required if deterioration or leaks are detected.

This Section also applies to less-than-ninety-day storage areas, as provided in Section 204.B.1.a.

Documentation of inspection could not be provided to the inspector for the 800 gallon plating waste container. In fact, the sump beneath this container held waste which had overflowed the container, and which LANL representatives indicated was not a recent overflow. Note that this Section requires inspection of every area where hazardous waste is temporarily stored in containers; other inspection requirements (Section 206.C.5.d.) apply to tanks. LANL will remain in violation of this Section until it submits documentation that the plating waste container and every other temporary (less than ninety day) storage area are inspected according to these requirements.

10. Section 206.B.6.c. reads:

- c. Facility personnel must take part in an annual review of the initial training required in 206.B.6.a.

There was no record of an annual training review for LANL hazardous waste

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personnel. LANL will remain in violation of this Section until documentation of an annual training review is submitted to EID.

11. Section 206.C.4.d.(1) reads:

- (1) A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste.

During the inspection, a container storing paint waste and used thinner prior to disposal at Area L was observed to have two holes in the lid.

12. Section 206.B.10.h. reads:

- h. The plan must include a list of all emergency equipment at the facility such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment, where this equipment is required. The list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.

The contingency plans shown to the inspectors at LANL did not contain a list of emergency equipment and the locations of this equipment. LANL will remain in violation of this Section until the element(s) of the contingency plan satisfying this Section is (are) submitted to EID.

13. Section 204.B.1. reads, in part:

1. A generator may accumulate hazardous waste on-site for ninety (90) days or less without a permit or without having interim status provided that:  
...
  - b. The date upon which each period of accumulation begins is clearly marked and visible for inspection on each container;

No accumulation date was visible on the plating waste container. LANL will remain in violation of this Section until the plating waste container and every container stored in an area which does not have interim status as a storage area is clearly labelled with the date that waste was first placed in that container.

In accordance with Section 74-4-10 NMSA, you have 30 days from receipt of this notice to submit to the EID documentation demonstrating that the violations noted have been

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corrected.

If you do not provide this information to the EID in writing, certified by a person duly authorized to sign for LANL, you shall be subject to one or more of the following:

- (1) an order requiring compliance within a specified period, pursuant to 74-4-10 NMSA 1978;
- (2) a civil action in district court for appropriate relief, including a temporary or permanent injunction, pursuant to 74-4-10 NMSA 1978; and
- (3) the assessment of civil penalties up to \$10,000 per violation for each day of continued non-compliance, pursuant to 74-4-12 NMSA 1978.

Compliance with the requirements of this notice does not relieve LANL of its obligation to comply with the HWMR-2 in other activities which it carries on nor does it relieve LANL of its obligation to comply with any other applicable laws and regulations.

#### Part Two: Findings and Inquiry

1. During the inspection on May 23, LANL representatives indicated that the 4000 gallons of tank storage shown on the October 1983 revised Part A permit application (page 1, line 2) was composed of a plating waste tank and a waste fuming nitric acid tank. On May 25, LANL personnel indicated that these tanks were not the one(s) referred to in the revised Part A application, but could not remember just what this line of the revised Part A application did refer to. The EID requires that LANL submit information on the location, current and past contents, and use of the 4000 gallon tank(s) referred to in the revised Part A.

2. During the inspection on May 25, LANL representatives were unable to clearly say if the radioactive lithium hydride in storage at Area L fell under the definition of "byproduct material" given at 10CFR30.4(d):

- (d) "Byproduct material" means any radioactive material (except special nuclear material) yielded in or made radioactive by exposure to the radiation incident to the process of producing or utilizing special nuclear material.

The EID requires, pursuant to Sections 204.A.3. and 201.A.3. of the HWMR-2, that LANL determine whether this lithium hydride is a "byproduct material" and submit this determination to the EID.

3. The LANL representatives interviewed during the inspection could not say whether the waste sand from the high-explosive burning areas was a hazardous

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waste. The EID requires that this determination be made, if it has not been done already, and that the determination be forwarded to the EID.

4. The 8250 gallon container storage area shown on the October 1983 revised Part A application (page 1, line 1) has, according to LANL representatives, never been used for the storage of wastes regulated under HWMR-2. This storage area did not appear on the original Part A application, does not have interim status, and may not be used for the storage of regulated hazardous wastes for longer than ninety days. The EID requires from LANL a revised Part A application omitting this area.

5. LANL representatives indicated to the inspectors that a batch treatment tank has been operating in Building TA-50 since prior to November 19, 1980, even though this tank was not shown on the original Part A permit application. Since 1980, the original treatment tank has been replaced by a larger and a safer batch treatment tank. The EID finds that this larger (1000 gallon) tank has interim status, and accepts the October 1983 revision of the Part A permit application with respect to this tank.

6. The original Part A permit application included 100 acres of land disposal (page 1, line 1). The October 1983 revised Part A application (page 1, line 3) shows 1600 acres of land disposal. Only the original 100 acres of land disposal has interim status; the balance does not and may not be used for land disposal without a permit. The EID requires a revised Part A reflecting this original 100 acres, and an accurate map showing the boundary of this original 100 acre plot or plots, as well as showing the existing fence lines of Areas G and L.

7. The EID requires from LANL a list of all the less-than-ninety-day accumulation areas for hazardous waste currently in use at LANL, together with a description of the wastes temporarily stored at each location and the mode of storage (containers, tanks, etc.) used there. This list, requested pursuant to Section 74-4-4.3 NMSA, is necessary to properly inspect these areas in the future.

8. During the inspection, LANL representatives indicated that the unlined surface impoundment at Area L had never received regulated hazardous waste since before November 19, 1980. If this is true, LANL will be able to return the attached certification with the proper signature.

9. The EID believes that containerized wastes are sometimes stored at Area G for greater than 90 days prior to disposal or treatment. If this is the case, storage is being done there in violation of Section 301.A. and Section 302.C.1. (for text see Part One of this letter). Since storage practices at Area G antedate November 19, 1980, this storage area should have been included in the original Part A application. The EID requires the submission of a revised Part A application if wastes are to be stored in Area G for greater than ninety days.

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LANL is required to submit responses to the above questions (items 1,2,3,and 7), to submit a revised Part A application incorporating the above findings (items 4, 6, and 9 and also item 5 in Part One of this letter), and to complete the enclosed certification (item 8, if applicable), within thirty days of receipt of this letter.

If you have any questions regarding either Part One or Part Two of this letter, please contact Mr. Greg Mello, Environmental Scientist, New Mexico Environmental Improvement Division, P.O. Box 968, Crown Building, Santa Fe, NM 87504, or call (505) 984-0020, Ext. 340. Please also address to Mr. Mello's attention the information you provide in response to this letter. I appreciate your cooperation in this matter.

Sincerely,

Steven Asher  
Director

SA:GM:clm

cc: Neil Weber - EID - District I  
Joe Grucica- EID - Legal  
William Taylor - EPA - Dallas  
Melvin McCorkle - LANL

Attachment

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

The following list of facilities did not engage in treatment, storage, or disposal activities involving hazardous waste after November 19, 1980, which would be subject to a Hazardous Waste Management Permit required by Section 74-4-4.2 of the New Mexico Hazardous Waste Management Act, NMSA, 1978.

Facility ID #: \_\_\_\_\_

\_\_\_\_\_ \*

(signature)

\_\_\_\_\_

(title)

\_\_\_\_\_

(date)

\* This certification must be signed in accordance with the requirements of Section 302 of the New Mexico Hazardous Waste Management Regulations.

"Standard Operating Procedures and Special Work Permits," Administrative Requirement 1-3, in Health and Safety, Los Alamos National Laboratory Manual, Chapter 1 (1983).

Referrals

Health Physics Group (HSE-1), 7-5296

Decontamination Section of HSE-1, 7-5420

Industrial Hygiene Group (HSE-5), 7-5231

Waste Management (HSE-7), 7-4301

Liquid Waste Section of HSE-7, 7-5834

Solid Waste Section of HSE-7, 7-5397

Regulatory Affairs Section of HSE-7, 7-7957

Forms

HS Form 10-3A, Chemical Waste Disposal Request

## Nonradioactive Chemical Waste

### Introduction

This administrative requirement specifies the rules and general procedures for disposal of nonradioactive liquid and solid chemical wastes at the Laboratory, thus ensuring the protection of Laboratory personnel, the public, and the environment, as well as compliance with Federal and state regulations.

Chemical wastes commonly generated at the Laboratory include all types of laboratory research chemicals, oils, solvents, beryllium, asbestos, carcinogens, compressed gases, and other nonradioactive solid or liquid wastes contaminated with hazardous chemicals.

NOTE: High explosive wastes are a special case and are not included in this document.

### Definitions

Hazardous Chemical Waste - any chemical or mixture of chemicals that is intended for disposal and is corrosive to living tissue; is toxic, flammable, carcinogenic, teratogenic, mutagenic, or infectious; or in any way poses a present or potential hazard to human health or the environment.

### Identification of Hazardous Wastes

Group leaders must identify the potentially hazardous waste materials in their work areas and contact the Industrial Hygiene Group (HSE-5) if workers could be exposed while handling, treating, or disposing of the material.

Guidance in identifying hazardous substances is provided by the Health Physics Group (HSE-1), Industrial Hygiene, and the Waste Management Group (HSE-7), as well as by the following sources:

- o 40 CFR 712 (as proposed), which defines "toxic substances" under the terms of the Toxic Substances Control Act, and
- o 40 CFR 261, which defines the characteristics and provides a listing of hazardous wastes under the terms of the Resource Conservation and Recovery Act.

### Determination of Appropriate Disposal Methods

Before initiating an operation that will either generate a new hazardous waste or increase the volume of existing wastes, the originating group should discuss available treatment/disposal options with Waste Management staff. In most cases, the existing waste-management facilities, technology, and manpower at the Laboratory will be able to handle the wastes. If not, Waste Management staff will assist with the development of disposal options; however, the originating group may need to allocate the appropriate personnel, funding, and facilities.

Training

Group leaders must ensure that their operating personnel are trained in and follow Waste Management policies and procedures appropriate to their work.

Chemical Waste  
Coordinator

A Chemical Waste Coordinator must be identified for each waste-generating group or site, as applicable, to serve as the primary contact with Waste Management staff. The Chemical Waste Coordinator must ensure the safe use of chemical waste collection areas or cabinets and the pre-disposal treatment of the wastes, as determined appropriate by Waste Management. NOTE: the Chemical Waste Coordinator may be the same person as the Spill Coordinator identified in Administrative Requirement 9-4, "Oil, Chemical, and Airborne Releases."

Waste Reduction

Generation of chemical waste must be kept as low as reasonably achievable. The groups generating the wastes can reduce the volume by obtaining only the minimum amount needed to perform a specific task. Whenever possible, unopened containers of chemicals should be returned to Chemical Stock (VWR) rather than disposed of. Waste Management staff are available to help the originating groups determine waste-reduction procedures.

Standard Operating  
Procedures

Operations involving the handling and disposal of beryllium, carcinogens, and suspected carcinogens require a standard operating procedure (SOP). (See Administrative Requirement 1-3, "Standard Operating Procedures and Special Work Permits.") In addition, a SOP may be required for operations involving significant quantities of other particularly toxic or hazardous materials, as determined by Waste Management.

The SOPs must include procedures for segregating, treating, packaging, and shipping the wastes, as well as special problems involved. Waste Management staff are available to help the originating office prepare these SOPs.

Initiating the  
Disposal  
Operations

When chemical wastes are ready for disposal, the originating group shall complete a Chemical Waste Disposal Request (HS Form 10-3A) and send the form to Waste Management. Upon receipt of the form, Waste Management determines the packaging, handling, treatment, transportation, and disposal requirements, based on the type and quantity of the waste involved. The originating group may be required to complete some pre-disposal treatment/chemical analysis of the wastes before Waste Management will take over the disposal operations.

Packaging

Hazardous waste must be packaged in Waste Management-approved, leakproof containers to ensure its safe handling, transportation, and disposal.

Liquids Exceeding 1 Gallon. Containerized liquid exceeding 1 gallon must not be disposed of until it has been solidified; absorption on vermiculite is an acceptable pre-disposal treatment method in this case.

Small Quantities of Liquids/Solids. Liquids less than 1 gallon or solids generally will be packaged by Waste Management for disposal.

Leaks and Spills

See Administrative Requirement 9-4, "Accidental Oil, Chemical, and Airborne Releases."

Special Disposal Considerations

Drains. Never pour chemical waste down a drain without prior approval from Waste Management.

Gases. Never vent gases without prior approval from Waste Management.

Cyanides, Chromates, and Corrosive Substances. Before disposal of cyanides, chromates, and corrosive substances, they must be treated by Waste Management to remove the hazardous property.

Reactive Chemicals. Reactive chemicals (for example, pyrophoric or water-reactive substances) must be rendered nonreactive before disposal. This treatment must be performed with the prior approval of Waste Management. If it is determined that the originating group cannot safely perform this pre-disposal treatment, Waste Management will take over that activity.

Oils. Waste Management must be notified before draining oil from any electrical or hydraulic system because polychlorinated biphenyls (PCBs) may be present. (See Administrative Requirement 10-4, "Polychlorinated Biphenyls.") The operating group must determine whether such oils have been contaminated with PCBs or radioactive substances. Contact Waste Management if PCB-contamination is questionable; contact Health Physics if radioactive contamination is suspected. Unless the oils will be recycled, they must be packaged as described above.

Recyclable Materials

Where possible, chemical wastes should be recycled or salvaged according to the appropriate Laboratory procedures. Those materials listed below are prime recycling candidates.

Elemental Mercury. Generally, elemental mercury must be recovered rather than disposed of. Contact the

Decontamination Section (7-5420) of Health Physics for collection.

Gas Cylinders. All gas cylinders must be returned to the Liquid and Compressed Gas Processing Center (MAT-1) for retesting and refilling. To facilitate the recycling operations, cylinders must remain labeled at all times. If a cylinder cannot be reused, notify Waste Management for assistance in disposing of it.

Batteries. Paper or other nonconducting material must be used to package batteries individually before the batteries are sent to Laboratory Salvage (MAT-14).

Oil or Solvents. Bulk quantities of oil or solvents should be recycled rather than disposed of. Contact Waste Management for specific guidance.

#### References

"Hazardous and Radioactive Mixed Waste Management," Department of Energy Order 5480.2 (most recent).

"Hazardous Waste Act," New Mexico Laws 1977, Chapter 313 (most recent).

"Identification and Listing of Hazardous Waste," 40 CFR 261 (most recent).

"Identification, Classification, and Proposed Regulation of Toxic Substances Posing a Potential Occupational Carcinogenic Risk," 29 CFR 1980 (most recent).

"Occupational Safety and Health Standards," (OSHA Regulations), 29 CFR 1910 (most recent).

"Oil, Chemical, and Airborne Releases," Administrative Requirement 9-4 in Health and Safety, Los Alamos National Laboratory Manual, Chapter 1 (1983).

