



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VI
1201 ELM STREET
DALLAS, TEXAS 75270

August 11, 1982

0365
Permit

Los Alamos Scientific Laboratory
Attn: William Crismon
Los Alamos Area Office
Los Alamos, New Mexico 87544

Re: EPA ID Number: NMO890010515
Facility Location: Los Alamos Area Office
Los Alamos, New Mexico

This is to acknowledge that the Environmental Protection Agency has completed processing the information submitted in your Part A Hazardous Waste Permit Application. It is the agency's opinion, based on the assumption that the information submitted is complete and accurate, that you as an owner or operator of a hazardous waste management facility, have met the requirements of Section 3005(e) of the Resource Conservation and Recovery Act (RCRA) for interim status. EPA has not verified the information submitted. If it is determined that the information is incomplete or inaccurate, you may be asked to provide additional information or in certain circumstances it may be determined that you do not qualify for interim status. In addition, this notice does not preclude a citizen from taking legal action under the provisions of Section 7002 of RCRA.

A facility not meeting the requirements for interim status under Section 3005 of RCRA may be required to close until such time as a Hazardous Waste Permit is issued. Interim status may also be terminated, according to procedures in 40 CFR, Part 124, if the owner or operator fails to furnish additional information which EPA requests in order to process a permit application.

As an owner or operator of a hazardous waste management facility, you are required to comply with the interim status standards as prescribed in 40 CFR, Parts 122 and 265, or with state rules and regulations in those states which have been authorized under Section 3006 of RCRA. In addition, you are reminded that operating under interim status does not relieve you from the need to comply with all applicable state and local requirements.

The enclosure to this letter identifies the processes your facility may use, their design capacities and the types of waste your facility may accept during interim status. This information was obtained from Part "A" of the Permit Application. If you wish to handle new wastes, change processes, increase the design capacity of existing processes, or change ownership or operational control of the facility, you may do so only as provided in 40 CFR, Sections 122.22 and 122.23.



14814

If you have any questions concerning this letter, please contact Jack Paul at 214/767-9400 or write Environmental Protection Agency, Mail Code 6E-P, 1201 Elm Street, Dallas, Texas 75270.

Sincerely yours,

A handwritten signature in cursive script that reads "Allyn M. Davis".

Allyn Davis
Director, Air and Waste Management Division (6AW)

Enclosure

cc: New Mexico Health and
Environmental Department
Scott Nicholson

CONDITIONS OF OPERATION DURING
INTERIM STATUS

Date prepared: August 11, 1982

The information shown below is based solely on the information that the owner and operator of this facility submitted in Part A of the Hazardous Waste Permit Application. This is not a determination by EPA that this facility is an environmentally acceptable facility for treating, storing or disposing of the hazardous wastes listed below.

I. Facility name, location and EPA identification number:

Name: Los Alamos Scientific Laboratory
Location: Los Alamos Area Office
Los Alamos, New Mexico
EPA ID No: NMO 89 001 0515

II. EPA considers the following to be the owner or operator of the facility and therefore the person(s) who must comply with the requirements set forth in 40 CFR Parts 122 and 265:

Owner's name: United States Department of Energy
Operator's name: Los Alamos National Scientific Laboratory

III. During the period of interim status, the facility may use only the following processes for treating, storing or disposing of hazardous waste, up to the design capacities that are indicated:

<u>Process Code</u>	<u>Design Capacity Amount</u>	<u>Unit of Measure</u>
<u>D80</u>	<u>100.</u>	<u>Acre-feet</u>
<u>D83</u>	<u>4,000.</u>	<u>Gallons</u>
<u>T04</u>	<u>15,008.</u>	<u>Gallons per day</u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>

IV. During the period of interim status, the facility may handle only the hazardous wastes with the following EPA Hazardous Waste Numbers, and/or solid wastes exhibiting hazardous characteristics with the following EPA Hazardous Waste Numbers:

D000 D001 D002 D003 F001 F002 F003 F004 F005 F006 F007
F008 F009 P032 P035 P039 P040 P053 P073 P074 P075 P076
P077 P083 P090 P095 P098 P104 P106 P107 P113 P115 P120
P121 P122 U001 U002 U003 U004 U009 U011 U012 U013 U014

Revised
11-10-82

U017	U019	U020	U021	U023	U031	U032	U037	U044	U048	U052
U056	U057	U063	U068	U069	U070	U071	U072	U075	U077	U080
U081	U088	U092	U095	U108	U112	U115	U117	U122	U123	U127
U131	U134	U135	U138	U144	U145	U147	U151	U154	U156	U159
U160	U161	U166	U167	U168	U170	U188	U189	U190	U191	U194
U196	U197	U204	U207	U209	U210	U211	U213	U216	U217	U218
U219	U220	U226	U228	U229	U231	U239	D006	D007	D009	D010
D012	K044	P015	P018	P030	P105	U010	U022	U043	U045	U093
U102	U157	U201	U223							

Please print or type in the unshaded areas only
 Unshaded areas are spaced for elite type, i.e., 12 characters/inch.

FORM 1 EPA GENERAL INFORMATION <i>Consolidated Permits Program</i> <i>(Read for "General Instructions" before starting.)</i>		I. EPA I.D. NUMBER FN M 0 8 9 0 0 1 0 5 1 5 3
II. FACILITY NAME III. FACILITY MAILING ADDRESS VI. FACILITY LOCATION	NAME: PRESS HARD WHEN FILLING IN NAME & ADDRESS. Department of Energy Attn: Mr. William Crisman STREET ADDRESS: Los Alamos Area Office CITY, STATE, & ZIP CODE: Los Alamos NM, 87544	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 (see area to the left of the label space lists 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 VI-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.

II. 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 if 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		NO	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 a 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) Geothermal	X		NO
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

III. NAME OF FACILITY
 1 **SKIP** LOS ALAMOS NATIONAL SCIENTIFIC LABORATORY

IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title)		B. PHONE (area code & no.)	
2 WILLIAM CRISMON		505 667 5288 FTS 843-5288	

V. FACILITY MAILING ADDRESS

3 **A. STREET OR P.O. BOX**
 LOS ALAMOS AREA OFFICE

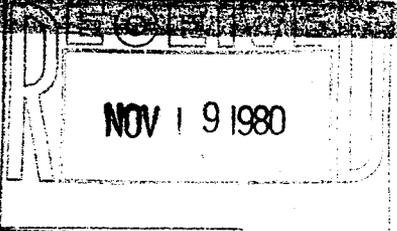
4 **B. CITY OR TOWN** LOS ALAMOS **C. STATE** NM **D. ZIP CODE** 87544

VI. FACILITY LOCATION

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

6 **B. COUNTY NAME**
 LOS ALAMOS

7 **C. CITY OR TOWN** LOS ALAMOS **D. STATE** NM **E. ZIP CODE** 87544 **F. COUNTY CODE** (if known)



VII. SIC CODES (4-digit, in order of priority)

A. FIRST				B. SECOND			
9	7	1	1	(specify)			
National Security							
C. THIRD				D. FOURTH			
(specify)				(specify)			

VIII. OPERATOR INFORMATION

A. NAME												B. Is the name listed in Item VIII-A also the owner?	
LOS ALAMOS NATIONAL SCIENTIFIC LABORATORY												<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)						D. PHONE (area code & no.)							
F = FEDERAL		M = PUBLIC (other than federal or state)		F (specify)		A		505		667		4301	
S = STATE		O = OTHER (specify)				C							
P = PRIVATE						15		16		18		21	

E. STREET OR P.O. BOX											
PO BOX 1563 MS 518											

F. CITY OR TOWN						G. STATE		H. ZIP CODE		IX. INDIAN LAND	
LOS ALAMOS						NM		87545		Is the facility located on Indian lands?	
										<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)						D. PSD (Air Emissions from Proposed Sources)					
NM 0028355						9 P					
B. UIC (Underground Injection of Fluids)						E. OTHER (specify)					
9 U						NM 0028576 (specify) NPDES					
C. RCRA (Hazardous Wastes)						E. OTHER (specify)					
9 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.

F9: A
50

XII. NATURE OF BUSINESS (provide a brief description)

The mission of Los Alamos National Scientific Laboratory (LANSL) 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 LANSL is owned by the US Department of Energy and operated under contract by the University of California.

F9: A
51

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.

A. NAME & OFFICIAL TITLE (type or print)		B. SIGNATURE		C. DATE SIGNED	
Kenneth R. Brazier Los Alamos Area Manager		<i>Kenneth R. Brazier</i>		11/19/80	

COMMENTS FOR OFFICIAL USE ONLY

--	--	--	--	--	--	--	--	--	--	--	--

File this report 30 days before completion if you have more than 26 wastes to list.

EPA ID NUMBER (enter from page 1) NM08900105153	FOR OFFICIAL USE ONLY WASTE ID DUP	TABLE 13 DUP
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DESCRIPTION OF HAZARDOUS WASTES (continued)

WASTE NO.	HAZARDOUS WASTE NO.	ESTIMATED ANNUAL QUANTITY OF WASTE	UNIT OF MEASURE (enter code)	1. PROCESS CODES (enter)						2. PROCESS DESCRIPTION (if a code is not entered in D(1))
				27	28	29	30	31	32	
20-22	D 0 0 0	8500.000	P	D 8 0	D 8 3					
	D 0 0 1	1300.000	P	D 8 0						
	D 0 0 2	80000.000	P	D 8 0	D 8 3					
	D 0 0 3	26000.000	P	D 8 0	D 8 3	T 0 4				
	D 0 0 6	1.000	P	D 8 0						
	D 0 0 7	16.000	P	D 8 3						
	D 0 0 9	3.000	P	D 8 0						
	D 0 1 0	1.000	P	D 8 0						
	D 0 1 2	5.000	P	D 8 0						
	K 0 4 4	22000.000	P	T 0 4						
	F 0 0 1	12000.000	P	D 8 0						
	F 0 0 2	900.000	P	D 8 0						
	F 0 0 3	1300.000	P	D 8 0						
	F 0 0 4	5.000	P	D 8 0						
	F 0 0 5	600.000	P	D 8 0						
	F 0 0 6	5.000	P	D 8 0						
	F 0 0 7	6000.000	P	D 8 0						
	F 0 0 8	5.000	P	D 8 0						
	F 0 0 9	13000.000	P	D 8 0						
	P 0 1 5	3000.000	P	D 8 0						
	P 0 1 8	1.000	P	D 8 0						
	P 0 3 0	1100.000	P	D 8 3						
	P 0 3 2	5.000	P	D 8 3						
	P 0 5 3	50.000	P	D 8 0						
	P 0 7 4	5.000	P	D 8 3						
	P 0 7 5	5.000	P	D 8 0						

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

T04

Discrete pieces of waste (i.e., scrap) HE are collected, packaged, stored, and periodically burned at the burning ground. Accumulations of waste in sumps are collected in a special truck, taken to filter beds at the burning ground, dried, and burned.

Total waste burned in 1979 44,528 lb.

Total waste detonated in 1979 600 lb.

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

N M 0 8 9 0 0 1 0 5 1 5 3 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).

Fig. 55

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).

Fig. 56

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)

35 49 05.7

LONGITUDE (degrees, minutes, & seconds)

106 14 07.5

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

United States Department of Energy

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

505-667-5288

3. STREET OR P.O. BOX

Los Alamos Area Office

4. CITY OR TOWN

Los Alamos

5. ST.

NM

6. ZIP CODE

87545

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)

Kenneth R. Brazier
Los Alamos Area Manager

B. SIGNATURE

Kenneth R. Brazier

C. DATE SIGNED

11/19/80

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)

Donald Kerr
Laboratory Director

D. SIGNATURE

Donald Kerr

C. DATE SIGNED

11/19/80

A. DESCRIPTION OF HAZARDOUS WASTES (continued from front)

A. HAZARDOUS WASTES FROM NON-SPECIFIC SOURCES. Enter the four-digit number from 40 CFR Part 261.31 for each listed hazardous waste from non-specific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26
7	8	9	10	11	12
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26

B. HAZARDOUS WASTES FROM SPECIFIC SOURCES. Enter the four-digit number from 40 CFR Part 261.32 for each listed hazardous waste from specific industrial sources your installation handles. Use additional sheets if necessary.

13	14	15	16	17	18
P 1 2 2	P 0 3 5	P 0 3 9	P 0 4 0		
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26
19	20	21	22	23	24
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26
25	26	27	28	29	30
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26

C. COMMERCIAL CHEMICAL PRODUCT HAZARDOUS WASTES. Enter the four-digit number from 40 CFR Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.

31	32	33	34	35	36
U 0 0 1	U 0 0 2	U 0 0 3	U 0 0 4	U 0 0 9	U 0 1 2
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26
37	38	39	40	41	42
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26
U 0 1 3	U 0 1 4	U 0 1 7	U 0 1 9	U 0 2 0	U 0 2 3
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26
43	44	45	46	47	48
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26
U 0 3 1	U 0 3 2	U 0 3 7	U 0 4 4	U 0 4 8	U 0 5 2
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26

D. LISTED INFECTIOUS WASTES. Enter the four-digit number from 40 CFR Part 261.34 for each listed hazardous waste from hospitals, veterinary hospitals, medical and research laboratories your installation handles. Use additional sheets if necessary.

49	50	51	52	53	54
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26

E. CHARACTERISTICS OF NON-LISTED HAZARDOUS WASTES. Mark "X" in the boxes corresponding to the characteristics of non-listed hazardous wastes your installation handles. (See 40 CFR Parts 261.21 - 261.24.)

1. IGNITABLE (D001)
 2. CORROSIVE (D002)
 3. REACTIVE (D003)
 4. TOXIC (D000)

F. 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.

SIGNATURE	NAME & OFFICIAL TITLE (type or print)	DATE SIGNED

Due to the magnitude of the problem of identifying all of the EPA defined hazardous waste products that may be disposed of at LASL in the time allocated (19 May-18 August, 1981) we reserve the right to modify the number of EPA identified hazardous waste products that are disposed of at LASL as future investigations may reveal additional waste products that meet the EPA criteria of hazardous waste.

AUG 15 1980

IX. DESCRIPTION OF HAZARDOUS WASTES (continued from front)

A. HAZARDOUS WASTES FROM NON-SPECIFIC SOURCES. Enter the four-digit number from 40 CFR Part 261.31 for each listed hazardous waste from non-specific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26
7	8	9	10	11	12
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26

B. HAZARDOUS WASTES FROM SPECIFIC SOURCES. Enter the four-digit number from 40 CFR Part 261.32 for each listed hazardous waste from specific industrial sources your installation handles. Use additional sheets if necessary.

13	14	15	16	17	18
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26
19	20	21	22	23	24
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26
25	26	27	28	29	30
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26

C. COMMERCIAL CHEMICAL PRODUCT HAZARDOUS WASTES. Enter the four-digit number from 40 CFR Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.

31	32	33	34	35	36
U 1 2 7	U 1 3 1	U 1 3 4	U 1 3 5	U 1 3 8	U 1 4 4
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26
37	38	39	40	41	42
U 1 4 5	U 1 4 7	U 1 5 1	U 1 5 4	U 1 5 6	U 1 5 9
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26
43	44	45	46	47	48
U 1 6 0	U 1 6 6	U 1 6 7	U 1 6 8	U 1 7 0	U 1 8 9
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26

D. LISTED INFECTIOUS WASTES. Enter the four-digit number from 40 CFR Part 261.34 for each listed hazardous waste from hospitals, veterinary hospitals, medical and research laboratories your installation handles. Use additional sheets if necessary.

49	50	51	52	53	54
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26

E. CHARACTERISTICS OF NON-LISTED HAZARDOUS WASTES. Mark "X" in the boxes corresponding to the characteristics of non-listed hazardous wastes your installation handles. (See 40 CFR Parts 261.21 - 261.24.)

1. IGNITABLE (D001)
 2. CORROSIVE (D002)
 3. REACTIVE (D003)
 4. TOXIC (D000)

X. 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.

SIGNATURE	NAME & OFFICIAL TITLE (type or print)	DATE SIGNED

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IX. DESCRIPTION OF HAZARDOUS WASTES (continued from front)

A. HAZARDOUS WASTES FROM NON-SPECIFIC SOURCES. Enter the four-digit number from 40 CFR Part 261.31 for each listed hazardous waste from non-specific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26
7	8	9	10	11	12
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26

B. HAZARDOUS WASTES FROM SPECIFIC SOURCES. Enter the four-digit number from 40 CFR Part 261.32 for each listed hazardous waste from specific industrial sources your installation handles. Use additional sheets if necessary.

13	14	15	16	17	18
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26
19	20	21	22	23	24
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26
25	26	27	28	29	30
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26

C. COMMERCIAL CHEMICAL PRODUCT HAZARDOUS WASTES. Enter the four-digit number from 40 CFR Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.

31	32	33	34	35	36
U 1 8 8	U 1 8 9	U 1 9 0	U 1 9 1	U 1 9 4	U 1 9 6
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26
37	38	39	40	41	42
U 1 9 7	U 2 0 4	U 2 0 7	U 2 0 9	U 2 1 0	U 2 1 3
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26
43	44	45	46	47	48
U 2 1 6	U 2 1 7	U 2 1 8	U 2 1 9	U 2 2 0	U 2 2 6
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26

D. LISTED INFECTIOUS WASTES. Enter the four-digit number from 40 CFR Part 261.34 for each listed hazardous waste from hospitals, veterinary hospitals, medical and research laboratories your installation handles. Use additional sheets if necessary.

49	50	51	52	53	54
23 - 26	23 - 26	23 - 26	23 - 26	23 - 26	23 - 26

E. CHARACTERISTICS OF NON-LISTED HAZARDOUS WASTES. Mark "X" in the boxes corresponding to the characteristics of non-listed hazardous wastes your installation handles. (See 40 CFR Parts 261.21 - 261.24.)