"Pesticides and Toxic Substances," 40 CFR 712.

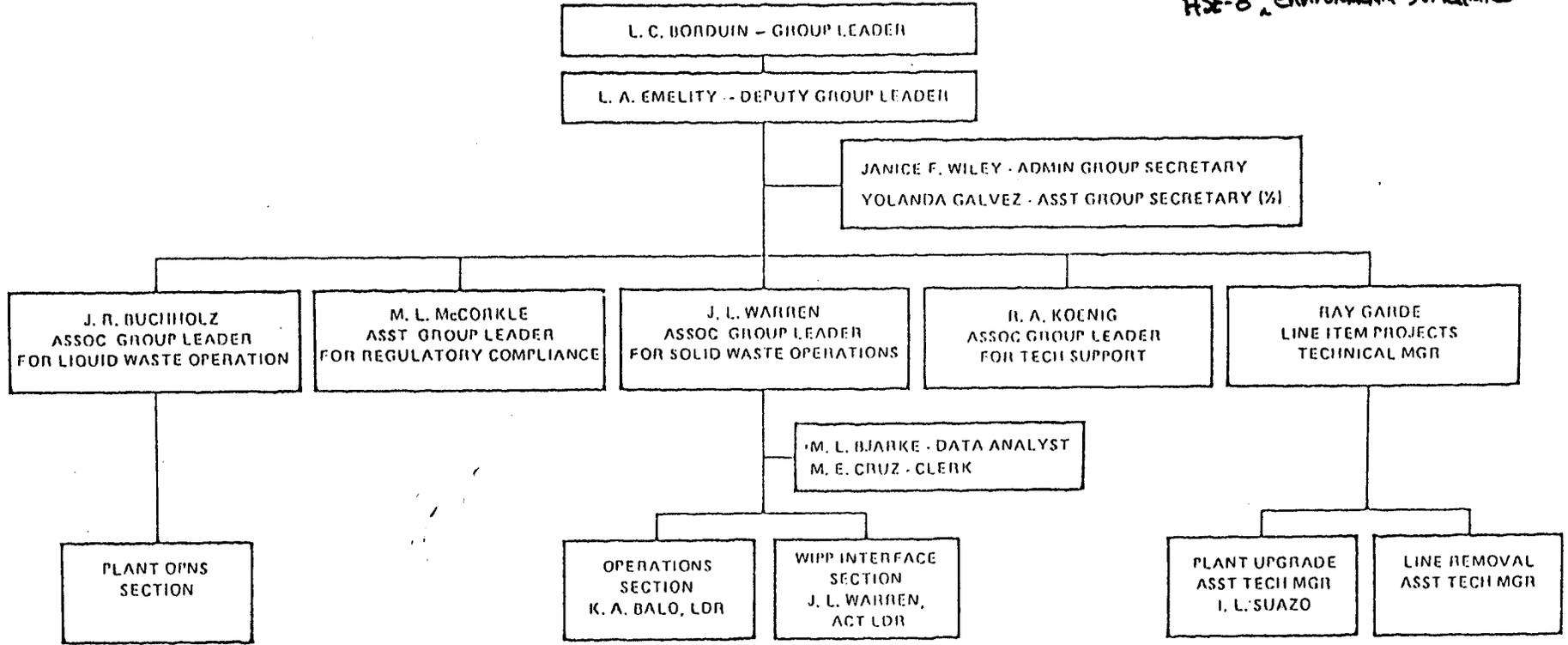
"Polychlorinated Biphenyls," Administrative Requirement 10-4, in Health and Safety, Los Alamos National Laboratory Manual, Chapter 1 (1983).

"Radioactive Solid Waste," Administrative Requirement 10-2, in Health and Safety, Los Alamos National Laboratory Manual, Chapter 1 (1983).

"Resource Conservation and Recovery Act, Subtitle C," 90 US Statutes at Large, p. 2795 (1976).

WASTE MANAGEMENT - GROUP HSE - 7

50 people employed  
HSE-B is environmental surveillance



W. M. SANDERS  
I. L. SUAZO

R. J. HASSMAN  
J. L. WHITE

B. R. MYERS  
H. P. PATTERSON  
M. D. SALAZAR

A. C. BRIESMEISTER\*  
A. E. DROSS  
J. H. HARPER  
B. T. REICH

D. G. VANCE  
J. S. VAVRUSKA (LOA)  
C. L. WARNER  
VACANCIES (2)

TECH STAFF  
J. CASTILLO  
R. T. HARRIS  
A. HOARD (Coop)  
P. A. McDONOUGH  
W. D. MOSS  
R. J. PAYNE  
D. F. SALAZAR  
K. T. SNIDER\*  
D. VOLZ  
N. W. WEEKS, SUPV  
L. D. WILLIAMS,  
LEAD OPERATOR

TECH STAFF  
R. B. EVANS\*  
L. L. HUPKE  
C. M. JACQUES  
R. C. WARD

TECH STAFF  
C. J. ARCHULETA  
T. D. ARCHULETA,  
SITE SUPERVISOR  
R. F. GARCIA, CLERK  
J. A. MASCARENAS  
T. S. MONTOYA  
E. C. SALAZAR  
C. VILLAREAL

TECH STAFF  
L. E. ESQUIREL  
R. M. GONZALES  
D. L. MELTON (E-1)

TECH STAFF  
C. L. GILLEY  
R. N. HIDLON  
J. F. RUTTEN  
C. O. KUNERT  
S. R. TRILICA, SECRETARY

\* CASUAL

# HAZARDOUS WASTES AT LOS ALAMOS

- o RADIOACTIVE

- SOLID
  - TRANSURANIC
  - LOW-LEVEL

- LIQUID

- o NON-RADIOACTIVE

- CHEMICAL/BIOLOGICAL
- HIGH EXPLOSIVES

- o MIXED STREAMS

Los Alamos

# LIQUID RADIOACTIVE WASTE MANAGEMENT

- o AQUEOUS WASTES DISCHARGED FROM LABORATORIES TO DEDICATED, MONITORED PIPELINE NETWORK.
  
- o WASTES RECEIVED AND STORED AT TREATMENT PLANT.
  
- o TREATMENT STEPS INCLUDE:
  - INFLUENT ANALYSIS
  - FLOCCULATION-PRECIPITATION
  - FILTRATION
  - ION EXCHANGE
  - TREATED LIQUID ANALYSIS/DISCHARGE

Los Alamos

# LIQUID RADIOACTIVE WASTE MANAGEMENT

- SOLID RESIDUE ANALYZED, PACKAGED, AND TRANSPORTED TO RADWASTE SITE FOR STORAGE (TRU) AND BURIAL (LLW).
- NUCLIDE RELEASE DATA REPORTED ANNUALLY TO DOE AND EPA.

Los Alamos

DATE: 6/13/84

SUBJECT: RCRA Compliance Monitoring Inspection Reports

FROM: David Peters, Chief  
Hazardous Waste Section (6ES-SH)



2197 Report

TO: Bill Taylor, Chief  
Enforcement Section (6AW-HE)

The attached RCRA Compliance Monitoring Inspection Reports have been prepared and reviewed by Environmental Services (6ES) and are being forwarded to you for your information and action.

Facility	EPA I.D. No.	Apparent Violation	
		Yes	No

Cos Alamos Scientific Lab	NM 0890016515	X	
---------------------------	---------------	---	--

An incomplete inspection was conducted by the N.M.E.I.D. inspector. The tanks were not looked at and checklist not completed. The inspection was completed 2 days later.

RECEIVED GAW-HE  
JUN 19 1984

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: 6/13/84

SUBJECT: Transmittal Memo - Compliance Monitoring Inspection Report

FROM: Mike Michael (Inspector)

DZP  
11/7/84

TO: Dave Peters, Chief  
Hazardous Waste Section (6ES-SH)

5/23/84  
6/23/84  
Date(s)

A compliance monitoring inspection was conducted on

at the following location:

Name: Los Alamos Scientific Lab

Address: Los Alamos, NM

EPA I.D. Number: NM0990010515 NPDES Permit No. \_\_\_\_\_

Type of inspection: Joint  Lead   
Type of facility: Federal  Municipal  Nonmunicipal

Compliance Monitoring Reports Attached: TSCA  RCRA

Comments:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Received by Hand Thompson 6/13/84

RCRA INSPECTION

I. SITE IDENTIFICATION

A. Site Name		B. Street (or other identifier)	
Los Alamos Scientific Lab		Los Alamos Area Office	
C. City	D. State	E. Zip Code	F. County Name
Los Alamos	NM	87544	
G. Site Operator Information			
1. Name		2. Telephone Number	
Same		505-667-5288	
-----			
3. Street	4. City	5. State	6. Zip Code
Los Alamos Area Office	Los Alamos	NM	87544
H. Site Description			
I. Latitude (deg.-min.-sec.)		Longitude (deg.-min.-sec.)	
J. Type of Ownership			
<input checked="" type="checkbox"/> 1. Federal <input type="checkbox"/> 2. State <input type="checkbox"/> 3. County <input type="checkbox"/> 4. Municipal <input type="checkbox"/> 5. Private			
K. <input checked="" type="checkbox"/> 1. Generator <input type="checkbox"/> 2. Transporter <input checked="" type="checkbox"/> 3. Treatment <input checked="" type="checkbox"/> 4. Storage <input checked="" type="checkbox"/> 5. Disposal			

INSPECTION INFORMATION

A. Principal Inspector Information	
1. Name	2. Title
Greg Mello	Inspector
-----	
3. Organization	4. Telephone No. (area code & No.)
NMIED	505-984-0020
B. Inspection Participants	
Doug Hamilton - NMIED	
Mike Michard - EPA	
Wally McCorkle - Los Alamos	
Karen Ballo - Los Alamos	

RCRA COMPLIANCE INSPECTION REPORT  
GENERATORS CHECKLIST

Note: On multiple part questions, circle those not in compliance.

Section A - EPA Identification No.

- 1. Does Generator have EPA I.D. No.? (262.12 - EPA I.D. No.)  Yes  No
  - a. If yes, EPA I.D. No. N M 0 8 9 0 0 1 0 5 1 5

Section B - Hazardous Waste Determination

- 1. Does generator generate hazardous waste(s) listed in Subpart D (261.30 - 261.33 - List of Hazardous Waste)?  Yes  No
  - a. If yes, list wastes and quantities on attachment (Include EPA Hazardous Waste No.) *See PART A application Revision Dated April '84 (Provide waste name and description.) and biannual Report dated May, '84*
  
- 2. Does generator generate solid waste(s) that exhibit hazardous characteristics? (corrosivity, ignitability, reactivity, EP toxicity) (261.20 - 261.24 - Characteristics of Hazardous waste.)  Yes  No
  - a. If yes, list wastes and quantities on attachment. (Include EPA Hazardous Waste No.) (Provide waste name and description) *See Part A & biannual Report*
  - b. Does generator determine characteristics by testing or by applying knowledge of processes? Both but mostly KOP
    - 1. If determined by testing, did generator use test methods in Part 261, Subpart C (or Equivalent)?  Yes  No
    - 2. If equivalent test methods used, attach copy of equivalent methods used.
  
- 3. Are there any other solid wastes deemed non-hazardous generated by generators? i.e. (process waste streams, collected matter from air pollution control equipment, water treatment sludge, etc.)
  - a. If yes, did generator determine non-hazardous characteristics by testing or knowledge of process?  Yes  No Both
    - 1. If determined by testing, did generator use test methods in Part 261, Subpart C (or Equivalent)?  Yes  No
    - 2. If equivalent test methods used, attach copy of equivalent methods used.
  - b. List wastes and quantities deemed non-hazardous or processes from which non-hazardous wastes were produced. (Use narrative explanations sheet.)  
*Asbestos, - All mtl's go through waste mgmt section for disposal. Determination of whether hazardous or not is made at that time.*

Section C - Manifest

1. Does generator ship hazardous waste off-site?  
(Subpart B - The Manifest)  Yes  No
  - a. If no, do not fill out Section C and D.
  - b. If yes, identify primary off-site facility(s). Use narrative explanations sheet.)
  
2. Has generator shipped hazardous waste off-site since November 19, 1980?  Yes  No
  
3. Is generator exempted from regulation because of:  
Small quantity generator (261.5 - Special requirements)  Yes  No  
OR  
Produces non-hazardous waste at this time (261.4 - Exclusions)  Yes  No
  
4. If not exempted does generator use manifest? (262.20 - General requirements)  Yes  No
  - a. If yes, does manifest include the following information (262.21 - Required information) (Break up items or circle ones not on manifest)
    1. Manifest Document No.  Yes  No
    2. Generators Name, Mailing Address, Tele. No.  Yes  No
    3. Generator EPA I.D. No.  Yes  No
    4. Transporter(s) Name and EPA I.D. No.  Yes  No
    5. a. Facility Name, Address and EPA I.D. No.  Yes  No
    6. DOT description of the waste  Yes  No
    7. a. Quantity (weight or volume)  Yes  No  
b. Containers (type and number)  Yes  No
    8. Emergency Information (optional) (special handling instructions, Phone No.)  Yes  No

9. Is the following certification on each manifest form?  Yes  No

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation and the EPA.

5. Does generator retain copies of manifests?  Yes  No

(Check completed manifests at random. Indicate how many manifests were inspected, how many violations were noted and the type of violation.)

If yes, complete a through e. If questions contain more than one item, circle those not in compliance. (263.23 Use of the Manifest)

a. (1) Did generator sign and date all manifests inspected?  Yes  No  
(2) Who signed for generator? Name Leon Borden Title Group Leader

b. (1) Did generator obtain handwritten signature and date of acceptance from initial transporter?  Yes  No  
(2) Who signed and dated for transporter? Name Mr. Keith Title Driver

c. Does generator retain one copy of manifest signed by generator and transporter?  Yes  No

d. Do returned copies of manifest include facility owner/operator signature and date of acceptance?  Yes  No

e. If copy of manifest from facility was not returned within 45 days, did generator file an exception report?  Yes  No N/A  
(262.42 - Exception reporting)

(1) If yes, did it contain the following information

Legible copy of manifest  Yes  No N/A

AND  
Cover letter explaining generators efforts to locate waste.  Yes  No N/A

f. Does (will) generator retain copies for 3 years?  Yes  No

Section D - Pre-Transport Requirements

1. Does generator package waste?  Yes  No

If no, skip the rest of Section D.  
If yes, complete the following questions.

2. Does generator package waste in accordance with 49 CFR 173 178, and 179? (DOT requirements) (262.30 - Packaging)  Yes  No

3. Inspect containers to be shipped.  
a. Are containers to be shipped leaking or corroding or bulging?  Yes  No

*No containers ready to be shipped*  
*NA*

b. Use narrative explanations sheet to describe containers and condition.  Yes  No

c. Is there evidence of heat generation from incompatible wastes in the containers?  Yes  No *NA*

4. Does the generator use DOT labeling requirements in accordance with 49 CFR 172? (262.31 - Labeling)  Yes  No

5. Does the generator mark each package in accordance with 49 CFR 172? (262.32 - Marking)  Yes  No

6. Is each container of 110 gallons or less marked with the following label? (262.32 - Marking)  Yes  No

*Do when shipped*

Label saying: HAZARDOUS WASTE - Federal Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the U.S. Environmental Protection Agency.

Generator's Name and Address \_\_\_\_\_

Manifest Document Number \_\_\_\_\_

7. If there are any vehicles present on site loading or unloading hazardous waste, inspect for presence of placards. Note this instance on narrative explanation sheet. *NA*

8. Accumulation Time (262.34 - Accumulation Time)  
a. Is facility a permitted storage facility?  Yes  No

*under interim status*

If yes, skip to question #9.  
If no, answer rest of question #8.

b. Is hazardous waste shipped offsite within 90 days?  Yes  No

c. Are containers used to store waste?  Yes  No

(1) Is the beginning date of accumulation time clearly indicated?  Yes  No

*NA*  
↓

- c. (1) Does generator inspect containers for leakage or corrosion? (265.174 - Inspections)  Yes  No
- (2) If yes, with what frequency? \_\_\_\_\_
- d. (1) Does generator handle ignitable or reactive waste?  Yes  No
- (2) If yes, does generator locate containers holding ignitable or reactive waste at least 15 meters (50 feet) inside facility's property line? (265.176 - Special Requirements for Ignitable or Reactive Wastes)  Yes  No

NA  
↓

NOTE: If generator accumulates waste on-site for less than 90 days, fill out Facilities Checklist Section A-#9 Personnel Training; Section B - Preparedness and Prevention; and Section C - Contingency Plan and Emergency Procedures.

9. Describe storage area. Use photos and narrative explanation sheet.  
*unable to look at this storage area do to it being in a classified Area.*  
Section E - Recordkeeping and Records

- 1. Is generator keeping the following reports? (262.40 - Recordkeeping) (Note: The following must be kept for a minimum of three (3) years.)
  - a. Manifests and signed copies from designated facilities?  Yes  No
  - b. Annual reports (Not applicable until March 1982)  Yes  No
  - c. Exception Reports  Yes  No *NA*
  - d. Test results where applicable.  Yes  No

- 2. Where are records kept (at facility or elsewhere)? *at facility*
- 3. Who is in charge of keeping the records? *Lea Bordgin Group leader*  
~~\_\_\_\_\_~~ Title ~~\_\_\_\_\_~~  
*Karen Balo Section Chief*

Section F - Special Condition

- 1. Has generator received from or transported to a foreign source any hazardous waste? (262.50 - International Shipments)  Yes  No
- If yes,
  - a. Has he filed a notice with the R.A.?  Yes  No
  - b. Is this waste manifested and signed by Foreign Consignee?  Yes  No
  - c. If generator transported wastes out of the country has he received confirmation of delivered shipment?  Yes  No

NA  
↓

RCRA COMPLIANCE INSPECTION REPORT  
TSD FACILITIES CHECKLIST

Section A - General Facility Standards

1. Does facility have EPA Identification No.? (265.11 - Identification Number)  Yes  No

A. If yes, EPA I.D. No. N M 0 9 9 0 0 1 0 5 1 5  
If no, explain \_\_\_\_\_

2. Has facility received hazardous waste from a foreign source? (265.12 - Required notices)  Yes  No

A. If yes, has he filed a notice with the Reg. Admin.  Yes  No *NA*

Waste Analysis

3. Does the facility have a written waste analysis plan? (265.13 - General Waste Analysis) *Do have operating requirement that does not meet regulations.*  Yes  No

A. If yes, is a copy maintained at the facility?  Yes  No

B. If no, question #4 not applicable.

4. If yes, does it include:

A. Parameters for which each waste will be analyzed?  Yes  No

B. Test methods used to test for these parameters?  Yes  No

C. Sampling method used to obtain sample?  Yes  No

D. Frequency with which the initial analysis will be reviewed or repeated?  Yes  No

1. If yes, does it include requirements to re-test when the process or operation generating the waste has changed?  Yes  No *N/A*

E. (For off-site facilities) Waste analyses that generators have agreed to supply?  Yes  No *N/A*

F. (For off-site facilities) Procedures which are used to inspect and analyze each movement of hazardous waste including:

1. Procedures to be used to determine the identity of each movement of waste?  Yes  No *NA*

2. Sampling method to be used to obtain representative sample of the waste to be identified?  Yes  No *NA*

5. Does the facility provide adequate security to minimize the possibility for the unauthorized entry of persons or livestock onto the active portions of the facility? (265.14 - Security)  Yes  No

If no, describe inadequacies. (Use narrative explanations sheet.)

If yes, is security provided through:

- A. 24-hour surveillance system? (e.g. television monitoring or guards)  Yes  No

OR

- B. 1. Artificial or natural barrier around facility (e.g. fence or fence and cliff)?  Yes  No  
Describe type of security
- 

AND

2. Means to control entry through entrances (e.g. attendant, television monitors, locked entrance, controlled roadway access)?  Yes  No  
Describe type of security.
- 

Include a drawing indicating any inadequacies in the facility's security system..

6. Is a sign with the legend, "Danger-Unauthorized Personnel Keep Out," posted at the entrance to the active portion of the facility? (265.14 - Security)  Yes  No

Is it written in English and legible from at least 25 feet?  Yes  No

(NOTE: The sign must be written in any other language predominant in the area surrounding the facility (e.g. In New Mexico and Texas areas bordering Mexico, the sign must be in Spanish). *Also in Spanish* *Signs only at disposal sites not at storage sites*

If an existing sign with a legend other than "Danger-Unauthorized Personnel Keep Out," what does that legend say?

General Inspection Requirements

7. A. Does the owner/operator maintain a written schedule for inspecting: (265.25 - General Inspection Requirements)

1. Monitoring equipment? (If applicable)  Yes \_\_\_ No
2. Safety and emergency equipment?  Yes \_\_\_ No  
*Area G - 405 → Low level Rodent*
3. Security devices?  Yes \_\_\_ No  
*Area L - No → Haz waste disposal area ←*
4. Operating and structural equipment (if applicable) \_\_\_ Yes  No
5. Does the schedule or plan identify the types of problems to be looked for during inspection?  Yes \_\_\_ No
- a. Malfunction or deterioration (e.g. inoperative sump pump, leaking fitting, eroding dike, corroded pipes or tanks, etc.)  Yes \_\_\_ No
- b. Operator error  Yes \_\_\_ No
- c. Discharges (e.g. leaks from valves or pipes joint breaks, etc.)  Yes \_\_\_ No
- B. Is a written schedule for these inspections maintained at the facility?  Yes \_\_\_ No  
*Area G only - Rodent area*
1. Are these inspections conducted?  Yes \_\_\_ No
- a. Is a record of these inspections maintained in the inspection log?  Yes \_\_\_ No
8. Does the owner/operator have an inspection log? (265.15 - General Inspection Requirements)  Yes \_\_\_ No
- A. If yes, does it include:
1. Date and time of inspection?  Yes \_\_\_ No
2. Name of inspector?  Yes \_\_\_ No
3. Notation of observations?  Yes \_\_\_ No
4. Date and nature of repairs or remedial action?  Yes \_\_\_ No
- B. Are there any malfunctions or other deficiencies noted in the inspection log that remain uncorrected? (Use narrative explanation sheet). \_\_\_ Yes  No
- C. Are records of the inspection log maintained at the facility for three (3) years?  Yes \_\_\_ No

Personnel Training

9. Does the owner/operator maintain a personnel training program?  
(265.16 - Personnel Training)  Yes \_\_\_ No

A. If yes,

1. Is the program directed by a person trained in hazardous waste management procedures?  Yes \_\_\_ No

2. Is the program designed to prepare employees to respond effectively to hazardous waste emergencies?  Yes \_\_\_ No

3. Is a training review given annually?  Yes \_\_\_ No

B. Does the owner/operator keep the following records:

1. job title and written job description of each position?  Yes \_\_\_ No

2. description of the type and amount of introductory and continuing training?  Yes \_\_\_ No

3. documentation that training has been given to employees?  Yes \_\_\_ No

C. Are these records maintained at the facility?  Yes \_\_\_ No

Requirements for Ignitable, Reactive or Incompatible Waste

10. Does facility handle ignitable or reactive wastes?  
(265.17 - Ignitable, Reactive, Incompatible Wastes)  Yes \_\_\_ No

(Circle appropriate type(s) of waste(s).)

A. If yes, is waste separated and confined from sources of ignition or reaction, (open flames, smoking, cutting and welding, hot surfaces, frictional heat) sparks (static, electrical or mechanical), spontaneous ignition (e.g. from heat producing chemical reactions) and radiant heat?  Yes \_\_\_ No

B. Are smoking and open flame confined to specifically designated locations?  Yes \_\_\_ No

C. Are "No Smoking" signs posted in hazardous areas where ignitable or reactive wastes are handled?  Yes \_\_\_ No

11. Check containers (265.17 - Ignitable, Reactive, Incompatible Wastes)

A. Are containers leaking or corroding or bulging? (Use narrative explanation sheet to explain containers in this condition.) \_\_\_ Yes  No

B. Has the facility ever placed incompatible wastes together? \_\_\_ Yes  No  
If yes, what were the results? (Use narrative explanation sheet). (Look for signs of mixing of incompatible wastes. e.g., fire, toxic mist, heat

Section B - Preparedness and Prevention

1. Is there evidence of fire, explosion or contamination of the environment? (265.31 - Maintenance and operation of facility)  Yes  No

If yes, use narrative explanations sheet to explain.

2. Is the facility equipped with (265.32 - Required equipment)

A. Internal communications or alarm system?  Yes  No

1. Is it easily accessible in case of emergency?  Yes  No

B. Telephone or two-way radio to call emergency response personnel?  Yes  No

C. Portable fire extinguishers, fire control equipment, spill control equipment and decontamination equipment?  Yes  No

1. Is this equipment tested to assure its proper operation?  Yes  No

D. Water of adequate volume for hoses, sprinklers or water spray system?  Yes  No

1. Describe source of water Own wells

2. Indicate flow rate and/or pressure and storage capacity if applicable. 40 psi - 4" line to Area G, 6" line 60 psi to Area L

3. Is there sufficient aisle space to allow unobstructed movement of personnel and equipment? (e.g. adequate aisle space in between barrels to check for leakage, corrosion and proper labeling, etc.) (265.35 - Required aisle space)  Yes  No

4. Has the owner/operator made arrangements with the local authorities to familiarize them with characteristics of the facility? (layout of facility, properties of hazardous waste handled and associated hazards, places where facility personnel would normally be working, entrances to roads inside facility, possible evacuation routes.) (265.37 - Arrangements with local authorities)  Yes  No

If no, has the owner/operator attempted to make such arrangements?  Yes  No NA

5. In the case that more than one police or fire department might respond, is there a designated primary authority? (265.37 - Arrangements with local authorities)

Yes  No *NA*

If yes, indicate primary authority Los Angeles owns & operates Fire Dept. for County

A. Is the fire department a city or volunteer fire department?

paid

6. Does the owner/operator have phone numbers of and agreements with State emergency response teams, emergency response contractors and equipment suppliers?

Yes  No

Are they readily available to the emergency coordinator?

Yes  No

(265.37 - Arrangements with local authorities)

7. Has the owner/operator arranged to familiarize local hospitals with the properties of hazardous waste handled and types of injuries that could result from fires, explosions, or releases at the facility?

Yes  No

If no, has the owner/operator attempted to do this?

Yes  No *NA*

(265.37 - Arrangements with local authorities)

8. If the State, or local authorities decline to enter into the above referenced agreements, has this situation been entered in the operating record? (265.37 - Arrangements with local authorities)

Yes  No *NA*

Section C - Contingency Plan and Emergency Procedures

1. Does the facility have a contingency plan? (265.52 Content of Contingency Plan)

Yes  No

A. If yes, does it contain:

1. actions to be taken in response to emergencies?

Yes  No

2. description of arrangements with police, fire and hospital officials?

Yes  No

3. list of names, addresses, phone numbers of persons qualified to act as emergency coordinator?

Yes  No

4. list of all emergency equipment at the facility?

Yes  No

5. evacuation plan for facility personnel?

Yes  No

2. Is a copy of the contingency plan maintained at the facility? (265.53 - copies of contingency plan)

Yes  No

3. Has a copy been supplied local police and fire depts.? (265.53 - Copies of contingency plan)

Yes  No

4. Is the plan a revised SPCC Plan? (265.52 - content of contingency plan)  Yes \_\_\_ No

5. Is there an emergency coordinator on-site or within short driving distance of the plant at all time?  Yes \_\_\_ No  
If yes, list primary emergency coordinator: Rotating schedule - designated weekly

Section D - Manifest System, Recordkeeping and Reporting

1. Has facility received hazardous waste from off-site since November 19, 1980? (265.71 - Use of manifest system) \_\_\_ Yes  No

a. If no, questions 1, 2 and 3 not applicable.

b. If yes, does the facility retain copies of all manifests? \_\_\_ Yes \_\_\_ No

1. Are the manifests signed and dated and returned to the generator? \_\_\_ Yes \_\_\_ No

2. Is a signed copy given to the transporter? \_\_\_ Yes \_\_\_ No

2. Has the facility received any hazardous waste from a rail or water (bulk shipment) transporter since Nov. 19, 1980? (265.71 - Use of manifest system) \_\_\_ Yes \_\_\_ No

a. If yes, is it accompanied by a shipping paper \_\_\_ Yes \_\_\_ No

1. Does the owner/operator sign and date the shipping paper and return a copy to the generator? \_\_\_ Yes \_\_\_ No

2. Is a signed copy given to the transporter? \_\_\_ Yes \_\_\_ No

3. Has the facility received any shipments of hazardous waste since November 19, 1980, which were inconsistent with the manifest? (265.72 - Manifest discrepancies) \_\_\_ Yes \_\_\_ No

a. If yes, has he resolved the discrepancy with the generator and transporter? \_\_\_ Yes \_\_\_ No

1. If no, has Regional Administrator been notified? \_\_\_ Yes \_\_\_ No

4. Has the facility received any waste (that does not come under the small generator exclusion) not accompanied by a manifest? (265.76 - Unmanifested waste report) \_\_\_ Yes \_\_\_ No

a. If yes, has he submitted an unmanifested waste report to the Regional Administrator? \_\_\_ Yes \_\_\_ No

5. Does the facility have a written operating record? (265.73 - Operating record)  Yes \_\_\_ No

a. Is a copy maintained at the facility?  Yes \_\_\_ No

NA



5. b. Does the record include

- 1. Description and quantity of each hazardous waste and the methods and dates of its treatment, storage or disposal at the facility?  Yes \_\_\_ No
- 2. Location and quantity of each hazardous waste of at each location?  Yes \_\_\_ No
  - a. Is this information cross-referenced with specific manifest document numbers, if applicable? \_\_\_ Yes \_\_\_ No *NA*
- 3. (for disposal facilities only) Is the location and quantity of each hazardous waste recorded on a map or diagram of each cell or disposal area?  Yes \_\_\_ No
- 4. Record and results of waste analyses?  Yes \_\_\_ No
- 5. Reports of incidents involving implementation of the contingency plan? (If applicable)  Yes \_\_\_ No
- 6. Records and results of required inspections   
*Kept in file at Area G.*  Yes \_\_\_ No
- 7. Monitoring, testing or analytical data where required?  Yes \_\_\_ No
- 8. Closure cost estimates and for disposal facilities, post-closure cost estimates? \_\_\_ Yes  No

Section E - Plans and Reports

- 1. Have all plans and reports been visually inspected and /or been made available for inspection? (265.74 - Availability, retention and disposition of records)  Yes \_\_\_ No

List plans and/or reports not made available for inspection.