1. IGNITABLE (D001)
 2. CORROSIVE (D002)
 3. REACTIVE (D003)
 4. TOXIC (D000)

X. 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.

SIGNATURE	NAME & OFFICIAL TITLE (type or print)	DATE SIGNED

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AUG 15 1980

AUG 15 1980

WVMD89001051521

IX. DESCRIPTION OF HAZARDOUS WASTES (continued from front)

A. HAZARDOUS WASTES FROM NON-SPECIFIC SOURCES. Enter the four-digit number from 40 CFR Part 261.31 for each listed hazardous waste from non-specific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
23 - 28	23 - 28	23 - 28	23 - 28	23 - 28	23 - 28
7	8	9	10	11	12
23 - 28	23 - 28	23 - 28	23 - 28	23 - 28	23 - 28

B. HAZARDOUS WASTES FROM SPECIFIC SOURCES. Enter the four-digit number from 40 CFR Part 261.32 for each listed hazardous waste from specific industrial sources your installation handles. Use additional sheets if necessary.

13	14	15	16	17	18
23 - 28	23 - 28	23 - 28	23 - 28	23 - 28	23 - 28
19	20	21	22	23	24
23 - 28	23 - 28	23 - 28	23 - 28	23 - 28	23 - 28
25	26	27	28	29	30
23 - 28	23 - 28	23 - 28	23 - 28	23 - 28	23 - 28

C. COMMERCIAL CHEMICAL PRODUCT HAZARDOUS WASTES. Enter the four-digit number from 40 CFR Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.

31	32	33	34	35	36
U 2 2 8	U 2 3 1	U 2 3 9	U 0 1 1	U 0 2 1	U 0 6 9
23 - 28	23 - 28	23 - 28	23 - 28	23 - 28	23 - 28
37	38	39	40	41	42
U 0 7 5	U 0 9 5	U 1 6 1	U 2 1 1	U 2 2 9	
23 - 28	23 - 28	23 - 28	23 - 28	23 - 28	23 - 28
43	44	45	46	47	48
23 - 28	23 - 28	23 - 28	23 - 28	23 - 28	23 - 28

D. LISTED INFECTIOUS WASTES. Enter the four-digit number from 40 CFR Part 261.34 for each listed hazardous waste from hospitals, veterinary hospitals, medical and research laboratories your installation handles. Use additional sheets if necessary.

49	50	51	52	53	54
23 - 28	23 - 28	23 - 28	23 - 28	23 - 28	23 - 28

E. CHARACTERISTICS OF NON-LISTED HAZARDOUS WASTES. Mark "X" in the boxes corresponding to the characteristics of non-listed hazardous wastes your installation handles. (See 40-CFR Parts 261.21 - 261.24.)

1. IGNITABLE (D001)
 2. CORROSIVE (D002)
 3. REACTIVE (D003)
 4. TOXIC (D000)

X. 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.

SIGNATURE	NAME & OFFICIAL TITLE (type or print)	DATE SIGNED

EPA Form 8700-12 (6-80) REVERSE

Due to the magnitude of the problem of identifying all of the EPA defined hazardous waste products that may be disposed of at LASL in the time allocated (19 May-18 August, 1981) we reserve the right to modify the number of EPA identified hazardous waste products that are disposed of at LASL as future investigations may reveal additional waste products that meet the EPA criteria of hazardous waste.

STANDARD OPERATING PROCEDURE (SOP)
for handling
Suspected RCRA Activities Discovered during CERCLA Inspections

Purpose

To establish a protocol between CERCLA and RCRA by which RCRA-related activity is brought to the attention of RCRA staff.

Scope

All suspected RCRA-regulated hazardous waste management practices.

Effective Date

April 1, 1987

Guidance

This SOP is for the use of CERCLA staff during and inspection or inspection report review by CERCLA where suspected RCRA activities, be it generation, treatment, storage, or disposal of hazardous wastes ongoing at the facility are identified. The RCRA Oversight Section will then become responsible for ensuring the proper disposition of the matter.

Procedure

- I. SOP during a Preliminary Assessment
If after a preliminary assessment RCRA activities are identified or suspected at a site, then the CERCLA staff should notify the RCRA Oversight Section through EPA form T2070-4, Tentative Disposition, ~~within 10 working days of discovery~~, with a brief description of the suspected activity. Any data or documents related to the activity should be attached with the Tentative Disposition form. *monthly*
(15 days after the end of the month)
- II. SOP during a Site Investigation
If after a site investigation RCRA activities are identified or suspected at a site, then the CERCLA staff should notify the RCRA Oversight Section through the Tentative Disposition form, within 10 working days of discovery. Attached to the Tentative Disposition form should be a copy of the inspection report which is pertinent to the suspected activity.
- III. SOP during a Preliminary Assessment - Site Investigation
Same as II.

*instead of copy
of inspection report
cite inspection and
id numbers*

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. NM0890010515

Section B - Hazardous Waste Determination

- 1. Does generator generate hazardous waste(s) listed in Subpart D (261.30 - 261.33 - List of Hazardous Waste)
 - a. If yes, list wastes and quantities on attachment (Include EPA Hazardous Waste No.) Yes No
(Provide waste name and description.) See Annual Report, Part H, Part B

- 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 Annual report, Part A & Part B
 - b. Does generator determine characteristics by testing or by applying knowledge of processes? 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.

- 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.) Yes No
 - a. If yes, did generator determine non-hazardous characteristics by testing or knowledge of process? 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. NA

b. List wastes and quantities deemed non-hazardous or processes from which non-hazardous wastes were produced. (Use narrative explanations sheet.)
NH₄F₆ wash of cooling tower PCB's
Asbestos

- 4. Are any wastes recycled, reused or reclaimed on-site? Yes No

If yes, use narrative to describe the type and quantity of the waste and the method used for reclamation.

Hg, Pb, ~ 200 lbs of each recycled per year
Some Radioactive gold on a batch basis reclaimed in house

Site Name: Los Alamos
I.D. Number: _____
NM 0890016515

5. Are any wastes shipped off-site for reclamation?

Pb + oil - M. H. Adams

If yes, use narrative to describe the type and quantity of the waste and its destination. Also give a description of storage prior to shipment.

Ag + Au - contracts with company in Albuquerque

Yes No

Section C - Manifest

(X-Ray Sales + Service)
Albuquerque, NM

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.)

Battery Disposal Technology
Clarence, NY

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. Generator's 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)
b. Containers (type and number)

Yes No

Yes No

8. Emergency Information (optional)
(special handling instructions, Phone No.)

Yes No

Effective 9. Waste minimization certification
9/1/85

Yes No

NA

Site Name: LOS Alamos
I.D. Number: NM 0090610515

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.)

only 2 shipments made. No problems

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 Karen Babo

Title Section leader

b. (1) Did generator obtain handwritten signature and date of acceptance from initial transporter?

Yes No

(2) Who signed for transporter? Name Marshall Stepps

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? (262.42 - Exception reporting)

Yes No *NA*

(1) If yes, did it contain the following information:
Legible copy of manifest.

Yes No

AND

Cover letter explaining generators efforts to locate waste.

Yes No

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 to question 9.
If yes, complete the following questions.

Inspect containers ready for immediate shipment. If there are no such containers, skip to question 8.

None ready for shipment

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

3. Are containers to be shipped leaking or corroding or bulging?
Use narrative explanations sheet to describe containers and condition. Yes No

4. Does the generator use DOT labeling requirements in accordance with 49 CFR 172 when containers are offered for shipment? (262.31 - Labeling) Yes No

5. Does the generator mark each package in accordance with 49 CFR 172 when containers are offered for shipment? (262.32 - Marking) Yes No

6. a. Is each container of 110 gallons or less marked with the following label when containers are offered for shipment? Yes No

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 _____

b. If other labels exist, list in narrative.

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.

8. Satellite Accumulation (effective June 20, 1985)

a. Does the generator accumulate waste in containers at or near "satellite" generation points? Yes No

If no, skip to question 9.
If yes, complete the following.

NM 08900/8515

- b. Are containers in good condition? Yes ___ No
- c. Is the waste compatible with the containers? Yes ___ No
- d. Is waste transferred from leaking containers or otherwise managed to control leakage? Yes ___ No
- e. Are containers closed? Yes ___ No
- f. Are containers marked with the words "hazardous waste" or identification of the contents? Yes ___ No
- g. Has waste accumulation exceeded one (1) quart of acutely hazardous waste (261.33 e.) or 55 gallons of other hazardous waste? Yes ___ No

If yes,

- 1. Has the container holding the excess amount been marked with the date the excess began accumulating? ___ Yes No
- 2. Have excess amounts remained in the satellite accumulation area longer than three (3) days? Yes ___ No

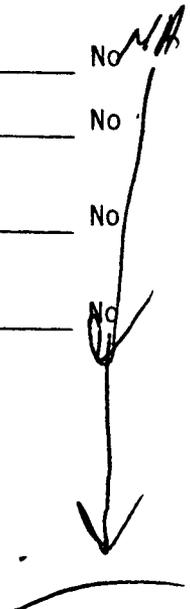
9. Accumulation Time (262.34 - Accumulation Time)

possibility, but not sure.

- a. Is the site a permitted/~~interim status~~ storage facility? Yes ___ No

If yes, skip to Section E, and complete and attach the TSD checklist and appropriate supplemental checklists. If no, answer rest of question #9.

- b. Is hazardous waste shipped offsite within 90 days? ___ Yes ___ No *NA*
- c. Is waste stored in containers or tanks? ___ Yes ___ No
- d. Is the beginning date of accumulation time clearly indicated on each container? ___ Yes ___ No
- e. Is each container or tank marked with the words "Hazardous Waste"? ___ Yes ___ No
- f. Complete and attach the containers/tanks supplemental checklists as appropriate.
- g. If generator accumulates waste on-site for less than 90 days, complete RCRA Generators Checklist Supplement.



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 8 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

3. Has the facility received waste from off-site for recycling, reuse or reclamation? ___ Yes No
If yes, describe waste type and amount and method to be used. NA

Waste Analysis Part B contains current document in use at facility

4. Has the owner/operator obtained detailed chemical and physical analyses of representative samples of all hazardous wastes prior to treating, storing or disposing of those wastes? Yes ___ No

If yes,

a. Have the analyses been repeated as the processes or operations generating the wastes change? ___ Yes ___ No NA

b. For off-site facilities are analyses repeated when the waste received does not match the waste identified on the accompanying manifest? ___ Yes ___ No NA

5. For off-site facilities, is each shipment of hazardous waste received at the facility inspected and if necessary, analyzed to determine if it corresponds to the waste listed on the accompanying manifest? ___ Yes ___ No NA

6. Does the facility have a written waste analysis plan? (265.13 - General Waste Analysis) Yes ___ No
a. If yes, is a copy maintained at the facility? Yes ___ No

7. Does the waste analysis plan include the following:
a. Parameters for which each waste will be analyzed and the rationale for selection of these parameters? Yes ___ No
b. Test methods used to test for these parameters? Yes ___ No



c. Sampling method used to obtain a representative sample? Yes ___ No

. 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

e. (For off-site facilities) Waste analyses that generators have agreed to supply? ___ Yes ___ No NA

f. (For off-site facilities) Procedures which are used to inspect and analyze each shipment of hazardous waste received at the facility, including:

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

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

8. 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 the situation at the facility, document the facility's exemption under 265.14 a. (1) and (2).

If not exempt, is security provided through:

a. 24-hour surveillance system which continuously monitors and controls entry onto the active portion? (e.g. television monitoring or guards) Yes ___ No

OR

b. 1. Artificial or natural barrier completely surrounding the active portion? (e.g. fence or fence and cliff)? Yes ___ No

Describe type of security.
6' chain link fence

AND

2. Means to control entry at all times, through the gates or other entrances to the active portion (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.

c. Is a sign with the legend, "Danger-Unauthorized Personnel Keep Out," posted at the entrance and at other locations in sufficient numbers to be seen from any approach to the active portion? (265.14 - Security)
 See Narrative Yes ___ No

* Is it written in English and legible from at least 25 feet? Yes ___ No
 Warning signs not posted at T-50 ddy and Lithium Hydroxide storage area -
 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).

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

General Inspection Requirements

9. a. Does the owner/operator maintain a written inspection schedule? (265.15 - General Inspection Requirements)
~~Yes~~ Yes No

If yes, does it contain at least schedules for inspecting the following: NA

- 1. Monitoring equipment? (If applicable) ___ Yes ___ No
- 2. Safety and emergency equipment? ___ Yes ___ No
- 3. Security devices? ___ Yes ___ No
- 4. Operating and structural equipment (if applicable) ___ Yes ___ No

b. Does the schedule or plan identify the types of problems to be looked for during inspection?
 Problems contained on inspection log 1995 but not on central schedule

- 1. Malfunction or deterioration (e.g. inoperative sump pump, leaking fitting, eroding dike, corroded pipes or tanks, etc.) ___ Yes ___ No
- 2. Operator error ___ Yes ___ No
- 3. Discharges (e.g. leaks from valves or pipes joint breaks, etc.) ___ Yes ___ No

c. Is the schedule maintained at the facility? ___ Yes No

d. Are these inspections conducted? Yes ___ No

10. 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

Site Name: Los Alamos
I.D. Number: _____
NM 0890010515

- b. Are there any malfunctions or other deficiencies noted in the inspection log that remain uncorrected? Yes No
(Use narrative explanation sheet).
- c. Are records of the inspection log maintained at the facility for three (3) years? Yes No

Personnel Training

- 11. Have facility personnel successfully completed a program of classroom or on-the-job training? Yes No
 - a. Does the training program include instructions in the following:
 - (1) procedures for using, inspecting, repairing and replacing facility emergency and monitoring equipment Yes No *will when implemented*
 - (2) key parameters for automatic waste feed cut-off systems Yes No
 - (3) operation of communication or alarm systems Yes No
 - (4) response to fires, explosions and groundwater contamination incidents Yes No
 - (5) shutdown of operations Yes No
 - (6) general hazardous waste management procedures Yes No
 - b. Is the program directed by a person trained in hazardous waste management procedures? Yes No
 - c. Have personnel completed annual training reviews? Yes No
 - d. Does the owner/operator maintain the following documents:
 - (1) job title, job description and name of employee for each position at the facility related to hazardous waste management Yes No
 - (2) written description of the type and amount of both introductory and continuing training Yes No
 - (3) written documentation that the training has been completed by facility personnel Yes No

A training program was done in 1985. Program has not been implemented as yet by October 1985. No personnel records are kept.

See narrative

Requirements for Ignitable, Reactive or Incompatible Waste

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

Site Name: LOS Alamos
I.D. Number:

NM0890010515

- 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
- d. Is waste handled in a manner which generates extreme heat, pressure, violent reaction, toxic fumes or other dangers to human health or the environment? Yes No

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 DOE Storage Systems (wells also)
2. Indicate flow rate and/or pressure and storage capacity, if available. Not available

3. Is there sufficient aisle space to allow unobstructed movement of personnel and emergency equipment?(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

use own Base Police Fire Dept + Hosp.
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 N/A

If yes, indicate primary authority _____ N/A.

a. Is the fire department a city or volunteer fire department? professional full time

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? (265.37 - Arrangements with local authorities) Yes No

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 N/A
(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 N/A

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, including the location and physical description of all emergency equipment Yes No
 - 5. evacuation plan for facility personnel including signals, primary and alternate routes? 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, fire depts., and hospitals? (265.53 - Copies of contingency plan) Yes No

4. Has the contingency plan been updated and amended as necessary? Yes No

Site Name: Cos Alamos
 I.D. Number: NM 0490010515

5. Is the plan a revised SPCC Plan? (265.52 - content of contingency plan) Yes No
6. Is there an emergency coordinator on-site or within short driving distance of the plant at all times Yes No

If yes, list primary emergency coordinator: Ray Garde

Section D - Manifest System

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, 3 and 4 are not applicable.
- b. If yes, does the facility retain copies of all manifests for at least three (3) years? Yes No N/A
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 within 15 days? Yes No
1. If no, has Regional Administrator been notified in writing? 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 within 15 days? Yes No

Section E - Record Keeping and Reporting

1. Does the facility have a written operating record? (265.73 - Operating record) Yes No
- a. Is a copy maintained at the facility? Yes No

1. 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 at each location Yes ___ No
 - a. Is this information cross-referenced with specific manifest document numbers, if applicable? N/A Yes ___ No
 - 3. (for disposal facilities only) 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 N/A
 - 6. Records and results of required inspections 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
2. Has the owner/operator submitted biennial reports as required? Yes ___ No

Section F - 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. If reports are accessible and not made available for inspection, explain.

N/A

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 B App. 1, etc.

Site Name: Los Alamos
I.D. Number: _____
NM 089001 0515

3. Indicate Types of hazardous waste facilities.

- Containers
- Tanks
- Surface Impoundments
- Waste Piles
- Land Treatment
- Landfill
- Incinerator
- Thermal Treatment
- Chemical, Physical and Biological Treatment
- Groundwater Monitoring Program

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. *one container in storage Area L corrected, not leaking because*

3. If a container is found to be leaking, does the operator transfer the hazardous waste from the leaking container? Yes No

However needs to be inspected of inner liner ASAP

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

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.



Site Name: Los Alamos
I.D. Number: NM 089 0010515

LANDFILLS CHECKLIST
(Subpart N - Landfills, 265. 300)

- Area G & L*
1. Is run-on diverted from the landfill? Yes No
 2. Is run-off from the landfill collected? Yes No *NO run off*
 - 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 it is 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) *daily cover* 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 in other than containers, 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. *Mixed w/ vermiculite for solidification*



✓

6. Are containerized ignitable wastes placed in the landfill?

Yes No

if yes, None since May 8, 1985

a. Check visible containers. No visible containers

(1). Are containers leaking? Yes No

(2). Are containers handled and placed to avoid heat, sparks and rupture? Yes No

b. Are containers covered daily with soil or other non-combustible material? Yes No

c. Are containers placed in cells that contain or will contain other wastes which may generate heat sufficient to cause ignition of the waste? Yes No

7. Are incompatible wastes placed in the same landfill cell.

Yes No

a. If yes, what were the results? (Use narrative explanations sheet.)

b. Describe how it is possible for incompatible wastes to be placed in the same landfill cell.

8. 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

2. A functioning leachate collection and adequate removal system? Yes No

Note: If drawing or written descriptions of the liner and leachate system are available, copy and attach to this report.

OR

b. Is the liquid waste treated chemically or physically so that free liquids are no longer present?