\_\_\_\_\_  
\_\_\_\_\_

- 2. Did operator provide inspector with a drawing of the facility?  Yes \_\_\_ No
  - a. If yes, please indicate which are hazardous waste facilities on the drawing.   
*See Part A Application*

3. Indicate types of hazardous waste facilities.

- Containers *LH in Containers*
- Tanks
- Surface Impoundments
- Waste Piles
- Land Treatment
- Landfill
- Incinerator
- Thermal Treatment
- Chemical, Physical and Biological Treatment
- Groundwater Monitoring Program *Waiver being developed*

Revised 8/22/82

Los Alamos

CONTAINERS STORAGE CHECKLIST  
(Subpart I - Use and Management of Containers 265.170)

1. Does the facility store hazardous waste in containers?  Yes  No  
If no, do not complete this form.
2. Are the containers in good condition?  
(check for leaks, corrosion, bulges, etc.)  Yes  No  
If no, explain in narrative and document with photograph.
3. If a container is found to be leaking, does the operator transfer the hazardous waste from the leaking container?  Yes  No
4. Is the waste compatible with the containers and/or its liner?  Yes  No  
If no, explain in narrative.
5. Are the stored containers closed?  Yes  No  
If no, explain in narrative.
6. Are containers holding hazardous waste opened, handled or stored in such a manner as to cause the container to rupture or leak?  Yes  No  
If yes, explain in narrative.
7. Are each of the containers inspected at least weekly?  Yes  No <sup>work</sup>  
If no, explain in the narrative the frequency of inspection.
8. Are containers holding ignitable or reactive wastes located at least 15 meters (50 feet) from the facility property line?  Yes  No  
If no, explain in narrative and document with photograph.
9. Are incompatible wastes stored in the same containers?  Yes  No  
If yes, explain in narrative.
10. Are containers holding incompatible wastes kept apart by physical barrier or sufficient distance?  Yes  No  
If no, explain in narrative.

Revised 8/82

LANDFILLS CHECKLIST  
(Subpart N - Landfills, 265.300)

1. Is run-on diverted from the landfill? *diversion ditches*  Yes \_\_\_ No

2. Is run-off from the landfill collected? \_\_\_ Yes  No

a. Is the waste from the collected run-off analyzed to determine if it is a hazardous waste? \_\_\_ Yes \_\_\_ No *NA*

1. If it is a hazardous waste, how is it managed? (Use narrative explanations sheet)

2. Is the collected run-off discharged through a point source to surface waters? \_\_\_ Yes  No

a. If yes, list NPDES Permit Number \_\_\_\_\_

3. Is the landfill managed so that wind dispersal is controlled? (Note blowing debris) *revegetation & water spray.*  Yes \_\_\_ No

4. Is the following information maintained in the operating record?

a. On a map, the exact location and dimensions, including depth of each cell with respect to permanently surveyed benchmarks?  Yes \_\_\_ No

AND

b. Contents of each cell and the approximate location of each hazardous waste type within each cell?  Yes \_\_\_ No

5. Are reactive or ignitable wastes placed in the landfill? \_\_\_ Yes  No

a. If yes, is it treated, rendered or mixed before or immediately after placement in the landfill so it is no longer reactive or ignitable?  Yes \_\_\_ No

b. Describe treatment, etc., or attach a copy of treatment. *Solidification w/ vermiculite*

6. Are incompatible wastes placed in the same landfill cell? \_\_\_ Yes  No

a. If yes, what were the results? (Use narrative explanations sheet). (Look for signs of mixing of incompatible wastes, e.g. fire, toxic mist, heat generation, etc.) *NA*

Describe how it is possible for incompatible wastes to be placed in the same landfill cell. (Use narrative explanation sheet.) *NA*

7. Are bulk or non-containerized liquid wastes or wastes containing free liquids placed in the landfill?  Yes  No
- a. If yes, does the landfill have
1. A liner which is chemically and physically resistant to the added liquid?  Yes  No *NA*
2. A functioning leachate collection and adequate removal system?  Yes  No *NA*
- OR
- b. Is the liquid waste treated chemically or physically so that free liquids are no longer present?  Yes  No *NA*
8. Are containers holding liquid wastes placed in the landfill?  Yes  No  
*Lab Pack Quantities*
- If yes,
- a. Has all free-standing liquid been removed?  Yes  No *under*
- or
- b. Has waste been mixed with absorbent or solidified so that free-standing liquid is no longer observed?  Yes  No
- or
- c. Is the container very small, such as an ampule?  Yes  No
- or
- d. Is the container designed to hold free liquids for use other than storage, such as a battery or capacitor?  Yes  No *NA*
- or
- e. Is the container a lab pack?  Yes  No
9. Are empty containers placed in the landfill?  Yes  No
- a. If yes, are they reduced in volume (e.g. shredded, crushed)? *By Baldoza*  Yes  No
10. Is there evidence of site instability? (e.g., erosion, settling)? (Use narrative explanations sheet)  Yes  No
11. Is there evidence of ponding of water on-site? (Use Narrative explanation sheet.)  Yes  No
12. Is there any indication of improper or inadequate drainage? (Use narrative explanations sheet.)  Yes  No
13. Does the facility have closure and post-closure plans?  Yes  No
- a. If yes, Where are they maintained? \_\_\_\_\_ *NA*
- b. Do the plans address the following items:
1. control of pollutant migration?  Yes  No *NA*
2. control of surface water infiltration?  Yes  No
3. prevention of erosion?  Yes  No

6-20-83, Inspection Report has  
been requested to be confidential.  
by Los Alamos.

ENFORCEMENT CONFIDENTIAL

## Nonradioactive Chemical Waste

### Introduction

This administrative requirement specifies the rules and general procedures for disposal of nonradioactive liquid and solid chemical wastes at the Laboratory, thus ensuring the protection of Laboratory personnel, the public, and the environment, as well as compliance with Federal and state regulations.

Chemical wastes commonly generated at the Laboratory include all types of laboratory research chemicals, oils, solvents, beryllium, asbestos, carcinogens, compressed gases, and other nonradioactive solid or liquid wastes contaminated with hazardous chemicals.

NOTE: High explosive wastes are a special case and are not included in this document.

### Definitions

Hazardous Chemical Waste - any chemical or mixture of chemicals that is intended for disposal and is corrosive to living tissue; is toxic, flammable, carcinogenic, teratogenic, mutagenic, or infectious; or in any way poses a present or potential hazard to human health or the environment.

### Identification of Hazardous Wastes

Group leaders must identify the potentially hazardous waste materials in their work areas and contact the Industrial Hygiene Group (HSE-5) if workers could be exposed while handling, treating, or disposing of the material.

Guidance in identifying hazardous substances is provided by the Health Physics Group (HSE-1), Industrial Hygiene, and the Waste Management Group (HSE-7), as well as by the following sources:

- o 40 CFR 712 (as proposed), which defines "toxic substances" under the terms of the Toxic Substances Control Act, and
- o 40 CFR 261, which defines the characteristics and provides a listing of hazardous wastes under the terms of the Resource Conservation and Recovery Act.

### Determination of Appropriate Disposal Methods

Before initiating an operation that will either generate a new hazardous waste or increase the volume of existing wastes, the originating group should discuss available treatment/disposal options with Waste Management staff. In most cases, the existing waste-management facilities, technology, and manpower at the Laboratory will be able to handle the wastes. If not, Waste Management staff will assist with the development of disposal options; however, the originating group may need to allocate the appropriate personnel, funding, and facilities.

Training  
Group leaders must ensure that their operating personnel are trained in and follow Waste Management policies and procedures appropriate to their work.

Chemical Waste Coordinator  
A Chemical Waste Coordinator must be identified for each waste-generating group or site, as applicable, to serve as the primary contact with Waste Management staff. The Chemical Waste Coordinator must ensure the safe use of chemical waste collection areas or cabinets and the pre-disposal treatment of the wastes, as determined appropriate by Waste Management. NOTE: the Chemical Waste Coordinator may be the same person as the Spill Coordinator identified in Administrative Requirement 9-4, "Oil, Chemical, and Airborne Releases."

Waste Reduction  
Generation of chemical waste must be kept as low as reasonably achievable. The groups generating the wastes can reduce the volume by obtaining only the minimum amount needed to perform a specific task. Whenever possible, unopened containers of chemicals should be returned to Chemical Stock (VWR) rather than disposed of. Waste Management staff are available to help the originating groups determine waste-reduction procedures.

Standard Operating Procedures  
Operations involving the handling and disposal of beryllium, carcinogens, and suspected carcinogens require a standard operating procedure (SOP). (See Administrative Requirement 1-3, "Standard Operating Procedures and Special Work Permits.") In addition, a SOP may be required for operations involving significant quantities of other particularly toxic or hazardous materials, as determined by Waste Management.

The SOPs must include procedures for segregating, treating, packaging, and shipping the wastes, as well as special problems involved. Waste Management staff are available to help the originating office prepare these SOPs.

Initiating the Disposal Operations  
When chemical wastes are ready for disposal, the originating group shall complete a Chemical Waste Disposal Request (HS Form 10-3A) and send the form to Waste Management. Upon receipt of the form, Waste Management determines the packaging, handling, treatment, transportation, and disposal requirements, based on the type and quantity of the waste involved. The originating group may be required to complete some pre-disposal treatment/chemical analysis of the wastes before Waste Management will take over the disposal operations.

Packaging

Hazardous waste must be packaged in Waste Management-approved, leakproof containers to ensure its safe handling, transportation, and disposal.

Liquids Exceeding 1 Gallon. Containerized liquid exceeding 1 gallon must not be disposed of until it has been solidified; absorption on vermiculite is an acceptable pre-disposal treatment method in this case.

Small Quantities of Liquids/Solids. Liquids less than 1 gallon or solids generally will be packaged by Waste Management for disposal.

Leaks and Spills

See Administrative Requirement 9-4, "Accidental Oil, Chemical, and Airborne Releases."

Special Disposal Considerations

Drains. Never pour chemical waste down a drain without prior approval from Waste Management.

Gases. Never vent gases without prior approval from Waste Management.

Cyanides, Chromates, and Corrosive Substances. Before disposal of cyanides, chromates, and corrosive substances, they must be treated by Waste Management to remove the hazardous property.

Reactive Chemicals. Reactive chemicals (for example, pyrophoric or water-reactive substances) must be rendered nonreactive before disposal. This treatment must be performed with the prior approval of Waste Management. If it is determined that the originating group cannot safely perform this pre-disposal treatment, Waste Management will take over that activity.

Oils. Waste Management must be notified before draining oil from any electrical or hydraulic system because polychlorinated biphenyls (PCBs) may be present. (See Administrative Requirement 10-4, "Polychlorinated Biphenyls.") The operating group must determine whether such oils have been contaminated with PCBs or radioactive substances. Contact Waste Management if PCB-contamination is questionable; contact Health Physics if radioactive contamination is suspected. Unless the oils will be recycled, they must be packaged as described above.

Recyclable Materials

Where possible, chemical wastes should be recycled or salvaged according to the appropriate Laboratory procedures. Those materials listed below are prime recycling candidates.

Elemental Mercury. Generally, elemental mercury must be recovered rather than disposed of. Contact the

Decontamination Section (7-5420) of Health Physics for collection.

Gas Cylinders. All gas cylinders must be returned to the Liquid and Compressed Gas Processing Center (MAT-1) for retesting and refilling. To facilitate the recycling operations, cylinders must remain labeled at all times. If a cylinder cannot be reused, notify Waste Management for assistance in disposing of it.

Batteries. Paper or other nonconducting material must be used to package batteries individually before the batteries are sent to Laboratory Salvage (MAT-14).

Oil or Solvents. Bulk quantities of oil or solvents should be recycled rather than disposed of. Contact Waste Management for specific guidance.

#### References

- "Hazardous and Radioactive Mixed Waste Management," Department of Energy Order 5480.2 (most recent).
- "Hazardous Waste Act," New Mexico Laws 1977, Chapter 313 (most recent).
- "Identification and Listing of Hazardous Waste," 40 CFR 261 (most recent).
- "Identification, Classification, and Proposed Regulation of Toxic Substances Posing a Potential Occupational Carcinogenic Risk," 29 CFR 1980 (most recent).
- "Occupational Safety and Health Standards," (OSHA Regulations), 29 CFR 1910 (most recent).
- "Oil, Chemical, and Airborne Releases," Administrative Requirement 9-4 in Health and Safety, Los Alamos National Laboratory Manual, Chapter 1 (1983).
- "Pesticides and Toxic Substances," 40 CFR 712.
- "Polychlorinated Biphenyls," Administrative Requirement 10-4, in Health and Safety, Los Alamos National Laboratory Manual, Chapter 1 (1983).
- "Radioactive Solid Waste," Administrative Requirement 10-2, in Health and Safety, Los Alamos National Laboratory Manual, Chapter 1 (1983).
- "Resource Conservation and Recovery Act, Subtitle C," 90 US Statutes at Large, p. 2795 (1976).

"Standard Operating Procedures and Special Work Permits," Administrative Requirement 1-3, in Health and Safety, Los Alamos National Laboratory Manual, Chapter 1 (1983).