Yes No



Note: Effective May 1985, the placement of bulk or non-containerized liquid hazardous waste or free liquids contained in hazardous waste (whether or not absorbents have been added) in any landfill is prohibited.

Effective
12/85

9. Are non-hazardous liquid wastes placed in the landfill? N/A
- If yes, _____ Yes _____ No
- a. Has the owner (operator demonstrated that such placement will not present a risk of contamination to any underground source of drinking water? _____ Yes _____ No
- b. How the owner/operator demonstrated that such placement is the only reasonable alternative? _____ Yes _____ No
10. Are containers holding liquid wastes placed in the landfill? Yes _____ No
- If yes,
- a. Has all free-standing liquid been removed? _____ Yes No
- 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
- or
- e. Is the container a lab pack?
If yes, answer question 10 also. Yes _____ No
11. Are small containers in overpacked drums (lab packs) placed in the landfill? Yes _____ No

If yes, answer a.-g. If containers are not available for inspection, check that proper packaging materials are available for use.

- a. Is the waste packaged in non-leaking, inner containers which will not react dangerously with the waste? Yes _____ No
- b. Are inner containers tightly and securely sealed? Yes _____ No
- c. Is the inner container surrounded by absorbent material which will not react with the waste? Yes _____ No

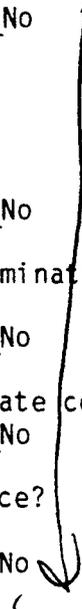
Site Name: Los Alamos
I.D. Number: _____
NM 0890010515

- d. Are the inner containers overpacked in an open-head metal shipping container of no more than 110 gallon capacity? Yes No
- e. Is the outer container completely full after packing? Yes No
- f. Are incompatible wastes placed in the same outside container? Yes No
- g. Are reactive wastes, other than cyanide - or sulfide-bearing wastes treated or rendered non-reactive prior to packaging? Yes No
- 12. Are empty containers placed in the landfill?
 - a. If yes, are they reduced in volume (e.g. shredded, crushed)? Yes No
- 13. Is there evidence of site instability? (e.g., erosion, settling)? (Use narrative explanations sheet) Yes No
- 14. Is there evidence of ponding of water on-site or any other indication of improper or inadequate drainage? (Use narrative explanation sheet.) Yes No

Effective May 1985

- 15. Is the landfill a new unit, replacement of an existing unit or lateral expansion of an existing unit? Yes No
- If yes,
 - a. Has waste been received since May 1985? Yes No
 - If yes,
 - 1. Has the owner/operator notified the Regional Administrator (or state authority) at least 60 days prior to receiving the waste? Yes No
 - 2. Has the owner/operator filed an application for a final determination regarding the issuance of the permit within 6 months of the notice to receive wastes? Yes No
 - 3. Is the landfill completed with two or more liners and a leachate collection system above and between such liners? Yes No
 - 4. Does the landfill have a groundwater monitoring system in place? Yes No

NA



Subpart J - Tanks (265.190) *2 closed tanks; 1 T-50 used for batch treatment of hazardous waste*

NOTE: If multiple tanks exist, list each tank and specify compliance or non-compliance. Complete an individual checklist for each tank not in compliance and a collective checklist for those in compliance.

- 1. Are there any tanks which are not being used which the facility no longer plans to use? ___ Yes No
 - a. If yes, has all hazardous waste and hazardous waste residue been removed from these tanks, discharge control equipment, and discharge confinement structures? ___ Yes ___ No *NA*
- 2. Are tanks presently used to ~~treat~~ or ~~store~~ waste? Yes ___ No
 - a. If no, do not complete rest of form.
 - b. If yes, check tanks.
- 3. Is there evidence that wastes placed in the tank are incompatible with the tank or liner? ___ Yes No

NOTE: Any evidence of ruptures, leaks or corrosion. (Use narrative explanations sheet.)

- 4. Are there any uncovered tanks? ___ Yes No
 - a. If no, do not complete 4b.-e.
 - b. If yes, do they have 2 feet (60cm) freeboard? ___ Yes ___ No *NA*
 - c. A containment structure? (e.g. dike or trench) or ___ Yes ___ No
 - d. A drainage control system? ___ Yes ___ No
 - e. A diversion structure? (e.g. standby tank) ___ Yes ___ No

(NOTE: The structure in c, d or e must have a capacity that equals or exceeds the volume of the top 2 feet (60 cm) of the tank.)

If the answers to 4b.-e. are "no", explain current conditions using narrative sheets.

- 5. Are any of the tanks continuous feed? ___ Yes No
 - a. If yes, is it equipped with a means to stop inflow (e.g. waste feed cutoff or by-pass to a stand-by tank)? ___ Yes ___ No *NA*

Waste Analysis and Trial Tests

6. a. Has the tank been used to treat or store a hazardous waste substantially different from the waste previously treated or stored in the tank?

OR

Yes No

b. Has a chemical treatment process been used in the tank which was substantially different than any previously used in the tank?

Yes No

a. or b. is yes,

1. Were waste analyses and trial treatment or storage tests conducted prior to the change?

OR

Yes No

2. Was written, documented information obtained on similar storage or treatment of similar wastes under similar conditions?

Yes No

Inspections

*Treatment Tanks - checked before & after
Treatment - written facility SOP*

7. Does the owner/operator inspect the following at least daily, where present?

Yes No

(Indicate which items are present in 7 and 8.)

System is not yet in operation

Inspected Weekly

a. Discharge control equipment (e.g. waste feed cut-off, by pass and/or drainage systems)?

Yes No

b. Monitoring equipment (e.g. pressure and temperature gages)?

Yes No

c. Level of waste in each uncovered tank?

Yes No *NA*

8. Does the owner/operator inspect the following at least weekly?

Yes No

a. Construction materials of tanks for corrosion or leaks?

Yes No

b. Construction materials of and area surrounding discharge confinement structures for erosion or signs of leakage?

Yes No

9. What is the procedure for assessing the condition of the tank?

visual

Explain in narrative. (e.g. How does the procedure allow for detection of cracks, leaks or corrosion or procedures for emptying the tank to allow entrance, etc.)

Site Name: Los Alamos
I.D. Number: NM 450010515

11. Are ignitable or reactive wastes placed in tanks?

Yes No

a. If yes, are they treated, rendered or mixed before or immediately after placement in the tank so it no longer meets the definition of ignitable or reactive?

Yes No

OR

Treatment tanks

b. Is the waste protected from sources of ignition or reaction?

Yes No

1. If yes, use narrative explanations sheet to describe separation and confinement procedures.

Batch treatment to eliminate hazardous characteristics

2. If no, use narrative explanations sheet to describe sources of ignition or reaction

OR

c. Is the tank used solely for emergencies?

Yes No

12. Has the facility ever placed incompatible wastes in the tank?

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, bulging containers, etc.)

13. If a waste is to be placed in a tank that previously held an incompatible waste, was that tank washed?

Yes No

a. If yes, describe washing procedures (Use narrative explanation sheet.)

thorough soap water rinse before & after treatment

Describe how it is possible for incompatible wastes to be placed in the same tank. (Use narrative explanations sheet.)

Tanks are Batch chemical treatment tanks and are washed prior and after each use as written in the S.O.P. prepared by facility personnel

THERMAL TREATMENT CHECKLIST
 (Subpart P - 265.370)

Note: Applies to thermal treatment of hazardous waste in devices other than incinerators.

1. Is the process a non-continuous (batch) process? X Yes _____ No

a. If no, is the process operating at steady state conditions (including temperature) before adding hazardous waste? _____ Yes _____ No N/A

2. Is a waste analysis, for wastes not previously burned, documented in the operating record? Narrative X Yes _____ No

a. Does it include Trial tests using the matl are conducted prior to burning operations analyses for the following:

- 1. Heating value X Yes _____ No
- 2. Halogen content X Yes _____ No
- 3. Sulfur content X Yes _____ No
- 4. Concentration of lead X Yes _____ No
- 5. Concentration of mercury X Yes _____ No

Note: 4 and 5 not required if facility has written documented data that show the elements are not present.

3. Are the existing instruments which relate to combustion and emission control monitored at least every 15 minutes:

	Existing	Monitored
a. Waste feed	<u>NO</u>	_____ Yes _____ No
b. Auxiliary fuel feed	<u>NO</u>	_____ Yes _____ No
c. Treatment process temperature	<u>NO</u>	_____ Yes _____ No
d. Relevant process flow	<u>NO</u>	_____ Yes _____ No
e. Relevant controls (e.g., after-burner, and temperature controls, O ₂ & CO meters)	<u>NO</u>	_____ Yes _____ No

4. Are stack plume (emissions) monitored at least hourly:

- a. Color (normal) _____ Yes _____ No N/A
- b. Opacity _____ Yes _____ No N/A

N/A
 ↓
N/A
N/A



5. Is thermal treatment process equipment monitored at least daily including: (NOTE: circle those not in compliance)
- a. Pumps, valves, conveyors, pipes, etc. (for leaks, spills and fugitive emissions?) Yes No NA
 - b. Emergency shutdown controls? Yes No NA
 - c. System alarms Yes No NA

6. Is open burning or detonation of waste explosives conducted? Yes No
- a. If yes, is the detonation performed in accordance with the following table? Yes No

Pounds of waste explosives or propellants	Minimum distance from open burning or detonation to the property of others.
0-100	204m(670 ft)
101-1,000	380m(1,250 ft)
1,001-10,000	530m(1,730 ft)
10,001-30,000	690m(2,260 ft)

7. Is there evidence of open burning of hazardous wastes except for waste explosives? Yes No
- (use narrative explanations sheet to describe details).

Explosive Contaminated wastes are produced in various places around the facility. These liquid wastes are ~~not~~ pumped from sumps by Vacuum Truck & placed in a sand filter to remove water and then dried. The liquid is discharged through NPDES permit & the solids are burnt on a flash pad. Any solid mtl contaminated with explosives are burnt on flash pads.

Site name: Los Alamos Lab
I.D. Number: _____
Nm 0890010515

SURFACE IMPOUNDMENTS CHECKLIST
Subpart K - Surface Impoundments 265.220

NOTE: Check all surface impoundments. Fill out one checklist for any impoundment in violation. Fill out one checklist for all other impoundments in compliance. Indicate number of surface impoundments at the facility. one surface impoundment in Area L

1. Are there any surface impoundments which are not being used which the facility does not plan to use in the future? There was no liquid in well but residue evident in bottom Yes ___ No
- a. If yes, has all hazardous waste and hazardous waste residue been removed from the impoundment? ___ Yes No
2. Are impoundments presently used to treat or store waste? Yes ___ No
3. Does the impoundment appear to maintain at least 2 feet (60 cm) of freeboard? No Free liquids Yes ___ No
- a. If no, what was the freeboard? NA
4. Is there evidence of overtopping of the dike? ___ Yes No
- If yes, please describe. NA
-
5. Do earthen dikes have a protective cover to minimize wind and water erosion? Yes ___ No
- Provide description of containment. with ~~rock~~ Native rock, soil and vegetation along berms
6. What wastes are treated or stored in the impoundment? (Use narrative explanations sheet). None recently (post 1960) unknown what earlier practices were
7. Are hazardous wastes chemically treated in the impoundment which are substantially different from wastes previously treated or using different treatment methods than previously used? ___ Yes No
- a. If yes, are
1. Waste analyses and trial tests conducted on these wastes? ___ Yes ___ No
- OR
2. Does the owner/operator have written documented information on similar treatment of similar wastes under similar operating conditions? ___ Yes ___ No
- b. Is this information retained in the operating record? ___ Yes ___ No

NA



8. Is the impoundment inspected daily to check freeboard level? Yes ___ No
9. Is the impoundment, dike and vegetation surrounding the dike inspected to detect leaks, deterioration or failures at least once a week? Yes ___ No
10. Are ignitable or reactive wastes placed in the impoundment? ___ Yes No
- a. If no, do not complete b and c.
- b. If yes, are they treated, rendered or mixed before or immediately after placement in the impoundment so it no longer meets the definition of ignitable or reactive? ___ Yes ___ No
- OR
- c. Is the impoundment used solely for emergencies? ___ Yes ___ No
1. If yes, has further treatment, storage or disposal been conducted on these wastes? Describe this situation.

Not

11. Has the facility ever placed incompatible wastes in the impoundment? Unknown Yes ___ No ___
- a. If yes, what were the results. (Use narrative explanation sheet.) (Look for signs of mixing of incompatible wastes e.g., fire, toxic mist, heat generation, bulging containers, etc.) but no results seen 1985

12. What is the impoundment lined with? Naturally occurring earth w/
Effective May 1985

13. Is the impoundment a new unit, replacement of an existing unit or lateral expansion of an existing unit? ___ Yes No
- If yes,
- a. Has waste been received since May 1985? ___ Yes ___ No
- If yes,
1. Has the owner/operator notified the Regional Administrator (or state authority) at least 60 days prior to receiving the waste? ___ Yes ___ No
2. Has the owner/operator filed an application for a final determination regarding the issuance of the permit within 6 months of the notice to receive wastes? ___ Yes ___ No

N/A

- 3. Is the impoundment completed with two or more liners and a leachate collection system between such liners? Yes No
- 4. Does the impoundment have a groundwater monitoring system in place? Yes No

NA
↓

Closure

A. Does the facility have a closure plan? Yes ___ No

1. Does the plan include:
a. A description of how and when the facility will be partially, then finally closed? Yes ___ No

b. An up-to-date estimate of the maximum inventory of wastes in storage and treatment at any time during the life of the facility? Yes ___ No

c. A description of decontamination procedures for facility equipment? Yes ___ No

d. An estimate of expected year of closure? Yes ___ No

2. Does the plan include a schedule for final closure? If yes, does it include: Yes ___ No

a. Time estimates for each phase of closure for each area? Yes ___ No

b. Total time estimate for closure? Yes ___ No

3. Using narrative explanations sheet, give a brief summary of how the facility plans to close each area of hazardous waste management; or attach a copy of the closure plan. *Copy of plan Attached*

4. Does the plan address all areas of hazardous waste management? Yes ___ No

5. Has the plan been amended as necessary to reflect changes in facility operations or design? Yes ___ No

6. Are cost estimates available and modified as necessary? If yes, give latest cost estimate and date of adjustments. ___ Yes ___ No *NA*

B. Have closure activities begun at the facility? ___ Yes No

1. If yes,
a. Was the closure plan submitted to the Regional Administrator at least 180 days prior to beginning these activities? ___ Yes ___ No

b. Were all wastes treated or disposed of within 90 days of the final receipt of wastes? ___ Yes ___ No

NA
↓

NM 689001515
N/A

If no, give explanation including waivers or extensions granted by Regional Administrator. _____ Yes _____ No

c. Do the actual closure activities correspond to those written in the closure plan? _____ Yes _____ No

If no, include narrative explanation.

2. Was closure completed within 180 days of receipt of final volume of wastes? _____ Yes _____ No

If no, give explanation, including waivers or extensions granted by the Regional Administrator. _____ Yes _____ No

3. At completion, did the facility submit a certification of closure to the Regional Administrator? If yes, was it signed by both the owner/operator and an independent registered professional engineer? _____ Yes _____ No



Post-Closure

Note: Complete for disposal facilities only

Yes No

A. Does the facility have a post-closure plan?
If, yes complete the following checklist.

1. Does the plan include:

a. A description of planned groundwater monitoring activities and frequencies? *Facility has Submitted*

Yes No *GW Waiver*

b. A description of planned maintenance activities and frequencies to ensure the following:

1. Integrity of cap, final cover or other containment

Yes No

2. Proper function of groundwater monitoring equipment

Yes No *NA*

C. Name, address and phone number of facility contact for the post-closure period

Yes No

2. Has the plan been amended, during the operating life of the facility, to reflect changes in operation or design?

Yes No *NA*

3. Using narrative explanations sheets, give a summary of planned post-closure activities; or attach a copy of the post-closure plan.

Copy of plan attached

4. Does the post-closure plan address all hazardous waste disposal areas?

Yes No

5. Are post-closure cost estimates available and modified as necessary. Give latest cost estimate and date of adjustment.

NA

6. Has a notation been made on the deed to the property to show that the land has been used to manage hazardous wastes and that further use must not disturb the integrity of post-closure maintenance?

Yes No

7. Have closure activities begun at the facility

Yes No

a. If yes, was the post-closure plan submitted to the Reg. Administrator at least 180 days before closure activities began?

Yes No *NA*

Site Name: Los Alamos
I.D. Number: _____
NM089 0610515

8. Was a survey plat submitted to the local land authority and to the Regional Administrator within 90 days after closure was completed? Yes ___ No ___
9. Have post-closure activities begun at the facility? If yes, **NO**
- a. Do these activities correspond to planned activities written in the post-closure plan? Yes ___ No ___
- b. Have changes in monitoring or maintenance events during the post-closure period necessitated changes in the plan? Yes ___ No ___
1. Was a petition filed with the Regional Administrator within 60 days of the changes? Yes ___ No ___
2. Has the facility received written response from the Reg. Administrator? Yes ___ No ___

NA

NA



9.0 CLOSURE AND POST-CLOSURE PLAN

9.1 GENERAL CLOSURE/POST-CLOSURE INFORMATION

Introduction

This section is submitted in accordance with the requirements of 40 CFR 264.110 through 120 (NMHWMR 206.D.2.a[1] through 206.D.2.j[2]), 264.178 (NMHWMR 206.D.4.i) and 270.14(b)(13) (NMHWMR 302.A.4.b[1]). This plan identifies all steps that will be necessary to close the facility at the end of its operating life or to partially close the facility at any point during its intended operating life.

Hazardous waste treatment, storage, and disposal facilities at the Los Alamos National Laboratory consist of container storage, chemical treatment, controlled air incineration, thermal treatment, and landfill disposal. The functions of the individual hazardous waste facilities are outlined in Table 9-1.

9.1.1 Closure Performance Standard

The closure plans have been designed to meet the following performance standards:

- Protect human health and the environment
- Prevent the escape of hazardous waste, hazardous waste constituents, leachate, contaminated rainfall, or waste decomposition products to the ground or surface waters or atmosphere
- Minimize future maintenance

9.1.2 Partial and Final Closure

The Laboratory's hazardous waste facilities are to be closed in the year 2100. All hazardous wastes will be recycled, treated, and/or disposed of prior to closure.