Referrals

Health Physics Group (HSE-1), 7-5296

Decontamination Section of HSE-1, 7-5420

Industrial Hygiene Group (HSE-5), 7-5231

Waste Management (HSE-7), 7-4301

Liquid Waste Section of HSE-7, 7-5834

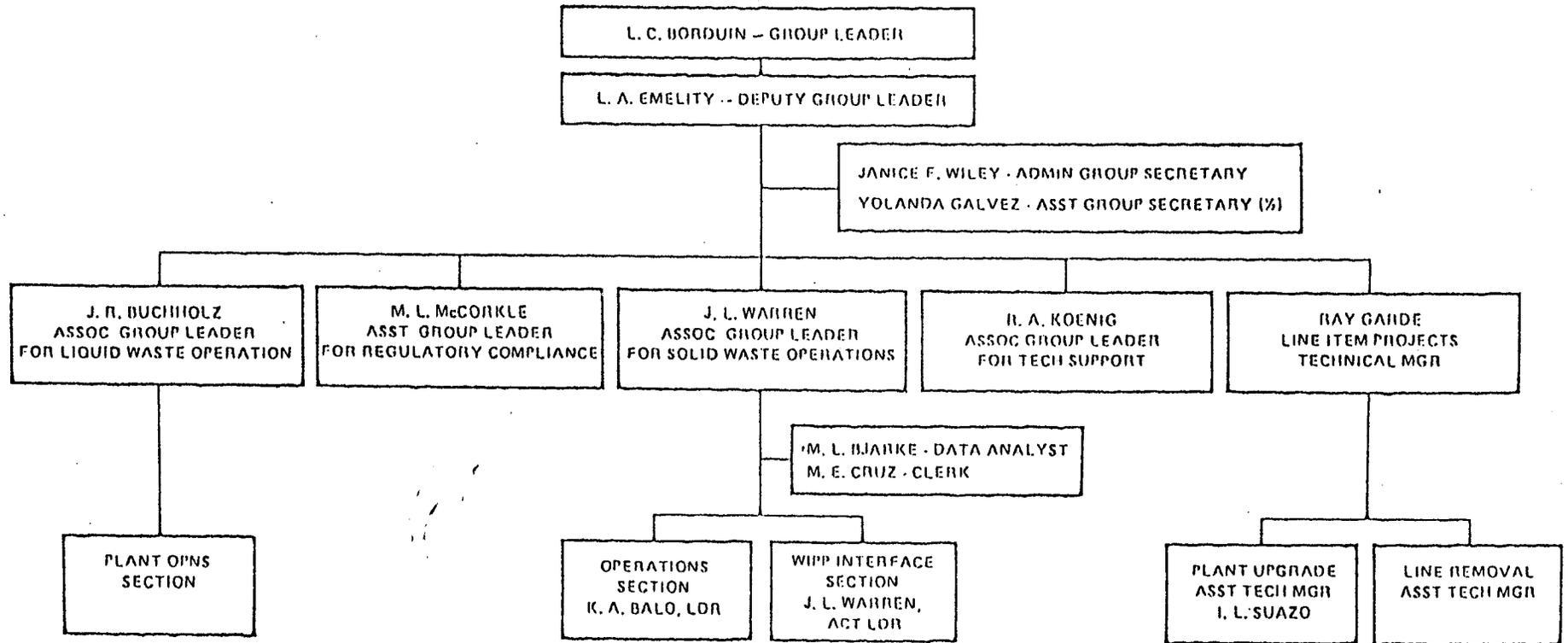
Solid Waste Section of HSE-7, 7-5397

Regulatory Affairs Section of HSE-7, 7-7957

Forms

HS Form 10-3A, Chemical Waste Disposal Request

WASTE MANAGEMENT - GROUP HSE - 7



W. M. SANDERS  
I. L. SUAZO

R. J. HASSMAN  
J. L. WHITE

D. R. MYERS  
H. P. PATTERSON  
M. D. SALAZAR

A. C. BRIESMEISTER\*  
A. E. DROSS  
J. R. HARPER  
B. T. REICH

D. G. VANCE  
J. S. VAVRUSKA (LOA)  
C. L. WARNER  
VACANCIES (2)

TECH STAFF

J. CASTILLO  
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LEAD OPERATOR

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R. C. WARD

TECH STAFF

C. J. ARCHULETA  
T. D. ARCHULETA,  
SITE SUPERVISOR  
R. F. GARCIA, CLERK  
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L. E. ESQUIBEL  
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D. L. MELTON (E-1)

TECH STAFF

C. L. GILLEY  
R. N. HIDLON  
J. F. RUTTEN  
C. O. KUNERT  
S. R. TRILICA, SECRETARY

\* CASUAL

# LIQUID RADIOACTIVE WASTE MANAGEMENT

- o AQUEOUS WASTES DISCHARGED FROM LABORATORIES TO DEDICATED, MONITORED PIPELINE NETWORK.
  
- o WASTES RECEIVED AND STORED AT TREATMENT PLANT.
  
- o TREATMENT STEPS INCLUDE:
  - INFLUENT ANALYSIS
  - FLOCCULATION-PRECIPIATION
  - FILTRATION
  - ION EXCHANGE
  - TREATED LIQUID ANALYSIS/DISCHARGE

Los Alamos

# HAZARDOUS WASTES AT LOS ALAMOS

- RADIOACTIVE

- SOLID
  - TRANSURANIC
  - LOW-LEVEL
- LIQUID

- NON-RADIOACTIVE

- CHEMICAL/BIOLOGICAL
- HIGH EXPLOSIVES

- MIXED STREAMS

Los Alamos

# LIQUID RADIOACTIVE WASTE MANAGEMENT

- SOLID RESIDUE ANALYZED, PACKAGED, AND TRANSPORTED TO RADWASTE SITE FOR STORAGE (TRU) AND BURIAL (LLW).
- NUCLIDE RELEASE DATA REPORTED ANNUALLY TO DOE AND EPA.

Los Alamos

# CHEMICAL WASTE MANAGEMENT

- WASTE SORTED, PACKAGED AT COLLECTION AREAS AND TRANSPORTED TO TREATMENT/DISPOSAL SITES.
- LARGE VOLUMES OF REACTIVE WASTES TREATED PRIOR TO DISPOSAL (ELECTROPLATING WASTE, BULK CORROSIVES).
- REAGENT QUANTITIES PLACED IN "LAB PACK" CONTAINERS PRIOR TO SHAFT DISPOSAL.
- LARGE VOLUMES OF NON-REACTIVE WASTES BURIED AT RADWASTE SITE.

Los Alamos

# CHEMICAL WASTE MANAGEMENT

- ALL OTHER DISPOSAL AT CHEMICAL DISPOSAL SITE.
- POLYCHLORINATED BIPHENYLS (PCBs) AT  $> 500$  ppm STORED FOR SHIPMENT TO OFF-SITE INCINERATOR.
- OFF-SITE DISPOSAL SERVICES EMPLOYED WHERE COST-EFFECTIVE. (e.g., L1H)
- DATA BASE MAINTAINED; ANNUAL REPORTS TO DOE AND EPA.

Los Alamos

# HAZARDOUS NONRADIOACTIVE WASTES TREATED/BURIED

WASTE TYPE	VOLUME - cu. M	
	1980	1982
CORROSIVES (ACID/BASE)	12.5	14.0
ORGANICS/SOLVENTS	4.9	28.3
INORGANICS	8.8	29.6
OILS	32.8	18.0
REACTIVES	2.2	0.8
CYANIDE	0.5	1.0
ASBESTOS	57.7	172.2
BERYLLIUM	2.7	1.2
PCB SOLIDS	26.1	105.1
EQUIPMENT/OTHER	14.8	4.5
TOTAL	163.0	374.7

Los Alamos

# BIOLOGICAL WASTES - TYPES AND MANAGEMENT

## • BACTERIAL/CELL CULTURES

- CHEMICALLY "FIXED" BY OPERATING GROUP.
- HAZARDOUS MATERIALS AUTOCLAVED PRIOR TO DISPOSAL AS SANITARY WASTE.

## • CARCASSES/TISSUE SAMPLES

- PACKAGED AND FROZEN PRIOR TO SHAFT DISPOSAL AT RADWASTE SITE. (1982 - 5.1 ou. M)

## • ANIMAL MAINTENANCE WASTES

- POTENTIALLY RADIOACTIVE, PACKAGED AND BURIED AS LLW AT RADWASTE SITE.
- NONRADIOACTIVE DISPOSED AT SANITARY LANDFILL.

Los Alamos

# HIGH EXPLOSIVE WASTES

## • SOURCES

- FABRICATION OPERATIONS
- MACHINING
- DROP TOWER
- PROCESS WASTES

## • DISPOSAL

- BURNED OR DETONATED ON SITE ACCORDING TO DOE GUIDELINES. (1882 - 14465 kg)
- LARGE NON-COMBUSTIBLE ITEMS BURIED AT CONTROLLED ACCESS SITE.

Los Alamos

# MIXED WASTE MANAGEMENT

- o MOST WASTES CONTAINING BOTH RADIOACTIVE AND HAZARDOUS CHEMICAL CONSTITUENTS ARE MANAGED AS RADIOACTIVE WASTES.
  
- o INCINERATION RECOGNIZED AS OPTION FOR PROBLEM WASTES IN THIS CATEGORY.
  - HIGH CONCENTRATION PCB TESTS COMPLETED.
  - EPA PERMIT REQUESTED.

Los Alamos

# WASTE VOLUMES

YEAR	BURIED VOLUME - cu. M	LOW-LEVEL WASTE BURIED
	1978	
1979		4870
1980		4755
1981		5514
1982		4535
TOTAL BURIED (1944 - 1982)		182735

YEAR	STORED VOLUME - cu. M	TRANSURANIC WASTE STORED
	1978	
1979		1562
1980		833
1981		876
1982		596
TOTAL STORED (1971 - 1982)		5480

Los Alamos

Narrative: Los Alamos Scientific Lab

The following violations were noted at the  
Outbriefing:

- No GW waiver or GW Monitoring
- No Closure plan or cost estimates
- No Post closure plan or cost estimates
- No Waste analysis plan

**Los Alamos**Los Alamos National Laboratory  
Los Alamos, New Mexico 87545**memorandum**

TO: Karen Balo, H-7, MS E516

DATE: February 15, 1983

THRU: W. R. Hansen, H-8 Group Leader *by MD*

MAIL STOP/TELEPHONE: K490/7-5021

FROM: W. D. Purtymun, H-8 *WDP*

SYMBOL: HB-83-139

SUBJECT: INSPECTION OF SHAFTS <sup>27 428</sup> 2<sup>7</sup>, 2<sup>8</sup>, 25, AND 26 AREA L, TA-54

The shafts at Area L are dug through Unit 2B (upper unit) and into Unit 2A (underlying unit) of the Tshirege Member of the Bandelier Tuff. These units are moderately welded ashflows of rhyolite tuff. The contact between the two units occurs at about 35 ft. The small diameter of the shafts, 4 to 6 ft, preclude a good examination of the shaft walls for joints or contact between ashflows.

Shafts 2<sup>7</sup> and 2<sup>8</sup> are 4-ft diameter shafts drilled to a depth of about 60 ft. They are located on the west end of the shaft disposal area next to the fence. The shafts exhibit few joints and no blocks pulled loose during the construction.

Shafts 25 and 26 are 6-ft diameter shafts drilled to a depth of about 60 ft. They are located north of a group of shafts drilled along the fence in the eastern part of Area L. The walls of the shaft were smooth, showing few joints and only a few blocks pulled loose from the joints during construction. In shaft 25, there were a series of small blocks pulled loose from a southwest trending joint on the west wall from a depth of about 12 to 29 ft. In shaft 26, there was a small block pulled out of the east wall at a depth of about 12 ft.

When the covers were removed from shafts 25 and 26, there was a strong odor of benzene and toluene in the shafts. Organic compounds, oils and solvents were disposed of in shafts (filled and capped) to the south of

Karen Balo  
RB-83-139

-2-

February 15, 1983

shafts 25 and 26. At the time these organics were disposed, there was no material to fix the fluids in the barrels. It appears that these barrels have ruptured or corroded through, releasing fluids from the barrels. Liquid organic materials are now mixed with vermiculite or to tuff prior to disposal. The benzene and toluene are highly volatile and thus are moving in a vapor phase through open joints or fractures in the tuff or along the contact between the two ashflows. In disposing of wastes into these shafts, I would use an excess of tuff dug from the shafts to fill the void space between the walls of the shaft and waste containers.

Construction of two other shafts in the vicinity of shafts 25 and 26 was terminated and the shafts filled with cutting when strong oil or solvent odors were encountered. When possible these shafts, though they do not contain wastes, should be capped to prevent any deep infiltration of water from precipitation or runoff into tuff.

Your suggestion to move any additional shafts to the west end of the area should be implemented. Location should be at least 50 ft from the canyon rim.

WDP/pb

Cy: John Warren, H-7, MS E516  
Don Mayfield, H-8, MS K490

**ENCLOSURE 4**

**DEFICIENCY 8**

**EPA FORMS 3510-1 & 3510-3 DO NOT CONTAIN  
ORIGINAL SIGNATURES & ARE NOT REPRODUCIBLE**

Replacement Pages for Part A in the Part B,  
Volume I.



ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

1. EPA I.D. NUMBER

F	N	M	0	8	9	0	0	1	0	5	1	5		
												13	14	15

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent (the area to the left of the label space has the information that should appear), please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete items I, III, V, and VI (except V-B which must be completed regardless). Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

2. EPA I.D. NUMBER

3. FACILITY NAME

4. FACILITY MAILING ADDRESS

5. FACILITY LOCATION

Department of Energy  
 Attn: Mr. Harold E. Valencia  
 Los Alamos Area Office  
 Los Alamos, NM 87544

6. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column of the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK 'X'			SPECIFIC QUESTIONS	MARK 'X'		
	YES	NO	FORM ATTACHED		YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X		B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)	X		NO	D. Is this a proposed facility (other than those described in A or B above) which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		YES	F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X		J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

7. NAME OF FACILITY

8. SKIP LOS ALAMOS NATIONAL LABORATORY

9. FACILITY CONTACT

9. A. NAME & TITLE (last, first, & title) HAROLD E VALENCIA

9. B. PHONE (area code & no.) 505 677 5105 FTS 843-5105

10. FACILITY MAILING ADDRESS

10. A. STREET OR P.O. BOX LOS ALAMOS AREA OFFICE

10. B. CITY OR TOWN LOS ALAMOS

10. C. STATE NM

10. D. ZIP CODE 87544

11. FACILITY LOCATION

11. A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER LOS ALAMOS

11. B. COUNTY NAME LOS ALAMOS

11. C. STATE NM

11. D. ZIP CODE 87544

11. E. COUNTY CODE

**OPERATOR INFORMATION**

**A. FIRST** (specify) NATIONAL SECURITY **B. SECOND** (specify)

**C. THIRD** (specify) **D. FIFTH** (specify)

**II. OPERATOR INFORMATION**

**A. NAME** LOS NATIONAL LABORATORY **B. Is the name listed in Item VIII-A also the owner?** YES  NO

**C. STATUS OF OPERATOR** (Enter the appropriate letter into the answer box: if "Other", specify.)  
 F - FEDERAL M - PUBLIC (other than federal or state) (specify)  
 S - STATE O - OTHER (specify)  
 P - PRIVATE

**D. PHONE** (area code & no.) 505 667 5021

**E. STREET OR P.O. BOX** P O BOX 1663 MS K490

**F. CITY OR TOWN** LOS ALAMOS **G. STATE** NM **H. ZIP CODE** 87545 **I. INDIAN LAND** Is the facility located on Indian lands? YES  NO

**III. EXISTING ENVIRONMENTAL PERMITS**

<b>A. NPDES (Discharges to Surface Water)</b>	<b>B. PSD (Air Emissions from Proposed Sources)</b>
N M 002855	P
<b>C. UIC (Underground Injection of Fluids)</b>	<b>D. OTHER (specify)</b>
U	N M 0028576 (specify)
<b>E. RCRA (Hazardous Wastes)</b>	<b>F. OTHER (specify)</b>
R	(specify)

**XI. MAP**

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

**XII. NATURE OF BUSINESS (provide a brief description)**

The mission of Los Alamos National Laboratory (LANL) is the application of science and technology to solve national problems including weapons development and energy supply and conservation programs, while basic science research complements and strengthens its fundamental technical capabilities. The LANL is owned by the US Department of Energy and operated under contract by the University of California.