Partial closure of treatment facilities may occur to accommodate upgrading of facilities to handle new wastes or to use new technology. No such partial closures are now anticipated.

Closure of individual landfill shafts or pit cells located at TA-54, Area L is ongoing and performed as these pits are filled.

9.1.3 Closure and Post-Closure Cost Estimates

Federal facilities are exempt under 40 CFR 264.140(c) (NMHWMR 206.D.3.a[3]) from the requirements for closure and post-closure cost estimates and financial assurance. These data are therefore not included.

9.1.4 Groundwater Monitoring

Los Alamos National Laboratory has applied for a ground water monitoring waiver in accordance with the provisions of 40 CFR 264.90 (b)(4) (NMHWMR 206.D.1.a[2]). Groundwater monitoring is only applicable to the landfill operations at Area L. The waiver request is based on the determination that average annual precipitation is equaled or exceeded by runoff and evapotranspiration resulting in negative percolation rates. Past free liquids disposed of at this site are of inadequate volume to threaten the first aquifer 290 meters (950 feet) below Area L. Therefore, ground water monitoring at the disposal sites is only as described in Appendix N. Vadose zone monitoring at Area L is to be performed as described in Appendix O.

9.1.5 Personal Protection

Good industrial hygiene practices shall be followed during all phases of closure and post-closure to protect employees from exposure to hazardous waste constituents. Normal Los Alamos National Laboratory operating procedures require that the Laboratory's Industrial Hygiene Group (HSE-5) survey a site prior to personnel entry and specify protective clothing and respiratory protection equipment. Contaminated protective clothing and protection equipment shall be treated as hazardous and either decontaminated or disposed of in compliance with appropriate regulations.

9.1.6 Certification of Closure

When final closure of a facility has been performed, a certificate, attested to by a registered professional engineer and signed by the appropriate Department of Energy official in accordance with 40 CFR 264.115 (NMHWMR 206.D.2.f) shall be submitted to the Regional Administrator or the Director of the New Mexico Environmental Improvement Division, as appropriate stating that the facility has been closed in accordance with an approved closure plan.

9.1.7 Post-Closure Care Office

The following is the office to which contact may be made concerning the facility during the post-closure care period.

Area Manager
Los Alamos Area Office
U.S. Department of Energy
Los Alamos, New Mexico 87544
(505) 667-5105

A copy of the closure plan will be maintained at this office until the time of closure. The facility copy of the closure plan will be updated by the Area Manager or his designee. This office will also assure that other copies of the closure plan are updated as needed by maintaining a list of holders of the plan and by issuing plan modifications to all holders of the plan.

9.1.8 Security

Low-level radioactive wastes have been handled and buried at TA-54. TA-54 will therefore be under the permanent care of the Department of Energy (DOE) or other authorized federal agency. Fences and site security will be maintained in perpetuity to prohibit public access and to meet DOE requirements for radiation protection.

9.1.9 Notation of Deed

Notice to local land authority as per 40 CFR §264.119 (NMHWMR 206.D.2.i) and notation of deed as per §264.120 (NMHWMR 206.D.2.j[1]) shall be performed. Land plats for Los Alamos facilities will be provided to the local land authority indicating that the lands have been used for hazardous waste management activities. However, the past use of the site precludes any circumstances under which the deed for disposal areas will be transferred to the public domain. The land will remain federally owned in the care of the DOE or other authorized federal agency. The notice of hazardous waste management activities in the land record can be found in Appendix W.

9.1.10 Individual Closure and Post-Closure Plans

Details of the closure and post-closure plans for individual Los Alamos hazardous wastes facilities are included in the following sections.

9.2 CLOSURE PLAN FOR THERMAL TREATMENT FACILITIES

9.2.1 Technical Areas 14, 15, 36, and 39 Thermal Treatment Facilities

Waste high explosives (HE) detonation sites are located at Los Alamos in Technical Areas 14, 15, 36, and 39. These sites are used routinely to detonate scrap high explosives (HE), failed experimental detonations, unneeded classified explosives shapes, other HE and reactive wastes determined to be excess. These sites consist of firing pads often located within a small canyon. Associated facilities at these sites include bunkers which are occupied by technical personnel during detonations.

9.2.1.1 Estimate of Maximum Wastes in Treatment

The maximum inventory of hazardous wastes at each of the thermal treatment facilities located in Technical Areas 14, 15, 36, and 39 is 1 cubic meter (35 cubic feet).

9.2.1.2 Closure Plan for Technical Areas 14, 15, 36, and 39 Thermal Treatment Facilities

Closure would require up to 30 days to collect, schedule, and thermally treat the last load of HE or reactive waste. Following the final

operation, the soil from the pads shall be sampled and analyzed to assure that there is no residual waste. The soil shall also be analyzed for EP toxicity. Should the soil from any of the pads be deemed toxic based on EP toxicity, the soil shall be removed, placed in containers, and disposed of at TA-54, Area L. Protective clothing shall be worn during soil removal and packaging. Soil sampling and analysis is expected to take 30 days. Disposal of contaminated soils is expected to take 60 days.

9.2.1.3 Post-Closure Care

Post-closure care plans are not required for thermal treatment facilities.

9.2.2 Technical Area 16 (TA-16) Thermal Treatment Facilities

The thermal treatment facilities located at TA-16 include three general types. One type consists of a sand pad which is surrounded on at least two sides by a berm or a natural hillside. Waste explosives or explosives-contaminated equipment are placed on these pads and remotely burned using an "electric match" firing device. There are three facilities of this type at TA-16. A second type of thermal treatment facility present at TA-16 consists of a sand-filled metal pan on which five smaller shallow pans lined with fire brick are located. Waste HE-contaminated fluids are poured into these pans and the HE is remotely ignited, with and "electric match". There is one facility of this type at the Laboratory. About 55 gallons of waste are burned approximately once a month. The third type of facility present at TA-16 is used to burn sludges containing waste HE. These facilities consist of steel cone-shaped vessels having a diameter of about five feet, buried with only the upper three to four feet of the vessel above ground. The steel vessels are filled with sand and gravel and an open fluids drain is located at the bottom of the cone. Sludge HE is gravity fed into the top of the cone, onto the sand and gravel bed. A heavy steel cap is then placed over the top of the cone and hot air is forced into the cone through air ducts. The hot air dries the waste sludge and liquids from the sludge migrate downward through the sand and gravel bed and through

the fluids drain. Effluent from these drains is regulated by NPDES permit (NM 0028355). When the remaining explosive material is relatively free of moisture, the steel cap is removed from the cone and the explosive is ignited remotely with an "electric match". There are two facilities of this type at Los Alamos; both of these are located in Technical Area 16. Explosives are burned at these two facilities at a rate of about one burn per week. Each burn consists of about 750 pounds of waste explosive sludge.

In some cases the burn pad sand or surface is contaminated by barium (D005), which is a constituent of HE, prior to flashing or burning. Since the burn pad sand contains EP Toxic barium (see Section 3.0), it is drummed, stored and disposed of as a hazardous waste.

9.2.2.1 Estimate of Maximum Waste in Treatment

The maximum inventory of wastes at the TA-16 Thermal Treatment Facilities is 1 cubic meter (35 cubic feet).

9.2.2.2 Closure Plan for Technical Area 16 (TA-16) Thermal Treatment Facilities

Hazardous wastes generated at TA-16 consist of solid high explosives (HE), water-HE slurry and HE-contaminated oil and solvents. The slurry is collected and pumped over sand beds to filter the HE out of the water. When filtration is complete, the sand bed is flashed (burned) to destroy the HE. Small quantities of solid HE are also burned on the sand beds.

Closure would require up to 30 days to collect, schedule, and thermally treat the last load of HE waste. Because the only hazardous waste treated at the sand pit is HE and flammable materials, the flashing operation decontaminates the equipment.

Following the final operation, the sand from the sand pit shall be sampled and analyzed to assure that there is no residual HE. Repeated

flashing shall be used to clear the sand of HE, if necessary. The sand shall also be analyzed for EP toxicity.

Should the sand be deemed toxic based on EP toxicity, the sand shall be removed, placed in containers, and disposed of at TA-54, Area L. The flash pit equipment shall be disassembled, decontaminated, and disposed of appropriately. Protective clothing shall be worn during sand removal and equipment disassembly.

Should the sand not be toxic, the sand and equipment shall be disposed of using landfill techniques used for nonhazardous wastes.

Sand sampling and analysis is estimated to take 30 days. Disassembly and disposal is estimated to take 60 days.

9.2.2.3 Post-Closure

Post-closure plans are not required for thermal treatment facilities.

9.3 CLOSURE PLAN FOR TA-50 STORAGE, BATCH TREATMENT, AND INCINERATION FACILITIES

9.3.1 Batch Treatment System and Container Storage Area

The Batch Treatment System is located in Building 1 at Technical Area 50 (Figure 4-1). The system consists of a totally enclosed, vented, 500-gallon pressure vessel equipped with a filtering system, condenser, and vacuum transfer lines. Total system washdown between batches allows for the treatment of incompatible wastes in the facility. Wastes treated in the Batch Treatment System include cyanide, chromate plating solutions, and solutions of acids, bases and heavy metals.

Three waste streams comprise the bulk of the waste treated in the Batch Treatment System, although the system is flexible enough to allow treatment of other wastes that may be generated through new Laboratory projects. These streams are in acid/base waste which contains copper, chromate plating waste, and waste cyanide plating solutions. Los Alamos

wishes to obtain a permit to treat hazardous wastes in the batch treatment system.

A chemical waste storage area is located in the same room housing the Batch Treatment System. Storage space consists of a bermed area encompassing 16 square feet. The area is designed to accommodate four 55-gallon waste drums. Wastes are stored in this area prior to treatment in the Batch Treatment System. Only compatible wastes are stored in this area at one time. Although waste residence time in this area is generally only thirty to sixty days, Los Alamos may store waste in this area in excess of 90 days to provide for operational flexibility.

A waste transfer and packaging area is also housed in the room in which the Batch Treatment System is located. This area consists of a small area which is covered with a ventilation hood. Small quantities of wastes are repackaged within this area, when necessary.

9.3.1.1 Estimate of Maximum Waste in Storage and Treatment

The maximum inventory of hazardous wastes at the TA-50 storage and batch treatment facilities is estimated at three cubic meters (106 cubic feet).

9.3.1.2 Closure Plan

Within the chemical treatment room in TA-50 is a curbed area for storage. The area is designed to accommodate drums of liquid waste requiring treatment prior to disposal. The treatment facility in TA-50 consists of versatile wet chemical processing equipment capable of neutralizing acids and bases, oxidizing cyanides, and precipitating heavy metals.

Closure would require 30 days to characterize the final shipment of wastes, then up to 60 days to schedule, process, and remove the treated waste from the final shipment.

To close, the equipment shall be internally flushed with water, detergent, and/or solvents as required by the nature of past chemicals handled. The equipment shall be externally washed with water, detergent, and/or solvents. The fluids from both operations shall be analyzed and disposed of as hazardous wastes if they are determined to be hazardous. The equipment may be disassembled, removed from the building, decontaminated further (as necessary), and will be disposed of as non-hazardous waste. Residues found in the equipment during disassembly shall be removed and disposed of as a hazardous waste. Personnel involved in disassembly and handling of equipment shall wear protective equipment to include as minimum protection: acid/solvent resistant coveralls, head protection, neoprene-coated gloves, and boots. Wrists and ankles are to be taped to protect against upward and inward splash. As a minimum protection, face shields shall be worn. Full face respirators shall be used if specified by the Laboratory's Industrial Hygiene Group following a field inspection. Spills occurring during equipment disassembly shall be picked up with absorbents and the area decontaminated to prevent tracking of wastes. The equipment shall be packaged to contain residues during transport to the disposal site.

No decontamination of container handling equipment is anticipated during closure because the wastes are inside containers and no contact is expected between wastes and handling equipment.

The area used for storage will be visually inspected for evidence of leaks such as floor discolorations, and the presence of residues. All such areas shall be considered contaminated and shall be decontaminated by removing the residue using methods appropriate to the waste such as absorbing, sweeping, scraping, washing, or steam cleaning. Residues and fluids created by decontamination activities shall be handled as a hazardous waste and disposed of in accordance with the regulations. Successful decontamination shall be verified by analysis of a swipe test sample. Contaminated floor areas that cannot be adequately cleaned shall be removed and disposed of as hazardous wastes. The entire floor

area shall be swept and/or washed, the residue from these activities analyzed for hazardous waste components, and disposed of appropriately.

The chemical process room shall be decontaminated in the same manner as the storage area.

Following removal of all equipment, the area outside of the storage and chemical process containment area shall be inspected for signs of contamination such as discolored areas. Samples shall be taken from the areas where leakage appears to have occurred and analyzed for waste constituents by methods described in "Test Methods of Evaluating Solid Wastes, Physical/Chemical Methods," EPA Publication SW-846 (including current revisions). The results from the analysis will be compared to upgradient and downgradient (based on topography) control samples. If hazardous wastes constituents are found in the samples in excess of those in the control sample, the area containing the constituents shall be excavated to a depth sufficient to ensure removal of the contaminated material or decontaminated using appropriate procedures. Removal shall be verified by obtaining samples that do not contain hazardous waste constituents in excess of levels found in the controls. Excavated areas shall be backfilled to grade. Decontamination, disassembly and disposal, or shipment of equipment is expected to take 90 days from the time wastes have been removed from the area.

9.3.1.3 Post-Closure

Post-closure plans are not required for container storage facilities or treatment facilities.

9.3.2 Chemical Waste Incinerator

The waste incinerator is located in Building 37 at Technical Area 50. The highly modified, controlled air incinerator is rated at a nominal 45 kilograms per hour waste feed throughout. The incinerator was developed as part of a continuing incinerator study and demonstration program being conducted by Los Alamos and is currently permitted to burn PCB-

contaminated liquid materials. Modifications to the incinerator include additions of liquid and solid waste feed preparation lines, a continuous ash removal system, a high-efficiency off-gas cleanup system, and backup utility systems. Standard combustion equipment has been modified to permit effective incineration of waste in solid, liquid, slurry, or gaseous form. Particular attention has been given to engineering for proper waste containment, resulting in a system that is safe for evaluating the incineration of hazardous chemicals and certain radioactive waste forms.

9.3.2.1 Estimate of Maximum Waste in Storage

The maximum inventory of hazardous wastes at the TA-50 waste incinerator is estimated at ten cubic meters (353 cubic feet).

9.3.2.2 Closure Plan

All remaining wastes will be incinerated before shutting down the incinerator. If for some reason it is not possible to incinerate all the waste on site, it will be sent to a designated treatment and disposal facility. Once all the waste inventory has been properly disposed of, the facility will be decontaminated as follows: First, the entire incineration system (incinerator, all relevant lines and pumps, and the air pollution control system) will be cleaned. The two incinerator chambers, including all attached refractory and residual solid residue, will then be sealed and sent to a designated treatment and disposal facility. Next, the remaining components of the system will be steamed for a minimum of 24 hours, after which they will be visually inspected, may be dismantled, and will be disposed of in an appropriate manner. All radioactive components will be decontaminated and disposed of according to appropriate regulations.

A detailed description of decontamination procedures upon closure is not possible at this time since the equipment may be contaminated with transuranic (TRU) and low-level radioactive wastes. Decommissioning will follow Laboratory guidelines and procedures for handling radio-

active contaminated equipment. Exact procedures are a function of the degree of contamination at the time of closure.

Upon the decision to close the facility, the equipment and building will be surveyed to determine the nature and levels of both radioactive and hazardous chemical contamination. Using the Laboratory guidelines and procedures, a decommissioning document will be prepared describing in detail the methods and procedures for decontamination, demolition, packaging, and disposal. All materials generated from decontamination and demolition will be treated as radioactive wastes and disposed of in accordance with DOE radioactive waste management guidelines.

Characterization of the final delivery of hazardous waste may require up to 30 days. An estimated 60 days will be required to schedule and process the final wastes received.

The survey to determine the nature and level of contamination and to prepare the decommissioning document is estimated to take one year. Decommissioning and final disposal are estimated to take up to two years.

9.3.2.3 Post-Closure

Post-closure plans are not required for incineration facilities.

9.4 CLOSURE AND POST-CLOSURE FOR TA-54, AREA L FACILITIES

9.4.1 Waste Transfer, Packaging and Storage Facilities

A single-story metal building encompassing 196 square feet and a roofed concrete storage pad encompassing 1595 square feet are located in Area L of TA-54. These facilities are used for the accumulation, packaging and storage of waste containers generated from throughout the Laboratory.

Hazardous waste containers generated at the various Los Alamos laboratories are delivered to the Waste Transfer, Packaging and Storage Facilities on a routine basis. Wastes are segregated into compatible

types and placed upon the three fiberglass grates located in the metal building or within one of the six storage cells on the roofed concrete pad. Wastes packaged in small containers are placed into lab packs. Also, vermiculite is added to 55-gallon drums containing liquids in these facilities. Wastes suitable for recycling are consolidated into drums and any damaged or leaking drums are repackaged into larger drums in these facilities.

9.4.1.1 Estimate of Maximum Waste in Storage

The maximum inventory of hazardous wastes in storage at the TA-54, Area L waste transfer, packaging and storage facilities is 67 cubic meters (2360 cubic feet).

9.4.1.2 Closure Plan

The waste transfer, packaging and storage facilities at TA-54, Area L will be visually inspected for evidence of leaks such as floor discoloration and the presence of residues. The facilities will be considered contaminated and will be decontaminated by removing residues using appropriate methods such as sweeping, scraping, washing, or steam cleaning. Residues and fluids created by these decontamination activities will be handled as hazardous materials and disposed of in accordance with the regulations. Successful decontamination will be verified by analysis of wipe/swab test samples.

The metal building and the roofed concrete storage pad will be disassembled and disposed of in an appropriate manner. The floor areas will be cleaned by washing, scraping, or steam cleaning. Contaminated floor and sump areas that cannot be adequately cleaned will be removed and disposed of as hazardous waste. The residues from these cleaning activities will be analyzed for hazardous components and disposed of appropriately.

Closure is expected to require 30 days to characterize and package the last wastes held in the facilities. Up to 60 days may be required to

schedule and remove the last waste shipment. Decontamination, disassembly and disposal or shipment of equipment is expected to take 90 days from the time wastes have been removed from the facilities.

9.4.1.3 Post-Closure

Post-closure plans are not required for transfer, packaging and storage facilities.

9.4.2 Treatment Tanks

Four 1665-gallon ten-gauge steel tanks are located in Area L of TA-54. The tanks are lined with plastic. These tanks are used to neutralize, oxidize and evaporate wastes. The tanks are located on a bermed concrete pad as shown in Figure 2-7. The waste most commonly oxidized in these tanks is lithium hydride. Ammonium bifluoride (a "non-RCRA" waste) is the waste most commonly evaporated in the tanks. Los Alamos wishes to obtain a permit to treat hazardous wastes in these tanks.

9.4.2.1 Estimate of Maximum Waste in Storage

The maximum inventory of hazardous wastes at the TA-54, Area L treatment tanks is 25 cubic meters (890 cubic feet).

9.4.2.2 Closure Plan

The treatment tanks and the bermed concrete pad will be inspected for evidence of leaks or spills such as discoloration and the presence of residues. The equipment will be externally washed with water, detergent and/or solvents. The fluids from both operations will be analyzed for hazardous waste components and then disposed of as hazardous waste as appropriate. The equipment may be disassembled and removed from the site, and will be disposed of in an appropriate manner. Residues found on the equipment or the site will be removed and disposed of as hazardous waste.

Personnel involved in disassembly and handling of equipment will wear protective equipment to include the following items as minimum protec-

tion: acid/solvent-resistant coveralls, head protection, neoprene-coated gloves, and boots. Wrists and ankles will be taped to protect against upward and inward splash. As a minimum protection, face shields will be worn. Full-face respirators will be used if specified by the Laboratory's Industrial Hygiene Group.

Spills occurring during equipment disassembly will be contained with absorbents, and the area will be decontaminated to prevent tracking of wastes. The equipment will be packaged in order to contain any residues that may be present during transport to the disposal site.

No decontamination of the container handling equipment is anticipated during closure since the wastes are to be removed from the tanks prior to closure and no contact is expected between the wastes and the handling equipment.

Closure is expected to require 30 days to characterize, collect and package any waste residues. Decontamination, disassembly and disposal or shipment of equipment is expected to take 90 days from the time wastes have been removed from the treatment tanks.

9.4.2.3 Post-Closure

Post-closure plans are not required for treatment tanks.

9.4.3 Land Disposal Shafts

Four land disposal shafts are currently open at TA-54, Area L and Los Alamos plans to excavate additional shafts as needed.

9.4.3.1 Closure

Disposal shafts are closed as they are filled. Shafts open at the initiation of closure shall be closed using the standard shaft closure procedure. Only wastes in solid or solidified form are accepted for shaft burial. Shafts shall be filled with wastes to a level no higher than three feet below the "spill point" (lowest point of shaft rim).

Wastes are to be covered with a minimum of 0.5-foot layer of compacted crushed tuff. Partially filled shafts shall be backfilled with compacted tuff to three feet of the spill point. The final cover of a shaft shall be noncontaminated cement, a minimum of three feet thick, slightly rounded, and extending about 0.5 feet above the land surface. Identifying engineering markers shall be placed in the final pour of seal cement in the shafts. The marker is a brass cap. Information on the cap shall include the wording "Buried Hazardous Wastes" along with the shaft number, category of wastes stored, and dates of use.

No decontamination of equipment is anticipated during closure because hazardous wastes are containerized and no contact is expected between the wastes and equipment.

The area shall be graded and bermed to control run-on and run-off of surface water and minimize erosion. Disturbed areas shall be planted with turf-forming grasses and bunch grasses to prevent wind and sheet wash erosion.

9.4.3.2 Post-Closure

Post-closure activities would include the following items:

1. Within 90 days after closure is complete, the EPA, NMEID, DOE, and the County of Los Alamos shall be furnished a survey plat indicating the location and dimensions of the closed pits and shafts. The plat shall be prepared and certified by a professional land surveyor. The plat filed with Los Alamos County shall include a note, prominently displayed, which states the owner's or operator's obligation to restrict disturbance of the site in accordance with 40 CFR 264.117(c) (NMHWMR 206.D.2.g[3]). In addition, the EPA, NMEID, DOE, and County of Los Alamos shall be provided the records of type, location, and quantities of wastes stored. Information for wastes stored prior to the promulgation of hazardous waste regulations shall be estimated based on available records.
2. The property deed shall be noted or documented to comply with the requirements of 40 CFR 264.120 (NMHWMR 206.D.2.j).
3. The site shall be inspected semiannually or more frequently as determined necessary checking

- (a) the cover system for integrity, settlement, and erosion,
 - (b) the site drainage system for any blockages or evidence of poor function,
 - (c) the integrity of the fence, gate and lock, and
 - (d) the condition of surveyed benchmarks.
4. Repairs shall be made to any of the items mentioned in activity No. 3 should the inspection reveal conditions requiring further attention for the proper function of the closure system.
 5. Environmental sampling and monitoring programs at Area L will be consistent with key contaminants relative to environmental surveillance of the Laboratory waste management activities (see Appendices N and O for details of present and proposed monitoring).
 6. Post-closure care activities shall be performed for 30 years as required by 40 CFR 264.117(a)(1) (NMHWMR 206.D.2.g[1][a]).
 7. Records shall be kept of inspections, repairs, sampling, and analytical results for the duration of post-closure care activities.

The design of the closure and post-closure plans is based in large part on data developed for Los Alamos National Laboratory's Ground Water Monitoring Waiver Request. The conclusions of these data are that the site has a low infiltration rate, under worst case conditions and that past storage of free liquids are of insufficient volume to have a potential impact on the main aquifer 950 feet below the site.

TABLE 9-1. SUMMARY OF HAZARDOUS WASTE FACILITIES
AT LOS ALAMOS NATIONAL LABORATORY

<u>Facility</u>	<u>Treatment</u>	<u>Storage</u>	<u>Disposal</u>
TA-14	Thermal	none	none
TA-15	Thermal	none	none
TA-16	Thermal	none	none
TA-36	Thermal	none	none
TA-39	Thermal	none	none
TA-50	Batch Chemical Incineration	container	none
TA-54	Solidification Neutralization Oxidation Evaporation	container	landfill

7.0 HAZARDOUS WASTE FACILITIES CONTINGENCY PLAN

This section presents the Los Alamos National Laboratory's Hazardous Waste Facilities (HWF) Contingency Plan as required by 40 CFR §270.14(b)(7) (NMHWMR 302.A.4.b[1]) and specific requirements as stated in 40 CFR §264.51 through §264.56 (NMHWMR 206.B.10) as applicable. A copy of the Contingency Plan Authorization is located in Appendix T.

7.1 INTRODUCTION

The Los Alamos National Laboratory and the resident communities of Los Alamos and White Rock are located in north central New Mexico on the Pajarito Plateau, situated west of the Rio Grande on the eastern slopes of the Jemez Mountains. The Laboratory site covers about 111 km (27,500 acres) in and adjacent to Los Alamos County and includes 32 active Technical Areas (TAs) (Figure 7-1).

The principal mission of the Laboratory is the design and development of weapons for the nation's nuclear arsenal; however, considerable research and development (R&D) is directed toward the development of advanced technology. In executing its research mission, the Laboratory produces hazardous wastes in small quantities, the nature of which varies with changes in the research projects conducted. The potential exists for hazardous waste generation to occur at virtually all of the technical areas.

Overall responsibility for Hazardous Waste Management is with the HSE-7 Waste Management Group in the Health, Safety and Environment (HSE) Division (Figure 7-2). Generators of hazardous wastes are responsible for proper identification, segregation, and documentation of their wastes. Except for HE wastes, packaging, transportation, and final disposition of hazardous wastes are the responsibility of HSE-7 Solid Wastes Operations. Processing operation wastes handled in dumpster tanks are an exception, these being transported by Zia Company under the direction of HSE-7 Solid Wastes Operations.

HE wastes are handled by Dynamic Testing (M) and Design Engineering (WX) Division groups whose central purpose is the design and testing of explosives.

Activities within HSE-7 include liquid waste treatment, hazardous chemical waste packaging, transport, treatment, and disposal.

The Laboratory maintains its own response forces to handle emergencies. Emergency resources available to the Laboratory include the DOE Fire Department, the contracted services of the Mason-Hanger Protective Force (security), Zia Co. (maintenance), Los Alamos Medical Center, internal laboratory services including medical facilities, and minor external assistance from the Los Alamos County Police.

7.1.1 HAZARDOUS WASTES

The hazardous wastes generated by the Laboratory activities can be considered as three general types:

- Wastes from research and development,
- Wastes from process operations, and
- High explosive wastes (HE).

In addition to the wastes noted above, various laboratory items that contain chemical residues or are otherwise chemically contaminated are considered hazardous waste.

Table 7-1 lists the hazardous wastes currently generated at the Laboratory, the approximate annual generation rate, and the basis for hazardous waste designation. These wastes are further discussed in the following text.

7.1.1.1 Wastes from Basic and Applied Chemistry R&D Programs

Primary Laboratory sites for basic and applied chemistry R&D include the Chemistry and Metallurgy Research Building (TA-3-29), Radiochemistry

Laboratory (TA-48), Sigma Building (TA-3-66) and the Health Research Laboratory (TA-43). Typical hazardous chemical wastes consist of partly empty small containers of laboratory reagents, solvents, test samples and other laboratory wastes. Up to several hundred relatively small quantities of different acids, bases, organics, inorganics, reactive metals and other chemicals require disposal. The variability of research work prohibits limitation on the variety that can occur in this grouping. Conversely, quantities of individual chemical constituents are small.

7.1.1.2 Wastes from Processing Operations

Processing wastes typically are significant volumes of material that contain a very limited number of contaminants. The wastes are recurring resulting from ongoing experiments or materials production. The composition and concentration of contaminants in a given process waste are generally uniform unless modifications to the process are made.

- Electrochemistry Processing Wastes
The Electrochemistry Section of the MST-6 Materials Technology Group, located at TA-3-66, generates plating solutions containing chromates and cyanides. These are reactive and toxic wastes. The Print Circuit Board Shop of the E-2 Electronic Manufacturing and Technician Resources Group, located at TA-3-40, generates acid/base wastes heavily contaminated with copper. These are considered as hazardous wastes due to their corrosivity.
- Isotope Separation Wastes
The Isotope and Structural Chemistry Group, INC-4, generates highly concentrated nitric and sulfuric acid wastes. Both nitric and sulfuric acid wastes are hazardous due to their highly corrosive characteristics. Nitric acid is also considered hazardous because it can be an oxidizer depending on its concentration.
- Shops Department Wastes
The Main Shops Department, Building TA-3-39, houses most of the highly versatile machine shop capabilities at the Laboratory. Parts can be machined from almost any metal, alloy or other

materials. The machining operations generate hazardous wastes including lithium metal and lithium hydride, both of which are reactive.

7.1.1.3 Explosives Wastes

High explosives (HE) waste is generated by the Dynamics Testing (M) and Design Engineering (WX) Division groups in the course of processing and testing various HE materials. Processing includes pressing, machining and casting HE. Waste occurs as discrete pieces of HE, as well as chips, machine cuttings and powder. The chips, cuttings and powder are usually in the form of waterborne suspensions, collected in specially designed accumulating/settling sump tanks. Wastes also consist of materials contaminated with HE; these may include paper, oil, solvents, wood, etc. Chemically, the wastes consist of HMX, RDX (cyclonite), TNT (2,4,6 trinitrotoluene), PETN (pentaerythritol tetranitrate), ammonium nitrate, barium nitrate, TATB (triaminotrinitrobenzene), nitrocellulose, tetryl, nitroguanidine and various plastic binders. Nearly all the HE waste substances are ignitable or reactive and barium nitrate is EP toxic. Residues from HE waste are generated by flashing, burning, or detonating HE waste at TA-14, 15, 16, 36, and 39. These residues are typically present in the uppermost layer of sand that covers the burn pad. The sand from two burn pads is considered hazardous due to its high barium content when barium nitrate is burned on these pads.

7.1.1.4 Chemically Contaminated Equipment

Empty drums, tanks and gas cylinders are typical contaminated items. Generation of this type of hazardous waste occurs throughout the Laboratory facilities and produces a wide variety of waste types. The hazards are the same as those associated with contaminating constituents.

7.1.2 Hazardous Waste Facilities

The safe handling, treatment, and/or storage of hazardous wastes is the responsibility of HSE-7. Daily operations involving hazardous wastes are performed by Solid Waste Operations. HE wastes are an exception,

their treatment being the responsibility of M and WX Divisions. HSE-7 is only responsible for residuals from HE treatment when these residuals are determined to be hazardous wastes.

Hazardous Waste Facilities (HWF) currently in operation are summarized in Table 7-2. The locations of the HWF are shown as the shaded areas on Figure 7-1. The flow plan for hazardous wastes within the Laboratory is shown in Figure 7-3.

7.1.2.1 Technical Area 16 (TA-16) Thermal Treatment Facilities

The thermal treatment facilities located at TA-16 include three general types. One type consists of a sand pad which is surrounded on at least two sides by a berm or a natural hillside. Waste explosives are placed on these pads and remotely burned using an "electric match" firing device. There are two facilities of this type at TA-16. A similar pad is used to flash contaminated equipment.

A second type of thermal treatment facility present at TA-16 consists of a large metal pan on a sand pad in which there are five secondary metal pans lined with fire brick. Waste HE fluids are poured into the secondary pans and the HE is remotely ignited, with an "electric match." There is one facility of this type at the Laboratory. About 55 gallons of waste are burned once a month. The third type of facility present at TA-16 is used to burn sludges containing waste HE. These facilities consist of steel cone-shaped vessels having a diameter of about five feet, buried with only the upper three to four feet of the vessel above ground. The steel vessels are filled with sand and gravel and an open fluids drain is located at the bottom of the cone. Sludge HE is pumped into the top of the cone, onto the sand and gravel bed. A heavy steel cap is then placed over the top of the cone and hot air is forced into the cone through air ducts. The hot air dries the waste sludge and liquids from the sludge migrate downward through the sand and gravel bed, and through the fluids drain. Effluent from these drains is regulated by NPDES permit (NM 0028355). When the remaining explosive material is

relatively free of moisture, the steel cap is removed from the cone and the explosive is ignited remotely with an "electric match." There are two facilities of this type at Los Alamos; both of these are located in Technical Area 16. Explosives are burned at these two facilities at a rate of about one burn per week. Each burn consists of about 750 pounds of waste explosive sludge.

In some cases the burn pad sand or surface is contaminated by barium, which is a constituent of HE, prior to burning. Since the upper layer of the burn pad sand contains EP Toxic barium, it is drummed, stored and disposed of as a hazardous waste.

7.1.2.2 TA-14, 15, 36, and 39 Thermal Treatment Facilities

Waste HE detonation sites are located at Los Alamos in Technical Areas 14, 15, 36, and 39. These sites are used routinely to detonate scrap HE, failed experimental detonations, unneeded classified explosives shapes, other HE determined to be excess, and reactive wastes. These sites consist of firing pads often located within a small canyon. Associated facilities at these sites include bunkers which are occupied by technical personnel during detonations. Prior to all firings, nearby roads are checked and kept clear.

7.1.2.3 TA-50-01 Batch Treatment System and Container Storage Area

The Batch Treatment System is located in Building 1 at Technical Area 50 (Figure 7-4). The system consists of a totally enclosed, vented, 500-gallon pressure vessel equipped with a filtering system, condenser, and vacuum transfer lines (Figure 7-5). Wastes treated in the Batch Treatment System include cyanide, chromate plating solutions, and solutions of acids, bases and heavy metals.

A chemical waste storage area is located in the same room housing the Batch Treatment System. Storage space consists of a bermed area encompassing 16 square feet. The area is designed to accommodate four 55-gallon waste drums. Wastes are stored in this area prior to

treatment in the Batch Treatment System. Only compatible wastes are stored in this area at one time. A ventilated hood is provided for transferring wastes between drums.

7.1.2.4 TA-50-37 Chemical Waste Incinerator

The waste incinerator is located in Building 37 at Technical Area 50 (Figure 7-6). The highly modified, controlled air incinerator is rated at a nominal 45 kilograms per hour waste feed throughput. The incinerator was developed as part of a continuing incinerator study and demonstration program being conducted by Los Alamos and is currently permitted by the EPA to burn PCB-contaminated materials. Modifications to the incinerator include additions of liquid and solid waste feed preparation lines, a continuous ash removal system, a high-efficiency off-gas cleanup system, and backup utility systems (Figure 7-7). Standard combustion equipment has been modified to permit effective incineration of waste in solid, liquid, slurry, or gaseous form. Particular attention has been given to engineering for proper waste containment, resulting in a system that is safe for evaluating the incineration of hazardous chemicals and certain radioactive waste forms.

7.1.2.5 Technical Area 54 (TA-54), Area L Facilities

Waste Transfer, Packaging and Storage Facilities.

A single-story metal building encompassing 196 square feet and a roofed concrete storage pad encompassing 1595 square feet are located in Area L of Technical Area 54. These facilities are used for the accumulation, packaging and storage of waste containers generated from throughout the Laboratory (Figure 7-8). Area L of TA-54 is an area of about two acres surrounded by an eight-foot-high chain-link and barbed-wire fence (Figure 7-8). Currently active waste management facilities located within this area include four waste treatment tanks and six waste disposal shafts as well as the transfer, packaging and storage facilities. The metal building has a concrete floor having a design standard load-bearing capacity of 250 pounds per square foot. Three shallow

sumps covered by fiberglass grates are located within the floor of the building. The storage pad has a concrete floor having a design standard load-bearing capacity of 700 pounds per square foot.