**XIII. CERTIFICATION (see instructions)**

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

<b>A. NAME &amp; OFFICIAL TITLE (type or print)</b> Harold E. Valencia Los Alamos Area Manager	<b>B. SIGNATURE</b> <i>H. Valencia</i>	<b>C. DATE SIGNED</b>
--	---	-----------------------

**COMMENTS FOR OFFICIAL USE ONLY**

**FOR OFFICIAL USE ONLY**

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

**II. FIRST OR REVISED APPLICATION**

Place an "X" in the appropriate box in A or B below (mark one box only) to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

**A. FIRST APPLICATION** (place an "X" below and provide the appropriate date)

**1. EXISTING FACILITY** (See instructions for definition of "existing" facility. Complete item below.)

**2. NEW FACILITY** (Complete item below.)

**FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left)**

YR.	MO.	DAY
5 7		
73 74	75 76	77 78

**FOR NEW FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN**

YR.	MO.	DAY
73 74	75 76	77 78

**B. REVISED APPLICATION** (place an "X" below and complete Item I above)

**1. FACILITY HAS INTERIM STATUS**

**2. FACILITY HAS A RCRA PERMIT**

**III. PROCESSES - CODES AND DESIGN CAPACITIES**

**A. PROCESS CODE** - Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided on the form (Item III-C).

**B. PROCESS DESIGN CAPACITY** - For each code entered in column A enter the capacity of the process.

1. AMOUNT - Enter the amount.

2. UNIT OF MEASURE - For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PRO-CESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY	PROCESS	PRO-CESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
<b>Storage:</b>			<b>Treatment:</b>		
CONTAINER (barrel, drum, etc.)	S01	GALLONS OR LITERS	TANK	T01	GALLONS PER DAY OR LITERS PER DAY
TANK	S02	GALLONS OR LITERS	SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS	INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS		T04	GALLONS PER DAY OR LITERS PER DAY
<b>Dispose:</b>			<b>OTHER</b> (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)		
INJECTION WELL	D79	GALLONS OR LITERS			
LANDFILL	D80	ACRE-FEET (the volume that would cover one acre to a depth of one foot) OR HECTARE-METER			
LAND APPLICATION	D81	ACRES OR HECTARES			
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY			
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS			

UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G	LITERS PER DAY	V	ACRE-FEET	A
LITERS	L	TONS PER HOUR	D	HECTARE-METER	F
CUBIC YARDS	Y	METRIC TONS PER HOUR	W	ACRES	B
CUBIC METERS	C	GALLONS PER HOUR	E	HECTARES	Q
GALLONS PER DAY	U	LITERS PER HOUR	H		

**EXAMPLE FOR COMPLETING ITEM III** (shown in line numbers X-1 and X-2 below): A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

LINE NUMBER	A. PRO-CESS CODE (from list above)	B. PROCESS DESIGN CAPACITY		FOR OFFICIAL USE ONLY	LINE NUMBER	A. PRO-CESS CODE (from list above)	B. PROCESS DESIGN CAPACITY		FOR OFFICIAL USE ONLY
		1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)				1. AMOUNT	2. UNIT OF MEASURE (enter code)	
X-1	S 0 2	600	G		5				
X-2	T 0 3	20	E		6				
1	S 0 1	17880	G		7				
2	T 0 1	7680	J		8				
3	T 0 4	NA (SEC IIIC)			9				
4	T 0 3	0.15	D		10				

**C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES (code "T04"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.**

Discrete pieces of High Explosives (HE) waste are collected, packaged, and burned at the TA-16 burning ground. HE contaminated equipment, pipe, etc. that have been flash burned at TA-16 have been disposed of at Area P. Two burn pads (388, 399) are used to burn the discrete pieces of HE while pad 387 is used to flash the equipment. Two pressure vessels (401, 406) are used to burn HE sludge from various processing facilities located at the Laboratory. The sludge is collected at various sumps located throughout the HE processing areas and taken directly to the pressure vessels for treatment. The sumps are regulated under NPDES permits. The sludge is placed on layers of sand in the vessels, the water allowed to drain from the bottom into an evaporation pond and the residue on the sand burned. These vessels do not contain an accumulation of liquids; therefore, they are not considered tanks. Sand from burn pads 388 and 399 have been found to be EP toxic for Barium. This sand has in the past been disposed of at Area P. Engineering drawings and location of the sites are included under item V. Design capacities are not applicable as the treatment process is performed on an as-needed basis.

T03

The incinerator at TA-50 Building 37 has been used to burn methanol and ethanol contaminated with transuranic waste. This incinerator was originally built to treat transuranic waste and has been operating since 1979. Mixed waste containing the methanol and ethanol were burned in this incinerator before November 1980.

**IV. DESCRIPTION OF HAZARDOUS WASTES**

- A. EPA HAZARDOUS WASTE NUMBER** - Enter the four-digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four-digit number(s) from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.
- B. ESTIMATED ANNUAL QUANTITY** - For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.
- C. UNIT OF MEASURE** - For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE		CODE	METRIC UNIT OF MEASURE		CODE
POUNDS	.....	P	KILOGRAMS	.....	K
TONS	.....	T	METRIC TONS	.....	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

**D. PROCESSES**

- 1. PROCESS CODES:**
  - For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
  - For non-listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.
  - Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).
- 2. PROCESS DESCRIPTION:** If a code is not listed for a process that will be used, describe the process in the space provided on the form.

**NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER** - Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

- 1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
- 2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
- 3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

**EXAMPLE FOR COMPLETING ITEM IV (shown in line numbers X-1, X-2, X-3, and X-4 below)** - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES	
				1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K054	900	P	T03D80	
X-2	D002	400	P	T03D80	
X-3	D001	100	P	T03D80	
X-4	D002				included with above

EPA I.D. NUMBER (enter from page 1)  
 W N M 0 8 9 0 0 1 0 5 1 5

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IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

ID	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES	
				1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	D 0 0 1	50000	P	S 0 1 T 0 3	
2	D 0 0 2	150000	P	S 0 1 T 0 1	
3	D 0 0 3	5000	P	S 0 1 T 0 4	
4	D 0 0 3	5000	P	S 0 1 T 0 3 T 0 1	Lithium Hydride only
5	D 0 0 4	2000	P	S 0 1	
6	D 0 0 5	20000	P	S 0 1	Sand from clean out of explosives burn pads.
7	D 0 0 5	250*	P	S 0 1	
8	D 0 0 6	250*	P	S 0 1 T 0 1	
9	D 0 0 7	1000	P	S 0 1 T 0 1	
10	D 0 0 8	2000	P	S 0 1	
11	D 0 0 9	1500	P	S 0 1 T 0 1	
12	D 0 1 0	250*	P	S 0 1	
13	D 0 1 1	250*	P	S 0 1 T 0 1	
14	D 0 1 2	250*	P	S 0 1 T 0 3	
15	D 0 1 6	750*	P	S 0 1 T 0 3	
16		END OF D DESIGNATOR			
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					

W N M 0 8 9 0 0 1 0 5 1 5 1 1

W DUP

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IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

1	2	A. EPA HAZARD. WASTENO (enter code)					B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES														
		23	24	25	26	27			1. PROCESS CODES (enter)					2. PROCESS DESCRIPTION (if a code is not entered in D(1))									
28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	
1	F	0	0	1		1000	P	S	0	1													
2	F	0	0	2		3000	P	S	0	1													
3	F	0	0	3		2000	P	S	0	1													
4	F	0	0	4		250*	P	S	0	1													
5	F	0	0	5		250*	P	S	0	1													
6	F	0	0	6		250*	P	S	0	1			T	0	1								
7	F	0	0	7		12500	P	S	0	1			T	0	1								
8	F	0	0	8		1000	P	S	0	1			T	0	1								
9	F	0	0	9		6000	P	S	0	1			T	0	1								
10	F	0	2	7		700	P	S	0	1			T	0	3								
11	F	0	2	8		700	P	S	0	1													
						END OF F DESIGNATOR																	
13																							
14																							
15																							
16																							
17																							
18																							
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21																							
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23																							
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25																							
26																							

W N M 0 8 9 0 0 1 0 5 1 5 1

W DUP 2 DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

NO	A. EPA HAZARD. WASTE NO (enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES			
	21	22	23	24			1. PROCESS CODES (enter)			
						27 - 28	27 - 28	27 - 28	27 - 28	
1	K	0	4	4	50000	P	S 0 1		T 0 4	
2	K	0	4	7	250*	P	S 0 1		T 0 4	
3					END OF K DESIGNATOR					
4										
5										
6										
7										
8										
9										
10										
11										
12										
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EPA I.D. NUMBER (enter from page 1)													FOR OFFICIAL USE ONLY									
W N M 0 8 9 0 0 1 0 5 1 5 1													W DUP 2 DUP									
1 2 3 4 5 6 7 8 9 10 11 12													13 14 15 16 17 18 19 20 21 22 23 24									

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

Z NO JZ	A. EPA HAZARD. WASTE NO (enter code)					B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES									
	1	2	3	4	5			1. PROCESS CODES (enter)					2. PROCESS DESCRIPTION (if a code is not entered in D(1))				
	27	28	27	28	28		27	28	27	28	27	28	27	28	27	28	
1	P	0	0	1	250*	P	S	0	1								
2	P	0	0	2	250*	P	S	0	1								
3	P	0	0	3	250*	P	S	0	1								
4	P	0	0	4	250*	P	S	0	1								
5	P	0	0	5	250*	P	S	0	1								
6	P	0	0	6	250*	P	S	0	1	T	0	4					
7	P	0	0	7	250*	P	S	0	1								
8	P	0	0	8	250*	P	S	0	1								
9	P	0	0	9	250*	P	S	0	1	T	0	4					
10	P	0	1	0	250*	P	S	0	1								
11	P	0	1	1	250*	P	S	0	1								
12	P	0	1	2	250*	P	S	0	1								
13	P	0	1	3	250*	P	S	0	1	T	0	1					
14	P	0	1	4	250*	P	S	0	1								
15	P	0	1	5	6000	P	S	0	1								
16	P	0	1	6	250*	P	S	0	1								
17	P	0	1	7	250*	P	S	0	1								
18	P	0	1	8	250*	P	S	0	1								
19	P	0	2	0	250*	P	S	0	1								
20	P	0	2	1	250*	P	S	0	1	T	0	1					
21	P	0	2	2	250*	P	S	0	1	T	0	4					
22	P	0	2	3	250*	P	S	0	1								
23	P	0	2	4	250*	P	S	0	1								
24	P	0	2	6	250*	P	S	0	1								
25	P	0	2	7	250*	P	S	0	1								
26	P	0	2	8	250*	P	S	0	1								

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

NO	A. EPA HAZARD. WASTE NO (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES	
				1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	P 0 2 9	250*	P	S 0 1 T 0 1	
2	P 0 3 0	250*	P	S 0 1 T 0 1	
3	P 0 3 1	250*	P	S 0 1 T 0 4	
4	P 0 3 3	250*	P	S 0 1 T 0 4	
5	P 0 3 4	250*	P	S 0 1	
6	P 0 3 6	250*	P	S 0 1	
7	P 0 3 7	250*	P	S 0 1	
8	P 0 3 8	250*	P	S 0 1	
9	P 0 3 9	250*	P	S 0 1	
10	P 0 4 0	250*	P	S 0 1	
11	P 0 4 1	250*	P	S 0 1	
12	P 0 4 2	250*	P	S 0 1	
13	P 0 4 3	250*	P	S 0 1	
14	P 0 4 4	250*	P	S 0 1	
15	P 0 4 5	250*	P	S 0 1	
16	P 0 4 6	250*	P	S 0 1	
17	P 0 4 7	250*	P	S 0 1	
18	P 0 4 8	250*	P	S 0 1	
19	P 0 4 9	250*	P	S 0 1	
20	P 0 5 0	250*	P	S 0 1	
21	P 0 5 1	250*	P	S 0 1	
22	P 0 5 4	250*	P	S 0 1 T 0 1 T 0 4	
23	P 0 5 6	250*	P	S 0 1	
24	P 0 5 7	250*	P	S 0 1	
25	P 0 5 8	250*	P	S 0 1	
26	P 0 5 9	250*	P	S 0 1	

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

Z O J	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES											
				1. PROCESS CODES (enter)				2. PROCESS DESCRIPTION (if a code is not entered in D(1))							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	P 0 6 0	250*	P	S	0	1									
2	P 0 6 2	250*	P	S	0	1									
3	P 0 6 3	250*	P	S	0	1	T	0	4						
4	P 0 6 4	250*	P	S	0	1	T	0	4						
5	P 0 6 5	250*	P	S	0	1	T	0	4						
6	P 0 6 6	250*	P	S	0	1									
7	P 0 6 7	250*	P	S	0	1									
8	P 0 6 8	250*	P	S	0	1									
9	P 0 6 9	250*	P	S	0	1			T	0	4				
10	P 0 7 0	250*	P	S	0	1									
11	P 0 7 1	250*	P	S	0	1			T	0	4				
12	P 0 7 2	250*	P	S	0	1									
13	P 0 7 3	250*	P	S	0	1	T	0	1	T	0	4			
14	P 0 7 4	250*	P	S	0	1			T	0	1				
15	P 0 7 5	250*	P	S	0	1									
16	P 0 7 6	250*	P	S	0	1	T	0	1	T	0	4			
17	P 0 7 7	250*	P	S	0	1			T	0	4				
18	P 0 7 8	250*	P	S	0	1	T	0	1						
19	P 0 8 1	250*	P	S	0	1	T	0	4						
20	P 0 8 2	250*	P	S	0	1									
21	P 0 8 4	250*	P	S	0	1									
22	P 0 8 5	250*	P	S	0	1									
23	P 0 8 7	250*	P	S	0	1									
24	P 0 8 8	250*	P	S	0	1									
25	P 0 8 9	250*	P	S	0	1									
26	P 0 9 2	250*	P	S	0	1									





W N M 0 8 9 0 0 1 0 5 1 5

W DUP 7 DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

ID	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES	
				1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	U 0 0 1	250*	P	S 0 1 T 0 3	
2	U 0 0 2	3500	P	S 0 1 T 0 3	
3	U 0 0 3	250*	P	S 0 1 T 0 3	
4	U 0 0 4	250*	P	S 0 1 T 0 3	
5	U 0 0 5	250*	P	S 0 1	
6	U 0 0 6	250*	P	S 0 1 T 0 4	
7	U 0 0 7	250*	P	S 0 1 T 0 3	
8	U 0 0 8	250*	P	S 0 1 T 0 3 T 0 4	
9	U 0 0 9	250*	P	S 0 1 T 0 3	
10	U 0 1 0	250*	P	S 0 1 T 0 3	
11	U 0 1 1	250*	P	S 0 1 T 0 3	
12	U 0 1 2	250*	P	S 0 1 T 0 3	
13	U 0 1 4	250*	P	S 0 1 T 0 3	
14	U 0 1 5	250*	P	S 0 1 T 0 3	
15	U 0 1 6	250*	P	S 0 1 T 0 3	
16	U 0 1 7	250*	P	S 0 1 T 0 3	
17	U 0 1 8	250*	P	S 0 1 T 0 3	
18	U 0 1 9	750	P	S 0 1	
19	U 0 2 0	250*	P	S 0 1 T 0 3 T 0 4	
20	U 0 2 1	250*	P	S 0 1 T 0 3	
21	U 0 2 2	250*	P	S 0 1 T 0 3	
22	U 0 2 3	250*	P	S 0 1 T 0 3 T 0 4	
23	U 0 2 4	250*	P	S 0 1 T 0 3	
24	U 0 2 5	250*	P	S 0 1 T 0 3	
25	U 0 2 6	250*	P	S 0 1 T 0 3	
26	U 0 2 7	250*	P	S 0 1 T 0 3	

EPA I.D. NUMBER (enter from page 1)

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W N M 0 8 9 0 0 1 0 5 1 5

W 2 DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTENO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES	
				1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	U 0 2 8	250*	P	S 0 1 T 0 3	
2	U 0 2 9	250*	P	S 0 1 T 0 3	
3	U 0 3 0	250*	P	S 0 1 T 0 3	
4	U 0 3 1	250*	P	S 0 1 T 0 3	
5	U 0 3 2	250*	P	S 0 1 T 0 1	
6	U 0 3 3	250*	P	S 0 1 T 0 4	
7	U 0 3 4	250*	P	S 0 1 T 0 3	
8	U 0 3 5	250*	P	S 0 1 T 0 3	
9	U 0 3 6	250*	P	S 0 1 T 0 3	
10	U 0 3 7	250*	P	S 0 1 T 0 3	
11	U 0 3 8	250*	P	S 0 1 T 0 3	
2	U 0 3 9	250*	P	S 0 1 T 0 3	
13	U 0 4 1	250*	P	S 0 1 T 0 3	
14	U 0 4 2	250*	P	S 0 1 T 0 3 T 0 4	
15	U 0 4 3	250*	P	S 0 1 T 0 4	
16	U 0 4 4	1000	P	S 0 1 T 0 3	
17	U 0 4 5	250*	P	S 0 1 T 0 4	
18	U 0 4 6	250*	P	S 0 1 T 0 3	
19	U 0 4 7	250*	P	S 0 1 T 0 3	
20	U 0 4 8	250*	P	S 0 1 T 0 3	
21	U 0 4 9	250*	P	S 0 1 T 0 3	
22	U 0 5 0	250*	P	S 0 1 T 0 3	
23	U 0 5 1	250*	P	S 0 1 T 0 3	
24	U 0 5 2	250*	P	S 0 1 T 0 3	
25	U 0 5 3	250*	P	S 0 1 T 0 3	
26	U 0 5 5	250*	P	S 0 1 T 0 3	

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES	
				1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	U 0 5 6	250*	P	S 0 1 T 0 3	
2	U 0 5 7	250*	P	S 0 1 T 0 3	
3	U 0 5 8	250*	P	S 0 1 T 0 3	
4	U 0 5 9	250*	P	S 0 1 T 0 3	
5	U 0 6 0	250*	P	S 0 1 T 0 3	
6	U 0 6 1	250*	P	S 0 1 T 0 3	
7	U 0 6 2	250*	P	S 0 1 T 0 3	
8	U 0 6 3	250*	P	S 0 1 T 0 3	
9	U 0 6 4	250*	P	S 0 1 T 0 3	
10	U 0 6 6	250*	P	S 0 1 T 0 3	
11	U 0 6 7	250*	P	S 0 1 T 0 3	
12	U 0 6 8	250*	P	S 0 1 T 0 3	
13	U 0 6 9	250*	P	S 0 1 T 0 3	
14	U 0 7 0	250*	P	S 0 1 T 0 3	
15	U 0 7 1	250*	P	S 0 1 T 0 3	
16	U 0 7 2	250*	P	S 0 1 T 0 3	
17	U 0 7 3	250*	P	S 0 1 T 0 3	
18	U 0 7 4	250*	P	S 0 1 T 0 3	
19	U 0 7 5	250*	P	S 0 1 T 0 4	
20	U 0 7 6	250*	P	S 0 1 T 0 3	
21	U 0 7 7	250*	P	S 0 1 T 0 3	
22	U 0 7 8	250*	P	S 0 1 T 0 3	
23	U 0 7 9	250*	P	S 0 1 T 0 3	
24	U 0 8 0	3000	P	S 0 1 T 0 3	
25	U 0 8 1	250*	P	S 0 1 T 0 3	
26	U 0 8 2	250*	P	S 0 1 T 0 3	

EPA I.D. NUMBER (enter from page 1)

W	N	M	0	8	9	0	0	1	0	5	1	5	T/A	C
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

FOR OFFICIAL USE ONLY

W	DUP	2	DUP
1	2	3	4

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES										
				1. PROCESS CODES (enter)				2. PROCESS DESCRIPTION (if a code is not entered in D(1))						
22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
1	U083	250*	P	S	0	1	T	0	3					
2	U084	250*	P	S	0	1	T	0	3					
3	U085	250*	P	S	0	1	T	0	3					
4	U086	250*	P	S	0	1	T	0	3					
5	U087	250*	P	S	0	1	T	0	3					
6	U088	250*	P	S	0	1	T	0	3					
7	U089	250*	P	S	0	1	T	0	3					
8	U090	250*	P	S	0	1	T	0	3					
9	U091	250*	P	S	0	1	T	0	3					
10	U092	250*	P	S	0	1	T	0	4					
11	U093	250*	P	S	0	1	T	0	3					
12	U094	250*	P	S	0	1	T	0	3					
13	U095	250*	P	S	0	1	T	0	3					
14	U096	250*	P	S	0	1	T	0	3					
15	U097	250*	P	S	0	1	T	0	3					
16	U098	250*	P	S	0	1	T	0	3					
17	U099	250*	P	S	0	1	T	0	3					
18	U101	250*	P	S	0	1	T	0	3					
19	U102	250*	P	S	0	1	T	0	3					
20	U103	250*	P	S	0	1	T	0	3					
21	U105	250*	P	S	0	1	T	0	3					
22	U106	250*	P	S	0	1	T	0	3					
23	U107	250*	P	S	0	1	T	0	3					
24	U108	250*	P	S	0	1	T	0	3					
25	U109	250*	P	S	0	1	T	0	3					
26	U110	250*	P	S	0	1	T	0	3					

W N M 0 8 9 0 0 1 0 5 1 5

W DUP 2 DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

Z O J Z	A. EPA HAZARD. WASTENO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES	
				1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	U 1 1 1	250*	P	S 0 1 T 0 3	
2	U 1 1 2	250*	P	S 0 1 T 0 3 T 0 4	
3	U 1 1 3	250*	P	S 0 1 T 0 3 T 0 4	
4	u 1 1 4	250*	P	S 0 1 T 0 3	
5	U 1 1 5	250*	P	S 0 1 T 0 3 T 0 4	
6	U 1 1 6	250*	P	S 0 1 T 0 3	
7	U 1 1 7	250*	P	S 0 1 T 0 3 T 0 4	
8	U 1 1 8	250*	P	S 0 1 T 0 3 T 0 4	
9	U 1 1 9	250*	P	S 0 1 T 0 3	
10	U 1 2 0	250*	P	S 0 1 T 0 3	
11	U 1 2 1	250*	P	S 0 1	
12	U 1 2 2	250*	P	S 0 1 T 0 3	
13	U 1 2 3	250*	P	S 0 1	
14	U 1 2 4	250*	P	S 0 1 T 0 3	
15	U 1 2 5	250*	P	S 0 1 T 0 3	
16	U 1 2 6	250*	P	S 0 1 T 0 3	
17	U 1 2 7	250*	P	S 0 1 T 0 3	
18	U 1 2 8	205*	P	S 0 1 T 0 3	
19	U 1 2 9	250*	P	S 0 1 T 0 3	
20	U 1 3 0	250*	P	S 0 1 T 0 3	
21	U 1 3 1	250*	P	S 0 1 T 0 3	
22	U 1 3 2	250*	P	S 0 1 T 0 3	
23	U 1 3 3	250*	P	S 0 1 T 0 3 T 0 4	
24	U 1 3 4	250*	P	S 0 1 T 0 1 T 0 4	
25	U 1 3 5	250*	P	S 0 1 T 0 4	
26	U 1 3 6	250*	P	S 0 1	

EPA I.D. NUMBER (enter from page 1)  
 W N M 0 8 9 0 0 1 0 5 1 5 T/A C  
 1 2 13 14 15

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 W DUP C 2 DUP  
 1 2 13 14 15 23 26

FORM APPROVED OMB NO. 156-380004

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

Z O J Z	A. EPA HAZARD. WASTE NO (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES							
				1. PROCESS CODES (enter)				2. PROCESS DESCRIPTION (if a code is not entered in D(1))			
27	28	29	30	31	27	28	27	28	27	28	
1	U 1 3 7	250*	P	S	0	1	T	0	3		
2	U 1 3 8	250*	P	S	0	1	T	0	3		
3	U 1 3 9	250*	P	S	0	1	T	0	3		
4	U 1 4 0	250*	P	S	0	1	T	0	3		
5	U 1 4 1	250*	P	S	0	1	T	0	3		
6	U 1 4 2	250*	P	S	0	1	T	0	3		
7	U 1 4 3	250*	P	S	0	1	T	0	3		
8	U 1 4 4	250*	P	S	0	1					
9	U 1 4 5	250*	P	S	0	1					
10	U 1 4 6	250*	P	S	0	1					
11	U 1 4 7	250*	P	S	0	1	T	0	3		
12	U 1 4 8	250*	P	S	0	1	T	0	3		
13	U 1 4 9	250*	P	S	0	1	T	0	3		
14	U 1 5 0	250*	P	S	0	1	T	0	3		
15	U 1 5 1	250*	P	S	0	1	T	0	3		
16	U 1 5 2	250*	P	S	0	1					
17	U 1 5 3	250*	P	S	0	1	T	0	3		
18	U 1 5 4	250*	P	S	0	1	T	0	3		
19	U 1 5 5	250*	P	S	0	1	T	0	3		
20	U 1 5 6	250*	P	S	0	1	T	0	3		
21	U 1 5 7	1000	P	S	0	1	T	0	3		
22	U 1 5 8	250*	P	S	0	1	T	0	3		
23	U 1 5 9	1000	P	S	0	1	T	0	3		
24	U 1 6 0	250*	P	S	0	1	T	0	4	T 0 3	
25	U 1 6 1	250*	P	S	0	1	T	0	3		
26	U 1 6 2	250*	P	S	0	1	T	0	3		

EPA I.D. NUMBER (enter from page 1)

FOR OFFICIAL USE ONLY

W	N	M	0	8	9	0	0	1	0	5	1	5	T/A/C
---	---	---	---	---	---	---	---	---	---	---	---	---	-------

W	DUP	C	2	DUP
---	-----	---	---	-----

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES	
				1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	U 1 6 3	250*	P	S 0 1 T 0 3	
2	U 1 6 4	250*	P	S 0 1 T 0 3	
3	U 1 6 5	250*	P	S 0 1 T 0 3	
4	U 1 6 6	250*	P	S 0 1 T 0 3	
5	U 1 6 7	250*	P	S 0 1 T 0 3	
6	U 1 6 8	250*	P	S 0 1 T 0 3	
7	U 1 6 9	250*	P	S 0 1 T 0 3	
8	U 1 7 0	250*	P	S 0 1 T 0 3	
9	U 1 7 1	250*	P	S 0 1 T 0 3	
10	U 1 7 2	250*	P	S 0 1 T 0 3	
11	U 1 7 3	250*	P	S 0 1 T 0 3	
12	U 1 7 4	250*	P	S 0 1 T 0 3	
13	U 1 7 6	250*	P	S 0 1 T 0 3	
14	U 1 7 7	250*	P	S 0 1 T 0 3	
15	U 1 7 8	250*	P	S 0 1 T 0 3	
16	U 1 7 9	250*	P	S 0 1 T 0 3	
17	U 1 8 0	250*	P	S 0 1 T 0 3	
18	U 1 8 1	250*	P	S 0 1 T 0 3	
19	U 1 8 2	250*	P	S 0 1 T 0 3	
20	U 1 8 3	250*	P	S 0 1 T 0 3	
21	U 1 8 4	250*	P	S 0 1 T 0 3	
22	U 1 8 5	250*	P	S 0 1 T 0 3	
23	U 1 8 6	250*	P	S 0 1 T 0 3	
24	U 1 8 7	250*	P	S 0 1 T 0 3	
25	U 1 8 8	250*	P	S 0 1 T 0 3	
26	U 1 8 9	250*	P	S 0 1 T 0 3 T 0 4	

W N M 0 8 9 0 0 1 0 5 1 5 1

W DUP 2 DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

NO JZ	A. EPA HAZARD. WASTENO (enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES									
	22	23	24	25			1. PROCESS CODES (enter)				2. PROCESS DESCRIPTION (if a code is not entered in D(1))					
1	U	1	9	0	250*	P	S	0	1	T	0	3				
2	U	1	9	1	250*	P	S	0	1	T	0	3				
3	U	1	9	2	250*	P	S	0	1	T	0	3				
4	U	1	9	3	250*	P	S	0	1	T	0	3				
5	U	1	9	4	250*	P	S	0	1	T	0	3				
6	U	1	9	6	250*	P	S	0	1	T	0	3				
7	U	1	9	7	250*	P	S	0	1	T	0	3				
8	U	2	0	0	250*	P	S	0	1	T	0	3				
9	U	2	0	1	250*	P	S	0	1	T	0	3				
10	U	2	0	2	250*	P	S	0	1	T	0	3				
11	U	2	0	3	250*	P	S	0	1	T	0	3				
12	U	2	0	4	250*	P	S	0	1							
13	U	2	0	5	250*	P	S	0	1	T	0	4				
14	U	2	0	6	250*	P	S	0	1	T	0	3				
15	U	2	0	7	250*	P	S	0	1	T	0	3				
16	U	2	0	8	250*	P	S	0	1	T	0	3				
17	U	2	0	9	250*	P	S	0	1	T	0	3				
18	U	2	1	0	250*	P	S	0	1	T	0	3				
19	U	2	1	1	250*	P	S	0	1	T	0	3				
20	U	2	1	2	250*	P	S	0	1	T	0	3				
21	U	2	1	3	250*	P	S	0	1	T	0	3	T	0	4	
22	U	2	1	4	250*	P	S	0	1	T	0	3				
23	U	2	1	5	250*	P	S	0	1							
24	U	2	1	6	250*	P	S	0	1							
25	U	2	1	7	250*	P	S	0	1	T	0	4				
26	U	2	1	8	250*	P	S	0	1	T	0	3				