Hazardous waste containers generated at the various Los Alamos laboratories are delivered to these facilities on a routine basis. Wastes are segregated into compatible types and placed upon the three fiberglass grates located in the metal building or within one of the six storage cells on the roofed concrete pad. Wastes, packaged in small containers, are placed into lab packs. Also, vermiculite is added to 55-gallon drums containing liquids in these facilities. Wastes suitable for recycling are consolidated into drums and any damaged or leaking drums are repackaged into larger drums in these facilities. Los Alamos wishes to obtain a permit to operate the waste transfer, packaging and storage facilities.

Treatment Tanks

Four 1665-gallon ten-gauge steel tanks are located at Area L of TA-54. The tanks are lined with plastic. These tanks are used to neutralize, oxidize and evaporate wastes. The waste most commonly oxidized in these tanks is lithium hydride. Ammonium bifluoride (a "non-RCRA" waste) is the waste most commonly evaporated in the tanks.

Land Disposal Facilities

Land disposal facilities located in Area L include 34 shafts which range in diameter from three to eight feet. Thirty of the shafts have been capped. All of these shafts are about 60 feet deep. When in use, the shafts are covered with a heavy steel cap. When filled, the shafts are capped with a three-foot-thick concrete plug. Each shaft is used for the disposal of a single category of chemical wastes to assure that incompatible chemicals will not mix and react.

7.2 HAZARDOUS WASTE EMERGENCY RESPONSE RESOURCES

The Laboratory maintains its own response resources to handle emergencies. Interaction with outside agencies is limited for security

reasons and because it is impractical to train these agencies to cope with the technical diversity of the Laboratory's operations such that they could safely contribute in an emergency. Response resources include personnel, emergency equipment, and communication systems.

7.2.1 Response Groups

The emergency response groups available to the Laboratory include the DOE Fire Department, the contracted services of the Mason Hanger Protective Force (security), Zia Co. (maintenance), Los Alamos Medical Center internal laboratory services including medical facilities, and minor external assistance from the Los Alamos County Police. The services offered by these response groups are itemized on Table 7-3 and discussed briefly in the following. Each of the emergency response groups retains a current copy of the HWF Contingency Plan.

7.2.1.1 Medical Facilities

The Laboratory maintains its own medical facility, HSE-2 Occupational Medicine, to handle job-related injuries and to monitor employee health. Medical facilities include a staff of six physicians, two physician assistants, ten nurses, six x-ray technicians, and two laboratory technicians.

HSE-2 is supported by HSE-5, Industrial Hygiene. HSE-5 can provide exposure and treatment information via telephone access to Chemtrec and the National Library of Medicine, and via computer access to TOXLINE, CHEMLINE, and the Toxicity Data Bank.

Those cases which cannot be handled at HSE-2 would be forwarded to the Los Alamos County Hospital, where the Laboratory maintains a fully equipped decontamination room. The HSE-2 staff meets with the hospital's emergency staff monthly to go over procedures. In the event that a case is sent to the hospital, staff from HSE-2 provide assistance at the hospital.

7.2.1.2 HSE-3 Safety

HSE-3 reviews and approves fire protection procedures. They may assist in process shutdown and evacuation.

7.2.1.3 HSE-5 Industrial Hygiene

In addition to medical support, HSE-5 provides site field testing to determine the nature (nonradiological) and extent of contamination, provide information on correct handling of chemicals, and specify protective clothing and equipment.

7.2.1.4 HSE-7 Waste Management

Provides cleanup operations and proper disposal of hazardous materials and supervises emergency response operations. Since HSE-7 normally handles hazardous waste, the group is highly trained and equipped. This group represents the nucleus of the hazardous waste emergency response.

7.2.1.5 HSE-8 Environmental Surveillance

Provides field surveys of soils, water, air and biota to determine environmental effects of exposure. The group includes expertise in geohydrology.

7.2.1.6 DOE Fire Department

The DOE Fire Department provides fire protection for the Laboratory as well as the communities of Los Alamos and White Rock. The department includes 98 personnel.

The Fire Department is under direct control of the DOE and fire fighting personnel are DOE employees. In the case of an emergency within the Laboratory, the DOE Fire Department puts itself under the direction of the Laboratory response team.

The Fire Department personnel make regular tours of the Laboratory facilities to detect and discuss hazards associated with individual facilities and are instructed in hazardous material handling and emer-

gency procedures. They are aware of the hazardous waste practices at the Laboratory, and are well equipped to handle any credible emergency situation.

7.2.1.7 Mason & Hanger Protective Force (Pro-Force)

The Pro-Force consists of more than 200 personnel who are responsible for Laboratory security. The security force is provided by Mason & Hanger, Silas Mason, under contract to the Laboratory.

During an emergency, the Pro-Force activities include maintenance of security, direction of traffic within the Laboratory, and control of access to the emergency site. The Pro-Force maintains the necessary equipment to perform these functions such as crowd control equipment, patrol cars, etc.

7.2.1.8 Zia Company

The Zia Company provides a maintenance support force on contract to the Laboratory. This support force is under the Laboratory's direction in an emergency. Also included are 14 eight-man firefighting teams. The Zia Company conducts inspections of Laboratory equipment, maintains equipment, and participates in emergency cleanup.

7.2.1.9 Los Alamos County Police

In keeping with the principle of handling emergencies internally, the Los Alamos County Police have only a minimal interaction with the Laboratory in an emergency. That interaction is limited to traffic control on DOE roads with public access. The limits of interaction are included in a signed agreement, a copy of which is included in the Appendix to this document (Appendix T). There are no agreements with other agencies.

7.2.2 Emergency Equipment

A list of emergency equipment for use at the Laboratory and the location of this equipment can be found in Table 7-4. The equipment immediately

available for use is located at TA-54, Area L, the TA-50 batch treatment system and container storage area, and the TA-50 waste incinerator.

In addition, Zia Company, the DOE Fire Department, and HSE-2 maintain emergency equipment. Major emergency facilities are shown in Figure 7-9.

7.2.3 Communications

Effective emergency response at Los Alamos National Laboratory requires an efficient communication system which will integrate all personnel into the emergency response procedure.

There are two central alarm systems (CAS) at the Laboratory; an emergency CAS and a mechanical CAS. The emergency CAS is activated by:

- Telephone communication (9-911)
- Automatic fire alarms
- Manual pull alarms
- Computer interface (to warn of critical events or loss of confinement at selected facilities)
- Break-in security
- Radio communications

The emergency CAS is located in the central control room in Building 4409 at TA-3. The control room is manned 24 hours a day and is equipped with telephones, medium and short range radios, direct line telephones, a National Warning System (NAWAS) station, and an emergency power system. The fire alarm board at the control room gives the location of automatic and pull fire alarms.

The maintenance CAS board, located in Building 223 at TA-3, is manned by Zia personnel 24 hours a day. The maintenance CAS board interfaces with computers which monitor critical equipment throughout the Laboratory.

Activation of an alarm triggers a call-out procedure to provide maintenance personnel and management supervision to correct the malfunction. The maintenance CAS does not directly trigger an emergency response.

Internal communication systems at the Laboratory include:

- Centrex telephone system
- Medium range radio nets (30-60 miles)
- Limited range radio nets (3-10 miles)
- Telephone/radio paging
- Two-way hand held radios

Off-site communications with Federal, state, county and other agencies are maintained by the following:

- Centrex telephone system
- Private telephone lines (if Centrex fails)
- Medium range radio nets (30-60 miles)
- Limited range radio nets (3-10 miles)
- Two National Warning System Stations (NAWAS)
- Direct line to KRSN (local radio station)

All alarm systems and internal and external communication systems are available for use by all employees.

Activation of the emergency CAS automatically alerts the DOE Fire Department, the Mason Hanger Pro-Force, and the CAS dispatcher. For hazardous waste emergencies, the CAS dispatcher notifies the HSE-7 Hazardous Waste Emergency Coordinator (HWEC) and notifies upper management of the problem.

HSE-7 has access to all communications systems including a short wave radio base station located at TA-50-1. During normal working hours, communications to support response groups can be handled by HSE-7. During off hours, the HWEC uses the CAS Dispatcher to contact support groups.

7.3 NONSUDDEN RELEASES

Nonsudden releases include those incidences which, if uncontrolled, impact the environment over a long period of time. Such incidences include minor leaks of containers, loss of integrity of secondary containment, incomplete treatment, and leachate migration from disposal areas.

7.3.1 Responsibility

Correction of nonsudden release shall be the responsibility of the HSE-7 Solid Wastes Operations Associate Group Leader and can be handled with normal maintenance and management procedures. Correction methods for nonsudden releases that have resulted in environmental contamination shall be coordinated with, and approved by, the New Mexico Environmental Improvement Division (NMEID).

7.3.2 Credible Nonsudden Releases

Credible nonsudden releases, their detection and correction are given in Table 7-5. Not all failures can be predicted. In general, the response to nonsudden release will (1) contain the release, (2) correct the cause of the release, and (3) clean up any release to a level that protects health and the environment.

7.3.3 Nonsudden Release Surveillance

In addition to routine inspection and site-specific sampling and testing, the Laboratory maintains an area-wide environmental monitoring network maintained by HSE-8. Routine monitoring for radiation, radioactive materials, and chemical substances on the Laboratory site helps to fulfill the Laboratory's policy to protect the general public, employees, and the environment.

Monitoring and sampling locations for various types of measurements are organized into three main groups. Regional monitoring stations are located within the five counties surrounding Los Alamos County. They are placed up to 80 kilometers (50 miles) from the Laboratory, and serve

to determine background conditions. Perimeter stations are located within approximately four kilometers (2.5 miles) of the Laboratory boundary, and document conditions in residential areas surrounding the Laboratory. On-site stations are within the Laboratory boundary, and most are accessible only to employees during work hours.

The types of routine surveillance conducted at these stations includes radiation measurements and collection of air particulates, waters, soils, sediments, and foodstuffs for subsequent analysis.

Additional samples are collected to gain information about particular events such as major runoff events and nonroutine releases. Data are used for comparison with standards, background radiation levels, and dose calculations.

7.4 SUDDEN RELEASES

This section deals with incidents involving sudden release such as spills, fires, or explosions which pose a significant threat to human health or the environment.

7.4.1 Hazardous Waste Emergency Coordinator (HWEC)

The HWEC is responsible for coordinating all emergency response measures involving sudden releases of hazardous wastes with the exception of the thermal treatment facilities at TA-14, 15, 16, 36, and 39. HE waste handling is the responsibility of M and WX divisions, who have developed Standard Operating Procedures (SOPs) based on safe handling practices designed to eliminate the risk of fire and explosions. Unplanned detonation or combustion of HE renders the HE waste nontoxic. In some cases, residuals contain barium. Cleanup of barium contaminated areas due to unplanned detonations shall be coordinated with the HWEC.

The HSE-7 Group Leader or his designee is the primary HWEC. The primary HWEC is scheduled on call to provide coverage 24 hours a day, 365 days per year.

A list of qualified HWECs and their telephone numbers is on Table 7-6.

The HWEC can be reached during working hours by contacting the HSE-7 office (7-4301) or the CAS Dispatcher during off hours.

The HWEC shall respond to all incidents involving the release of hazardous wastes including spills, fires, or explosions; assess the possible hazards to human health or the environment; and use whatever response group or emergency equipment needed to control and contain the wastes.

7.4.2 HWF Emergency Contingency Plan

This section defines the guideline used to initiate the HWF Emergency Contingency Plan and the resulting actions taken.

7.4.2.1 Guidelines for Implementation

The decision to implement the HWF Emergency Contingency Plan depends upon whether or not an imminent or actual incident could threaten human health or the environment. The following guidelines shall be used by the HWEC in making the decision whether or not to institute the HWF Emergency Contingency Plan.

The HWF Emergency Contingency Plan could be implemented in the following situations involving hazardous wastes:

Spills

- A hazardous waste spill cannot be contained with secondary containment or application of absorbents,
- Precipitation threatens to move spilled material off site,
- A hazardous waste spill causes the release of flammable material, creating a fire or explosion hazard,

- A hazardous waste spill results in toxic fumes which threaten human health, or
- An earthquake or other natural disaster threatens containment integrity.

Explosions

- An unplanned explosion involving hazardous wastes occurred (except at TA-14, 15, 16, 36, and 39), or
- An imminent danger exists that an explosion involving hazardous wastes could occur.

Fires

- Any fire involving hazardous wastes (except planned burning of HE waste), or
- Any building, grass, forest, nonhazardous waste fire that threatens to ignite hazardous wastes.

7.4.2.2 Emergency Notification

Immediately upon discovery of an imminent or actual incident involving hazardous wastes, the HWEC will be notified first. In the case of fire involving hazardous wastes, this is superceded by the Laboratory fire alarm system. A fire is reported by dialing 9-911, activation of automatic alarms, or activation of a fire pull box. All fire alarms simultaneously alert the CAS Dispatcher, the DOE Fire Department, and the Mason and Hanger Pro-Force. For fire involving hazardous wastes or hazardous waste facilities, the CAS Dispatcher shall contact the HWEC (Figure 7-10).

During off hours, all incidents involving hazardous wastes shall be reported to the CAS Dispatcher, who will contact the on-call HWEC.

The HWEC shall proceed to the incident and assess the nature of the problem. On an as-needed basis, the HWEC shall contact response groups directly or instruct the CAS Dispatcher to contact them,

Each response group maintains an on-call person and/or a call-down procedure to answer emergencies.

7.4.2.3 HWEC Actions

Upon notification of an incident, the HWEC shall:

1. Proceed directly to the site;
2. Assess the nature of the incident, and quantities and types of hazardous wastes involved; and
3. Based on the guidelines in Section 7.4.2.1 of the Contingency Plan, determine if implementation of the HWF Emergency Contingency Plan is warranted.

Upon the decision to implement the HWF Emergency Contingency Plan, the HWEC shall perform, in this order, the following actions:

1. Assess the hazards to human health and the environment including both direct and indirect effects such as generation of toxic, irritating, or asphyxiating gases, hazards of runoff of fire water or treatment chemicals;
2. Determine if evacuation of the local area is advisable, and if so, immediately notify appropriate response groups and/or the Los Alamos County Police;
3. Notify required response personnel by phone, radio, or through the CAS Dispatcher in the case of a spill or incident other than fire. In the case of fire, since the fire fighters have already responded, he shall confirm that the Fire Department Officer-in-Charge is aware of the hazardous waste involvement and the special hazards associated with the wastes;
4. Warn the remaining personnel of imminent or actual hazards using the radio and/or the PA system;
5. Notify the New Mexico Environmental Improvement Division (505) 827-9329, and the National Response Center (800) 424-8802, reporting

- Name and telephone number of the reporter;
 - Name and address of the facility;
 - Time and type of incident;
 - Name and quantity of materials involved, to the extent known;
 - The extent of injuries, if any, and
 - The possible hazards to human health or the environment outside the facility.
6. Advise the response groups as needed to minimize personnel exposure and expedite control; and
 7. For the Batch Treatment Plant and Controlled Air Incinerator, where the emergency stops operations, the HWEC must monitor for leaks, pressure buildup, gas generation or equipment ruptures.

Once control of the emergency is established, the HWEC shall:

1. Arrange for site cleanup;
2. Provide for treating, storing, or disposing of recovered wastes, contaminated soil or contaminated surface waters;
3. Provide for decontamination of equipment as needed;
4. Replace and/or repair equipment as needed;
5. Conduct testing as needed to verify successful cleanup; and
6. Within 15 days of the incident, submit to the Regional Administrator and Environmental Improvement Division the report described in Section 7.10.

7.5 SPECIFIC EMERGENCY RESPONSE PROCEDURES FOR HAZARDOUS WASTE FACILITIES

The following section summarizes the guidelines for handling emergencies.

7.5.1 Chemical Spills

Hazardous wastes are handled and stored in small containers, lab packs, 55-gal. drums, and dumpster tanks. The individual volumes handled are small.

The general steps in handling hazardous wastes are:

- Containment including spreading of absorbents or forming of temporary dikes,
- Waste pickup and packaging in sound containers, and
- Decontamination followed by testing to assure adequate clean-up.

The emergency preparedness procedures related to flammable organic solvent spills call for stabilization of the spilled material with the organic solvent spill kit. Other chemical spills are to be stabilized using the acid and caustic spill kits or by the addition of absorbents such as vermiculite. Personnel protective equipment will be worn during spill control and cleanup. The stabilized material will be treated as hazardous waste. Runoff which might occur from spills outside containment areas during precipitation must be contained and handled as a hazardous waste unless analyzed and found to be nonhazardous. Temporary dikes can be constructed to contain runoff.

7.5.2 Fire

Depending on the size of the fire and fuel source, portable ABC fire extinguishers may be used to put out fires. However, the Laboratory is discouraging the use of portable fire extinguishers by employees and encouraging the immediate evacuation and notification of the DOE Fire Department. The person fighting the fire must wear appropriate protective equipment. If the fire spreads or increases in intensity, all personnel should evacuate to an upwind point at least 100 yards away from the fire. For any fire involving hazardous waste, the HWEC must be contacted immediately, and he will alert all necessary emergency pre-

paredness personnel. The DOE Fire Department is automatically alerted when the CAS is activated. The HWEC should remain near the disposal site, but at a safe distance, so he can advise the personnel responding to the fire of the known hazards. Upon arrival at a fire, the Fire Department Officer-in-Charge will be in command of fire fighting. He will accept and evaluate the advice of Los Alamos personnel and emergency preparedness organization members, but he will retain the responsibility to select the fire fighting methods and tactics. The HWEC will be in overall control of the Laboratory's emergency response efforts until the emergency is terminated.

7.5.3 Explosion

In the case of explosions, all personnel will immediately evacuate the area. Any injured personnel will be immediately transported to the Medical Department for treatment. The HWEC must be contacted immediately upon activation of the CAS, and then he must alert all necessary emergency response personnel. The DOE Fire Department is notified automatically upon CAS activation. The HWEC will remain near the disposal site, but at a safe distance, so he can advise the personnel responding to the explosion of the known hazards.

Upon arrival at the disposal site, the Fire Department Officer-in-Charge will be in command of fire fighting. He will accept and evaluate the advice of Los Alamos personnel and emergency preparedness organization members, but he retains the responsibility to select the fire fighting methods and tactics. The HWEC will be in overall control of the Laboratory's emergency response efforts until the emergency is terminated.