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES			
			1. PROCESS CODES (enter)		2. PROCESS DESCRIPTION (if a code is not entered in D(1))	
1 U 2 1 9	250*	P	S 0 1			
2 U 2 2 0	1000	P	S 0 1 T 0 3			
3 U 2 2 1	250*	P	S 0 1 T 0 3			
4 U 2 2 2	250*	P	S 0 1 T 0 3			
5 U 2 2 3	1000	P	S 0 1 T 0 3			
6 U 2 2 5	250*	P	S 0 1 T 0 3			
7 U 2 2 6	2000	P	S 0 1 T 0 3			
8 U 2 2 7	250*	P	S 0 1 T 0 3			
9 U 2 2 8	4000	P	S 0 1 T 0 3			
10 U 2 3 0	250*	P	S 0 1 T 0 3			
11 U 2 3 1	250*	P	S 0 1 T 0 3			
12 U 2 3 2	250*	P	S 0 1 T 0 3			
13 U 2 3 3	250*	P	S 0 1 T 0 3			
14 U 2 3 4	250*	P	S 0 1 T 0 4			
15 U 2 3 5	250*	P	S 0 1 T 0 3			
16 U 2 3 6	250*	P	S 0 1 T 0 3			
17 U 2 3 7	250*	P	S 0 1 T 0 3			
18 U 2 3 8	250*	P	S 0 1 T 0 3			
19 U 2 3 9	1000	P	S 0 1 T 0 3			
20 U 2 4 0	250*	P	0 1 T 0 3			
21 U 2 4 2	250*	P	S 0 1 T 0 3			
22 U 2 4 3	250*	P	S 0 1 T 0 3			
23 U 2 4 4	250*	P	S 0 1 T 0 3			
24 U 2 4 6	250*	P	S 0 1			
25 U 2 4 7	250*	P	S 0 1 T 0 3			
26	END OF U DESIGNATOR					

**IV. DESCRIPTION OF HAZARDOUS WASTE (continued)****E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.**

All entries with an asterick in column IVB on page 3A are generated in labpack quantities only. If a new process/experiment will generate more than the stated quantity, a revised Part A will be submitted.

EPA I.D. NO. (enter from page 1)

F	N	M	0	8	9	0	0	1	0	5	1	5	T/A	C
													6	

**V. FACILITY DRAWING**

All existing facilities must include in the space provided on page 5 a scale drawing of the facility (see instructions for more detail).

**VI. PHOTOGRAPHS**

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

**VII. FACILITY GEOGRAPHIC LOCATION**

LATITUDE (degrees, minutes, &amp; seconds)

3	5	4	9	0	5	1
65 - 66	67 - 68	69 - 71				

LONGITUDE (degrees, minutes, &amp; seconds)

1	0	6	1	4	0	1	5
72 - 74	75 - 76	77 - 79					

**VIII. FACILITY OWNER**

A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER

2. PHONE NO. (area code &amp; no.)

F	E	United States Department of Energy	5	0	5	6	6	7	5	1	0	1
13 - 16			88 - 89	90 - 91	92 - 93							

3. STREET OR P.O. BOX

4. CITY OR TOWN

5. ST.

6. ZIP CODE

F	S	Los Alamos Area Office	G	Los Alamos	N	M	8	7	5	4	4
13 - 16			45 - 48	49 - 52	53 - 56	57 - 60					

**IX. OWNER CERTIFICATION**

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)

B. SIGNATURE

C. DATE SIGNED

Harold E. Valencia  
Los Alamos Area Manager


**X. OPERATOR CERTIFICATION**

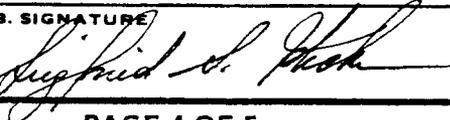
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)

B. SIGNATURE

C. DATE SIGNED

Siegfried S. Hecker, Director  
Los Alamos National Laboratory



11/10/86

The following drawings are attached to the revised Part A dated 10/31/84.

ENG-R 5277 Sheets 2 & 5 - "S" Site showing location of burn pits area - also relationship of "S" Site to rest of Lab. TA-40 & TA-14 locations where HE waste may be destroyed.

TA-16 - Structure Location Plan - Structural designation of pressure vessels (401, 406) and burn pads (387, 388, 399).

ENG-C-27630 - Pressure Vessel (406)

ENG-C-25937 - Pressure Vessel (401)

ENG-C-5849 - Burn Pads (387, 388, 389).

LA-RV-1-13.1 and LA-RV-P-9 - Batch Waste Treatment System at TA-50-1.

Area L Chemical Storage Facility, TA-54.

Area L Chemical Storage Facility, shed.

ENG-R-5277 Shed 10 - TA-15 and TA-36 - firing points where HE waste may be destroyed.

ENG-R-5277 Sheet 11 - TA-39 firing points where HE waste may be destroyed.

ENG-R-5277 Sheet 5 - TA-14 and TA-40 firing points where HE waste may be destroyed.

1. The following drawings are attached to the revised Part A dated 7/26/84:

Figure 1 - Technical Area Location Plan

Figure 4 - TA-50 Structure Location Plan showing location of the Batch Waste Treatment Facility in Building 1 and the controlled air incinerator in Building 37.

Figure 5 - TA-54 Structure Location Plan showing Area L.

2. The following drawings are attached to the revised Part A dated April 1, 1985:

-TDF (Fig. 4-3 of Part B)

TDF (Fig. 4-4 of Part B)

TA-54 Area L Storage Area (2 drawings)

3. The following are new submittals:

TA-54 Area L Storage Area Drawings, Revised July 25, 1985 (2 drawings)

Photographs:

TA-3, SM-40 = Temporary chemical waste storage

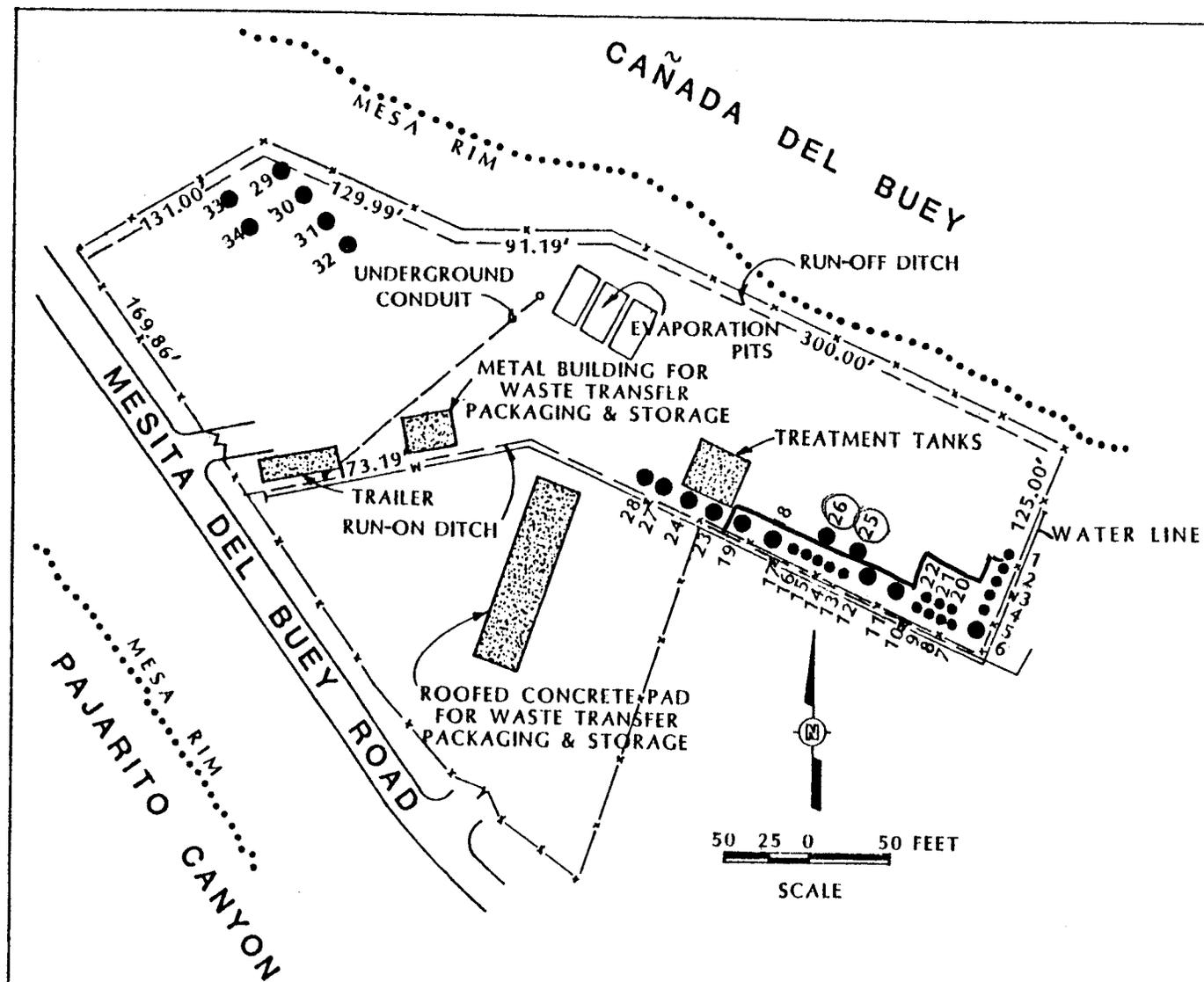
TA-3, SM-102 - South Side, Lih room

TA-9-39 (2 photographs) - Structure and bilingual sign for storage

TA-14-23 - Building with bilingual sign

3. (cont'd.)

- TA-14-23 and 35 - Building 23 with firing pad 35
- TA-15, Phermex - Firing pad
- TA-16, Area P - Area with bilingual sign
- TA-16-387 - Burn pad
- TA-16-406 - Storage area (temp)
- TA-16-394 - Burn pad
- TA-16-401 - Storage area (temp)
- TA-16-389 - Building used as control point
- TA-16-399 - Burn pad
- TA-16-388 - Burn pad
- TA-22, TD 96-3 - Temporary storage area with bilingual sign
- TA-22, TD 96 - Structure used as storage area (temp)
- TA-22, TD 24 - Structure used as storage area (temp)
- TA-36-8, Kappa 8 - Firing pad
- TA-39, AC-6 - Firing pad
- TA-39, AC-57 - Firing pad
- TA-40, DF-2 - Structure used as temporary storage area
- TA-50-1 - West side of building with BWT
- TA-50-1, -Batch Waste Treatment - East doors to BWT (middle of photo, in background)
- TA-50-37 - TDF facility (east side)
- TA-54, Area L (5 photographs)



AREA L SHAFTS (1)				
INFORMATION CURRENT MARCH, 1985				
SHAFT #	SHAFT NUMBER (REF)	DATE DRILLED	DATE CAPPED	CONTENTS
1	3	4/80	9/83	ORGANICS
2	3	2/78	7/79	ACIDS & BASES
3	3	2/75	11/78	INORGANIC
4	3	2/75	5/80	ORGANIC
5	3	2/75	6/77	WASTE OIL
6	4	6/75	6/79	REACTIVE
7	3	6/75	6/79	REACTIVE
8	3	6/75	6/79	REACTIVE
9	3	6/75	6/79	GAS CYLINDERS
10	3	6/77	6/79	WASTE OIL
11	8	1/78	7/79	WASTE OIL/SOLVENT
12	4	1/78	7/79	WASTE OIL/SOLVENT
13	3	6/78	5/82	INORGANIC
14	3	6/78	5/82	REACTIVE
15	3	6/78	5/82	REACTIVE
16	3	6/78	5/82	GAS CYLINDERS
17	3	6/78	5/82	ORGANIC
18	8	6/78	6/80	WASTE OIL
19	8	4/80	5/82	WASTE OIL
20	3	4/80	9/83	INORGANIC
21	3	4/80	5/82	GAS CYLINDERS
22	3	4/80	9/83	ORGANIC
23(1)	8	4/82	3/84	WASTE OIL
24(1)	8	4/82	4/84	ORGANIC & WASTE OIL
25	6	9/82	5/85	INORGANIC
26	6	9/82	3/84	ORGANIC
27	4	1/83	2/85	SPECIAL (4)
28	4	1/82	3/85	SPECIAL
29	6	12/83	8/84	ORGANIC
30	6	12/83	8/84	ORGANIC
31	6	12/83	9/84	ORGANIC
32	4	9/84	8/84	ORGANIC
33	6	9/84	2/85	ORGANIC
4	6	2/85	5/85	ORGANIC

- (1) ALL SHAFTS ARE APPROXIMATELY 60 FEET DEEP
- (2) PRIOR TO SHAFT 23 EXCEPT SHAFT 1, TRUBINS WERE DISPOSED OF IN DRUMS WITHOUT ADDING ABSORBENTS
- (3) MIDDLE SECTION OF THIS SHAFT NOT USED
- (4) USED FOR MISCELLANEOUS WASTE REQUIRING GREATER ISOLATION

2-21  
no absorbants

FIGURE 2-1  
TA-54, AREA L

RCRA  
SWMU

○ detected organics-smell in 1983

Conf. File  
NM0890010515  
Conf. File

Inspection Review Worksheet

Facility: Los Alamos Scientific Laboratory  
EPA ID: NM0890010515  
Inspection date: 6/23/84  
Review date: 7/14/84

<u>Regulation Violation</u>	<u>Description</u>	<u>Regulation Class</u>
40 CFR 265.13/§206.B.3.b	No written waste analysis plan	Class III
40 CFR 265.25/§206.B.5.b	No written schedule for inspection for security devices at hazardous waste disposal areas	Class III
40 CFR 265.25/§206.B.5.b	No written schedule for inspection of operating and structural equipment	Class III
40 CFR 265.73/§203.C.2.c	Operating record does not include cost estimates	Class III
40 CFR 265.302(b)/§206.C.9.b	Run-off from the landfill not collected	Class I
40 CFR 265.314(b)(1)/§206.C.9.g	No removal of all free-standing liquid	Class I
40 CFR 265.112/§206.C.2.c	No closure plan	Class I
40 CFR 265.118/§206.C.2.h	No post-closure plan	Class I
40 CFR 265.90/§206.C.1.a	No Groundwater Monitoring	Class I