7.5.4 Exposure

Chemical material in the eye or on the skin will be washed either with the entire contents of the portable eye wash station or for at least 15 minutes. The eyelids will be held open during washing. The injured person will then be quickly transported to the Medical Department for

evaluation. If possible, the chemical material involved in the injury will be ascertained and the information given to the Medical Department.

Other potential chemical exposures will necessitate evacuation if anyone notices any of the following conditions:

- Irritation of the eyes, breathing passages or skin,
- Difficulty in breathing, or
- Nausea, light-headedness, vertigo, or blurred vision.

The affected person will be transferred to the Medical Department and the HSE-5 Group representative will attempt to ascertain what, if any, chemical exposure occurred and what corrective measure is appropriate.

7.5.5 Flood

The U.S. Army Corps of Engineers has documented that Los Alamos National Laboratory's waste management facilities are not located within the 100-year floodplain. The appendix to the HWF Contingency Plan (Appendix T) contains this documentation.

7.6 EVACUATION

A facility will be evacuated upon the voice command of "evacuate the area," or upon the sounding of the evacuation alarm, or upon the fire alarm.

7.6.1 Evacuation Plan

Emergency situations may warrant the shutdown and evacuation of an area(s) or building(s) in order to protect personnel and property, to anticipate the emergency condition, or to enhance the appropriate response. Table 7-7 shows the criteria for evacuation, persons responsible for initiating evacuations, and reentry conditions. The TA-54, Area L evacuation route is shown in Figure 7-11. Building evacuation routes for the TA-50 batch treatment system and TA-50 incinerator

building are shown in Figures 7-12 and 7-13. The evacuation route for TA-50 is shown in Figure 7-14.

To initiate building evacuation, the evacuation alarm is sounded and/or the public address system is used. The evacuation alarm, which is more suitable for evacuation of the whole facility, is a steady, continuous, audible signal. This alarm cannot be silenced and reset by site personnel. The Fire Alarm Maintenance Section at 667-4027 and the Fire Department Platoon Chief at 667-7026 can silence and reset the alarm.

To evacuate a portion of the building, the public address system is more appropriate. The PA system will notify the occupants of the area to be evacuated, and additionally, will advise personnel in the rest of the facility of the existence of a problem in that specific area.

Upon initiation of an evacuation, either via the PA or evacuation alarm, all personnel are to leave the specified area and go to the muster area, turning off all equipment that could contribute to the hazard if left unattended.

In the event of an evacuation of only a portion of the building, one of the out buildings, or outlying work areas, the Group Leader will designate a control point at the closest and/or the most convenient location. This area will be outside the affected area and will serve as a muster point and provide control of the affected area to prevent further spread of the hazard.

Sweep Team personnel will remain in the area for a visual inspection of all the affected work areas, laboratories, and offices. At least two persons will do the sweep to insure that if an injured person is found or if a single person is fighting a small fire, turning off equipment or activating fire suppression systems, one sweep team member can give assistance while the other reports to the muster area or control point to obtain additional aid.

If the building is evacuated during normal working hours, the secretary will remove the personnel attendance roster that is posted near the secretary's desk, take it to the muster area, call roll, and report the personnel accounting to the Group Leader. During second or third shift operations, the lead engineer will be responsible for evacuation and roll call. The evacuation procedure follows:

- Group Leader determines cause and probable extent of hazard.
- Group Leader will sound the evacuation alarm or make an announcement on the PA system.
- Group Leader will designate an assembly area if other than muster area.
- Group Leader will notify the on-call HWEC.
- Personnel will shut down equipment that might contribute to the hazard.
- Personnel will activate fire suppression systems.
- Personnel will not remain in affected area except to assist injured personnel.
- Personnel will report to the muster area or designated control point.
- Roll call (general evacuation) or personnel accounting (partial evacuation).
- Building or Area sweep by assigned personnel.

For a small scale evacuation, the Group Leader takes control. For a large-scale evacuation, the CAS will be activated, the HWEC will be notified and will be responsible for the evacuation.

7.6.2 Process Shutdown

Personnel are instructed to shut down equipment prior to evacuating a building unless an immediate building evacuation is announced. To ensure efficient shutdown, training and exercises in process shutdown

are required. In the case of an immediate evacuation, a selected team may shutdown designated equipment in an evacuated area. The team will be equipped with the proper equipment, clothing and breathing apparatus. If present, HSE-1, HSE-3, and HSE-5 will provide advice and assistance. Process shutdown procedures only apply to the TA-50 batch treatment system and waste incinerator. Process shutdown procedures are as follows.

7.6.2.1 TA-50 Batch Treatment System

If a fire or evacuation alarm sounds during the operation of the Batch Treatment System, the operating crew will initiate a process shutdown in accordance with the current Standard Operating Procedures. Because the process is a batch treatment, cessation of treatment is adequate to bring the process to a safe condition. In general, the process shut should include the following:

- Shutdown of the waste pump discontinuing waste transfer or circulation,
- Shutdown of treatment chemical feeds,
- Shutdown of steam to the reactor jacket, if any,
- Shutdown cooling water only if there is a risk of contamination of the water with waste (continued cooling removes residual heat from the system), and
- Allow the reactor mixer to operate unless its operation poses a unique hazard (operation helps remove heat and prevents stratification).

7.6.2.2 TA-50 Waste Incinerator

If a fire or evacuation alarm sounds during the operation of the controlled air incineration process, the operating crew will initiate a process shutdown in accordance with the current Standard Operating Procedures. Three logic sequences are provided to shut down the process in a safe and orderly manner.

- The SCRAM - initiated in any situation that could lead to an immediate loss of containment. A SCRAM can be initiated manually at any time at the discretion of an operator. The upper and lower chamber burners are shut down, all combustion air and induced draft blowers are shut down and the valves and dampers are positioned so as to minimize flow into the system while maintaining a negative pressure. Snuffing steam is introduced into the lower chamber.
- Fast Shutdown Sequence - initiated for any condition that could likely result in damage to major process components. The chain of events are identical to the SCRAM sequence except it is delayed for a 2-minute period following the last waste feeding operation. This delay allows for the ignition of any pyrolytic gases formed from the waste charge prior to burner shutdown.

Both of the above modes are potentially destructive to the incinerator refractory and are initiated only when the consequences of not shutting down are greater than the consequences to the incinerator during the SCRAM or Fast Shutdown.

- Controlled Shutdown - initiated when there is potential for significant damage to minor process components. This is also the normal shutdown mode at the completion of an experiment. When controlled shutdown is initiated, programmable set point generator is activated that directs remote set point input to the temperature controllers, causing a gradual decrease in chamber temperatures. Switches internal to the set point generator cause an orderly shutdown of the process components.

It is the responsibility of the operations personnel and the process lead engineer to assess any situation and initiate the proper process shutdown sequence.

7.7 SALVAGE AND CLEANUP

The affected area will be surveyed by appropriate representatives from HSE Groups before salvage, cleanup and return to normal operations.

After determination of any existing hazards from toxic or hazardous gases or fumes, electrical hazards, or other unsafe conditions, personnel or selected teams, equipped with proper breathing apparatus and protective clothing, will reenter the area to perform designated tasks to affect decontamination, repairs, and salvage to allow the return to normal operations. After an emergency, the HWEC will:

- Provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion. Contaminated material will be treated as a hazardous waste and disposed of according to Laboratory procedures.
- Remain at the site to ensure that no waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed.
- Ensure that emergency equipment is cleaned and fit for its intended use before operations are resumed. Equipment will be visually inspected and sampled if necessary to determine the type and degree of contamination and appropriate cleanup measures will be used.

Prior to resuming operations, appropriate local authorities will be notified that cleanup procedures are completed and emergency equipment is cleaned and fit for its intended use.

Damage assessment and recovery shall be performed within the reporting and investigative requirements of DOE Order 5484.1. The HWEC has general responsibility for coordinating post-emergency actions, particularly during the time period immediately after the emergency. Such actions include cleanup operations, repair of vital equipment, or interim hazard-removing operations (such as demolition of unstable walls). The services of the affected operational organizations, HSE Division, the Zia Company, and other on-site talent will also be utilized to estimate cleanup costs and operational impact. The HWEC declares the end of the emergency; an Incident Report is filled out, and the HSE-7 Group Leader and his staff review emergency actions.

7.8 POST-EMERGENCY ASSESSMENT

When the emergency is over, the causes of the emergency and the effectiveness of the response are investigated, in order that future emergencies may either be prevented, or that the response to them may be more effective. Following each event requiring the implementation of the HWF Contingency Plan, the HWEC shall meet with representatives of all response functions to determine the adequacy of the response.

7.9 EMERGENCY RECORDS

The details of any incident that requires implementation of the HWF Emergency Contingency Plan must be noted in that facility's log book. This record must include the time, date, and full description of the incident.

7.10 EMERGENCY REPORTS

Any emergency that requires implementation of the HWF Emergency Contingency Plan will be reported in writing within 15 days to the EPA Regional Administrator and to the New Mexico Environmental Improvement Division (EID).

The report shall include the following data:

- Name, address, and phone number of owner or operator;
- Name, address and phone number of the facility;
- Date, time, and type of incident (e.g. fire, explosion, spill);
- Name of material involved;
- Quantity of material involved;
- Extent of injuries (if any);
- Assessment of actual or potential hazards to human health or the environment; and

- Estimated quantity and disposition of material recovered from the incident.

7.11 CONTINGENCY PLAN AMENDMENT

The Contingency Plan shall be reviewed by the HSE-7 Group Leader and immediately amended if determined to be inadequate to handle nonsudden and sudden releases, and whenever:

- The HWF permit is revised;
- There is significant change in the design or operation of the HWF (i.e., waste quantities handled, handling techniques, or final disposition);
- The list of emergency coordinators changes;
- The list of emergency equipment significantly changes;
- Operating experience, drills, or technical review demonstrates the plan is inappropriate; or
- Actual implementation of the plan demonstrates inadequacies.

The Contingency Plan shall have a cover sheet (Appendix T) noting the date of the last amendment. Each amendment date shall be initiated by the HSE-7 Group Leader authorizing the changes. Amendments shall be issued to all HWF Contingency Plan holders and shall include a cover letter that describes the plan changes and rationale for those changes.

TABLE 7-1.
WASTE HANDLED, TREATED, STORED AND DISPOSED AT LOS ALAMOS

<u>Chemical</u>	<u>Approx. Annual Volume (m³)</u>	<u>Hazard</u>	<u>Basis for Hazard Designation</u>
<u>Basic and Applied Chemistry R&D Programs</u>			
Chemistry and Metallurgy Research Building			
Radiochemistry Laboratory			
Health Research Laboratory			
- Numerous chemical wastes	33	Varies	R&D wastes are comprised of numerous listed wastes
<u>Electrochemistry Processing</u>			
Materials Technology Group			
- Chromate and cyanide plating solutions	1	Toxic, Reactive	Listed waste - F007, F009 - toxic and reactive, could contain 10,000-20,000 ppm cyanide
Print Circuit Board Shop			
- Acid/base copper etching/ plating solutions	19	Corrosive	D002 - pH can vary from less than 2 to about 11
<u>Isotope Separation</u>			
Isotope and Structural Chemistry Group			
- Concentrated nitric and sulfuric acid	38	Corrosive	D002 - pH is generally less than 2, concentrated nitric acid is also ignitable (D001) per 261.21(a)(4) (NMIHWMR 201.B.2.a[4]) as an oxidizer
<u>Shops Department</u>			
Main Shops Department			
- Lithium hydride, lithium metal	3	Reactive	D003 - per 261.23(a)(2),(3), (NMIHWMR 201.B.4.a[2],[3]) gas and heat upon rapid reaction with water
- Halogenated solvents	<1	Toxic	Listed waste - F001, F002 - toxic
- Non-halogenated solvents	<1	Ignitable	Listed waste - F003 - ignitable
<u>Explosives</u>			
Dynamics Testing and Design Engineering			
- High Explosives	90	Ignitable, Reactive	Listed waste - K044 - also D001, D003, may also contain D005 waste
- Contaminated burn pad sand	5	Toxic	D005 - sand contaminated and tests EP Toxic for barium per 261.24(a) (NMIHWMR 201.B.5.a)
<u>Chemically Contaminated Equipment</u>			
Many LANL Facilities	26		Same characteristics as hazardous material contaminants

TABLE 7-2.
 SUMMARY OF HAZARDOUS WASTE FACILITIES
 LOS ALAMOS NATIONAL LABORATORIES

<u>Technical Area and Building or Area Designation</u>	<u>Wastes Handled</u>	<u>Activity Description</u>
TA-14, 15, 16, 36, and 39	HE	Thermal treatment facilities used to burn waste high explosives and high explosives contaminated material
TA-50-01	Electrochemistry wastes Isotope separation wastes	Chemical batch treatment by neutrali- zation, metal precipitation, and cyanide destruction. Includes assoc- iated waste container storage area
TA-50-37	Combustible liquids and solids, including chlori- nated and fluorinated hydrocarbons, and carcin- ogenic materials	Waste incineration with flue gas treatment
TA-54 Area L	Shops department wastes Wastes from Basic and Applied Chemistry R&D programs	Wastes are segregated and stored prior to treatment, incineration, recycle, shipment offsite, or disposed at Area L

TABLE 7-3.

HAZARDOUS WASTE EMERGENCY RESPONSE GROUPS

<u>Laboratory Controlled Response Group</u>	<u>Emergency Telephone</u>	<u>Assistance Available</u>
HSE-2 Occupational Medicine	667-7878 (8 am - 5 pm)	Emergency medical treatment
HSE-3 Safety	988-0539 off-duty hours	Reviews and approves fire protection procedures. May assist in process shutdown and evacuation
HSE-5 Industrial Hygiene		Site evaluation - field testing to determine the nature and extent of contamination (nonradiological) Specify protective clothing and equipment Information services regarding hazards of wastes and treatment for exposure
HSE-7 Waste Management		Hazardous waste cleanup, handling, treatment, and disposal
HSE-8 Environmental Surveillance		Field surveys to determine spread of contamination and adequacy of clean up Meterological information Geohydrologic support
HSE-9 Health and Environmental Chemistry		Chemical analytical services
DOE Fire Department	9-911	Firefighting personnel and equipment Ambulance and parametic service

TABLE 7-3. (cont)

<u>Laboratory Controlled Response Group</u>	<u>Emergency Telephone</u>	<u>Assistance Available</u>
Mason & Hanger Protective Force (Pro Force)	667-4437	Traffic Control Security
Zia Company	667-6196	Maintenance personnel and equipment
<u>Non-Laboratory Controlled</u>		
Los Alamos County Police	662-4176	Traffic control on DOE roads with public access
Los Alamos Medical Center*	662-4201	Medical Services

*Medical services related to hazardous wastes injuries provided under the direction of HSE-2.

TABLE 7-4.

EMERGENCY EQUIPMENT

EMERGENCY EQUIPMENT AT THE TA-50 BATCH WASTE TREATMENT FACILITY (BWTR)

Fire Control Equipment:

- 2 fire extinguishers (B,C)
 - East wall of Batch Waste Treatment Room (BWTR)
 - West wall of adjoining room (Rm. 24) to west of BWTR
- Fire alarm pull box
 - Located on east wall immediately outside BWTR
- 1 automatic thermal alarm
- Sprinkler system
 - 2 sprinkler heads in ceiling of BWTR, set off at 212F

Communication Equipment:

- Telephones
 - Located in Room 24 and at the BWTR
 - Telephones equipped with building-wide paging system
- Evacuation alarm, single tone horn

Spill Control Equipment:

- Eight-inch curb around reactor, receiving tanks, and storage area
- Absorbent kept onsite

Decontamination Equipment

- Safety shower located next to reactor tank outside curbed area
- Eye wash
 - Located on south wall next to hood

TABLE 7-4. (cont)

EMERGENCY EQUIPMENT AT THE TA-50 WASTE INCINERATOR

Fire Control Equipment:

13 fire extinguishers (9C-CO; 4 A-water)

- 1 Mechanical Equipment Room 111
- 2 High Bay Room 112
- 2 High Bay Room 114
- 1 South of Library and Conference Room
- 1 Chemistry Laboratory Room 107
- 1 Process Engineering Laboratory Room 209
- 1 Office Area Room 202
- 1 Room 21

11 Fire Alarm Pull Boxes connected to the CAS

- 1 Mechanical Equipment Room 111
- 1 High Bay Room 112
- 2 South of Library and Conference Room
- 2 High Bay Room 114
- 1 East of women's changing room
- 1 Process Engineering Laboratory
- 1 Office Area Room 202
- 2 Room 21

Automatic thermal alarm on inlet and exhaust of ventilation system

Automatic thermal sprinkler system throughout offices

4 Fire Hydrants

- 1 Northwest corner of Building 84
- 1 West of Building 69
- 1 Northeast of Building 37

Halon Extinguishing System, manual and ultraviolet in Room 115

Communication Equipment:

Telephones throughout building with building-wide paging system

Radio located in Room 202

Spill Control Equipment:

Absorbent kept onsite

PCB room is bermed to handle all liquids stored

Have Spill Prevention and Containment Plan

Decontamination Equipment:

Showers

Emergency eyewash

TABLE 7-4. (cont)

EMERGENCY EQUIPMENT - HSE-7 CONTROLLED

Spill Control Equipment: Located at TA-54--Area G

Heavy equipment available for emergencies which may include

- 2 scrapers
- 1 bulldozer
- 1 tractor (front end loader)

Shovels

Absorbents (vermiculite) in combustibles storage shed

Decontamination Equipment:

Small decontamination pit for heavy equipment

Showers (MD-11)

Other:

Change room with protective clothing (MD-11)

2-3 dozen respirators (particulates) (MD-11)

2 self-contained, portable air masks (MD-11)

2 emergency generators, portable

3 vehicles are available for evacuation of personnel:

2 sanfu

1 Jeep (with emergency equipment, e.g., coveralls, booties, tape, rope)

TABLE 7-4. (cont)

EMERGENCY EQUIPMENT AT TA-54, AREA L

Fire Control Equipment:

- 1 fire hydrant located 30 feet south of site entrance to site
- 1 CO fire extinguisher located inside trailer at west end of site (B,C)
- 1 CO fire extinguisher located inside storage shed (B,C)
- 1 freeze-proof faucet located immediately east of shed

Spill Control Equipment:

- Shovels
- Oversized drums
- Absorbent inside storage shed
- Heavy equipment from Area G available for any emergencies at Area L
- Bermed storage area

Communications Equipment:

- 2-way radios are available to all personnel when in area
- 2-way radios are in all vehicles used for moving hazardous waste
- Telephone located inside trailer

Decontamination Equipment:

- 1 emergency shower and eye wash located immediately east of shed

Other:

- 2 self-contained, portable air masks located inside trailer

TABLE 7-4. (cont)

SUPPLEMENTARY EMERGENCY EQUIPMENT

ZIA COMPANY (667-6196)

<u>Equipment</u>	<u>Number</u>
A. Transportation	
1. Pickups, 1/2 through 3/4 ton	183
2. Trucks 1 through 3 ton	25
3. Powerwagon (E-20781 with welder (PN-30256) mounted on vehicle, CC-135	1
4. Buses (11-passenger)	2
5. Stationwagens	11
6. Vans, panels, and carryalls	24
B. Special Equipment	
1. Road grader, Champion, self-propelled blade, with radio	1
2. Grader, John Deere, self-propelled, with radio	1
3. Loaders, bucket, Melroe, Bobcat, 1/3 cubic yards	3
4. Loader, bucket, Michigan, 2-3/4 cubic yards	1
5. Loader, Fiat-Ellis, 3 cubic yards	1
6. Loader, bucket, Michigan, 2-1/2 cubic yards	1
7. Loader, bucket, Michigan, 3-1/4 cubic yards	1
8. Loader, bucket, Yale, 3 cubic yards, with radio	1
9. Loader, bucket, backhoe, International, 1-1/2 cubic yards	1
10. Loaders, bucket, backhoe, Case, 7/8 cubic yards	2
11. Loader, backhoe, Ford, 1 cubic yard	1
12. Snowplows, Bombardier, with blade	2
13. Bulldozer, D-8, Crawler	1
14. Bulldozers, TD-25, International	2
15. Scraper, Terex, self-propelled	1
16. Scraper, Fiat-Ellis, self-propelled	1
17. Bulldozer, 280, rubber-tired, with radio	1
18. Semitrailers	5
19. Lights, camp (electrical, plant, portable, 1000 to 5000 watts)	4
20. Power saws	14
	(approx)
21. Flusher, street, 3000-gallon Truck, tanker, 500-gallon, International	1
22. Mobile transceivers (2-way, KOB-753)	64

TABLE 7-4. (cont)

ZIA COMPANY (667-6196)

<u>Equipment</u>	<u>Number</u>
B. Special Equipment (cont)	
23. Mobile transceivers (2-way, fire network)	7
24. Handsets (2-way)	8
25. Pageboys (1-way)	235
26. Welders, mounted on trailers and trucks	32
27. Fire tools (hand)	150
	(approx)
C. Supplies	
1. Food	
Box lunches	150
D. Other Supplies	
1. Bedding	
Blankets	60
Bedrolls (disposable)	50
(from U.S. Forest Service in Santa Fe)	
2. Butane gas (25-gallon tanks)	4
3. Fuel and lubricants	
4. Miscellaneous supplies	
<u>Manpower</u>	
A. Fire Bosses	
1. Crew bosses	3
2. Straw bosses	12
B. Service Bosses	
1. Transportation boss	1
C. Specialists	
1. Cat bosses	2
2. Bulldozer operators	14
3. Clerks	10
4. Dispatchers	3
5. Mechanics	17
6. Power saw operators	8
7. Radio and telephone operators	10
8. Truck drivers	13
9. Tool sharpener	4

TABLE 7-4. (cont)

ZIA COMPANY (667-6196)

Manpower (cont)

	<u>Number</u>
7. Radio and telephone operators	10
8. Truck drivers	13
9. Tool sharpener	4
 D. Firefighters	
1. Organized crews (approximately 8 men per crew)	14 . crews

TABLE 7-4. (cont)

EMERGENCY EQUIPMENT AT THE DOE FIRE DEPARTMENT
(9-911)

8 1000-gallons-per-minute pumper trucks
5 Minipumper trucks
5 1500-gallon tank trucks
4 Modular ambulances
1 Rescue vehicle
69 Self-contained breathing apparatus
Various firefighting equipment
Emergency Medical Technician (EMT) medical equipment
98 Personnel with 81 hours MTA training
1 75-foot elevated platform

TABLE 7-4. (cont)

EMERGENCY RESOURCES AT THE MEDICAL FACILITY (HSE-2)

(667-7878) 8 am - 5 pm

(988-0539) off-duty hours

Manpower

6 (2 casual) physicians
2 physician's assistants
10 (1 part-time) nurses
3 (2 casuals) x-ray technicians
2 laboratory technicians

Special Equipment - Portable

1 Radio base station (HSE-Div. net, being installed)
3 Walkie talkies (HSE-Div. net)
1 Portable cardiac monitor and defibrillator
1 Crash cart - emergency equipment
1 Portable physicians bag - drugs
1 Portable suction unit
5 Portable stretchers
1 Ambulance stretcher with straps
6 Wheel chairs
1 Manual resuscitator
6 Portable oxygen units
Several intravenous holders and solutions
6 Otoscope/ophthalmoscope sets
1 Portable sphygmomanometer
10 Stethoscopes
Many contamination apparel
1 Eye irrigation system
Many inflatable limb traction splints
3 Industrial first aid kits
Many extrication and cervical collars
Many crutches and canes
Many suture sets

Supplies

Bedding and pillows
Rescue blankets
Burn blankets
Thermal/icing pouches
Multitrauma dressing and bandages

TABLE 7-4. (cont)

EMERGENCY RESOURCES AT THE MEDICAL FACILITY (HSE-2)
(667-7878) 8 am - 5 pm
(988-0539) off-duty hours

Special Facilities - Nonportable

Completely equipped medical clinic with emergency lighting system, x-ray machine, and ambulance entrance. Contamination showers, protective clothing, and wound counters. Suction unit, electrocardiograph (12 lead), pulse rate monitor/recorder, primary response trauma kits are included.

Transportation

1970 Plymouth Sedan

TABLE 7-5.

CREDIBLE NONSUDDEN RELEASES

<u>Location</u>	<u>Credible Releases</u>	<u>Detection</u>	<u>Correction</u>
TA-14, 15, 16, 36, 39	Toxic material leaching	Sand and soil samples	Removal and proper treatment or disposal of contaminated sand and soil
	Wind dispersion (prevented by procedures)	Visual	Operating procedures prohibit treatment under adverse weather conditions
TA-50-1	Incomplete treatment	Analysis	Continue or modify treatment
	Failure of containment	Inspection for leaking containers and tanks, inspect secondary containment for integrity	Maintenance or replacement of containment
Transport	Leaking containers	Inspection prior to transfer	Repackage in sound container
TA-50-37	Incomplete treatment	Analysis and stack monitoring	Modify treatment procedure prior to continuing
	Failure of containment	Inspection for leaking containers and tanks, inspect secondary containment for integrity	Maintenance or replacement of containment
TA-54 Area L	Failure of containment	Inspection for leaks, inspect secondary containment for integrity	Maintenance or replacement of containment
	Toxic material migration from disposal shafts	Vadose zone monitoring	Develop in agreement with the NM EID a detection monitoring program and corrective action program in compliance with 40 CFR 264.99 and 264.100

TABLE 7-6.

HAZARDOUS WASTE EMERGENCY COORDINATOR

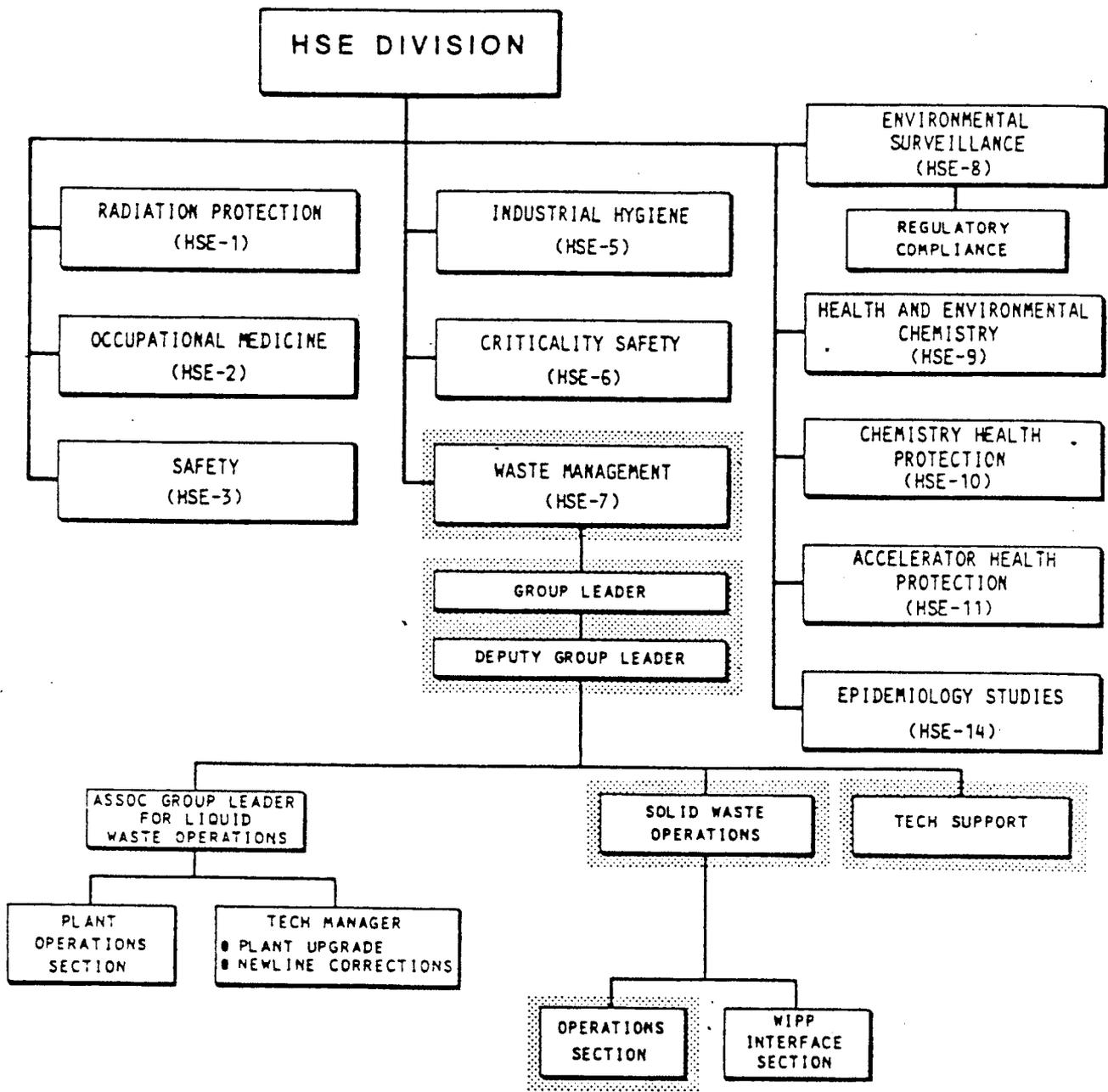
<u>Primary Coordinators</u>	<u>Laboratory Telephone</u>	<u>Telephone</u>	<u>Home Address</u>
Ray Garde, HSE-7 Group Leader	7-7920/4301	753-7737	2560 Aeby Lane, Espanola, NM
Lud Emelity, HSE-7 Deputy Group Leader	7-5839/4301	662-7993	388 El Conejo, Los Alamos, NM
J. L. Warren, HSE-7 Associate Group Leader	7-5398	662-9639	1082 Big Rock Loop, Los Alamos, NM
Jerry Buchholz Associate Group Leader	7-4301	672-3647	316 Potrillo Drive, White Rock, NM
Lee Borduin Associate Group Leader	7-7391	455-2882	Rt. 1, Box 92C, Santa Fe, NM
Karen Balo Section Leader	7-6095	983-5169	1933 San Idelfonso, Santa Fe, NM

TABLE 7-7.

EVACUATION DETERMINATION AND REENTRY

<u>Reason for Evacuation</u>	<u>Determination Made By</u>	<u>Reentry Conditions</u>
Fire	Fire or Evacuation Alarm; Group Leader; Alternate; Lead Engineer, Senior Staff Member present, or HWEC	Following survey by the Chief Fire Officer, HSE-1 and/or HSE-5, and R&D Supervision
Explosion	Same as above	Same as above plus HSE-3
Loss of Ventilation	Group Leader, Alternate, Senior Staff Member, Lead Engineer, or Senior Technician	Following survey by HSE-1 and/or HSE-5, and R&D Supervision
Loss of Electric Power	Same as above	Same as above
Extensive Contamination	Same as above or HSE-1 Representative	Same as above
Airborne Contamination	Same as above or Rad Monitor	Same as above
Escape or Release of Toxic or Hazardous Gas or Fumes	Group Leader, Alternate, Senior Staff Member, Lead Engineer, Senior Technician, or HWEC	Same as above plus HSE-5
Bomb Threat	HSE-3 or Protective Representative, R&D Section Leader, Alternate, Senior Staff Member or Lead Engineer	Following determination by HSE-3 or Protective Force Representative and R&D Supervision

DRAWING NUMBER 046510-A24
 CHECKED BY K.C.
 APPROVED BY J.P.P.
 DRAWN BY



NOTE: SCREENED BOXES INDICATE PRIMARY RESPONSIBILITY FOR CHEMICAL WASTE MANAGEMENT

FIGURE 7-2
 HEALTH, SAFETY AND ENVIRONMENT DIVISION
 MANAGEMENT CHART
 PREPARED FOR
 LOS ALAMOS NATIONAL LABORATORY
 LOS ALAMOS, NEW MEXICO

DRAWING NUMBER 846510-915
 CHECKED BY [Signature]
 APPROVED BY [Signature]
 DRAWN BY [Signature]

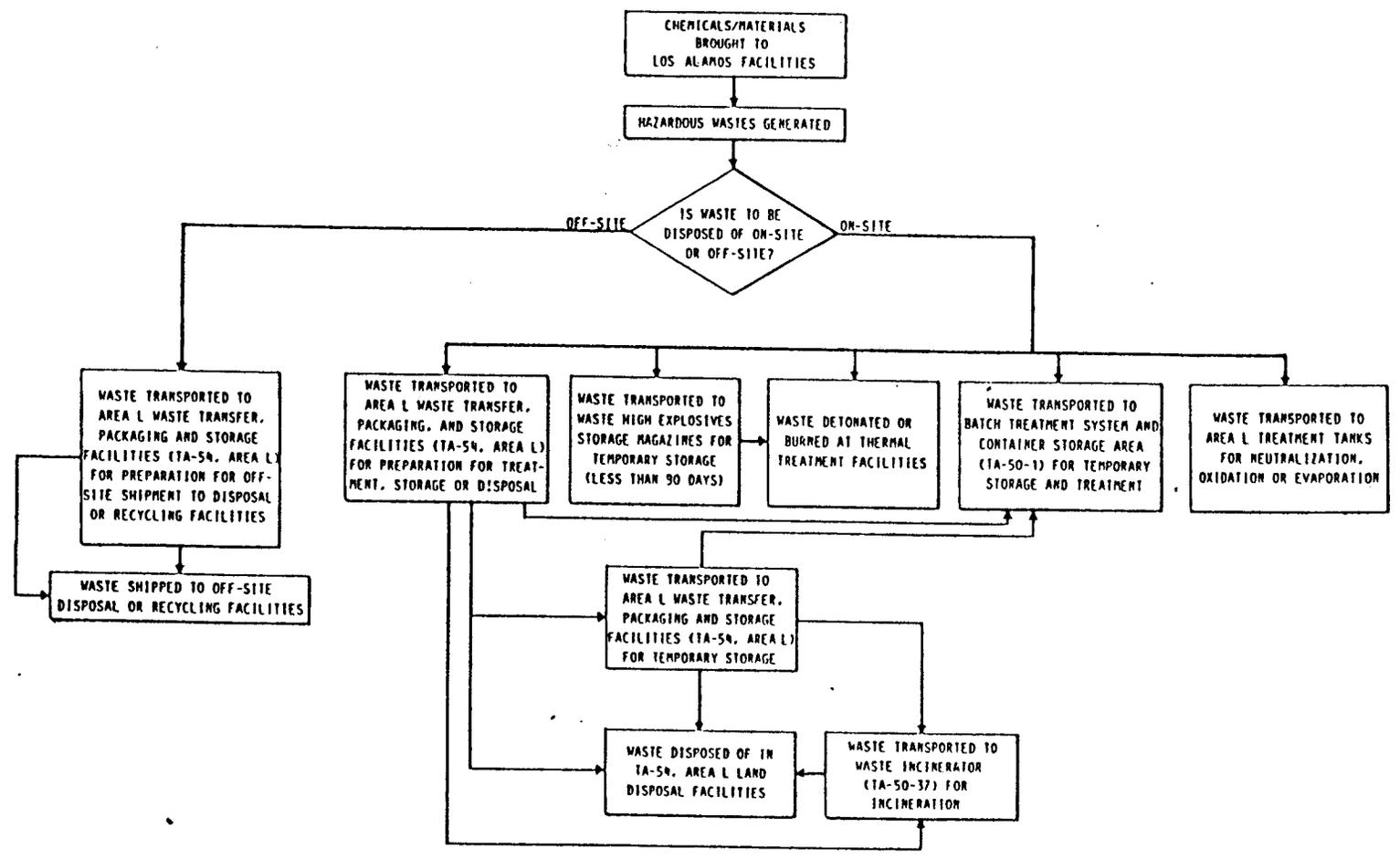


FIGURE 7-3
 SCHEMATIC DIAGRAM OF
 LOS ALAMOS HAZARDOUS
 WASTE MANAGEMENT ACTIVITIES
 PREPARED FOR
 LOS ALAMOS NATIONAL LABORATORY
 LOS ALAMOS, NEW MEXICO

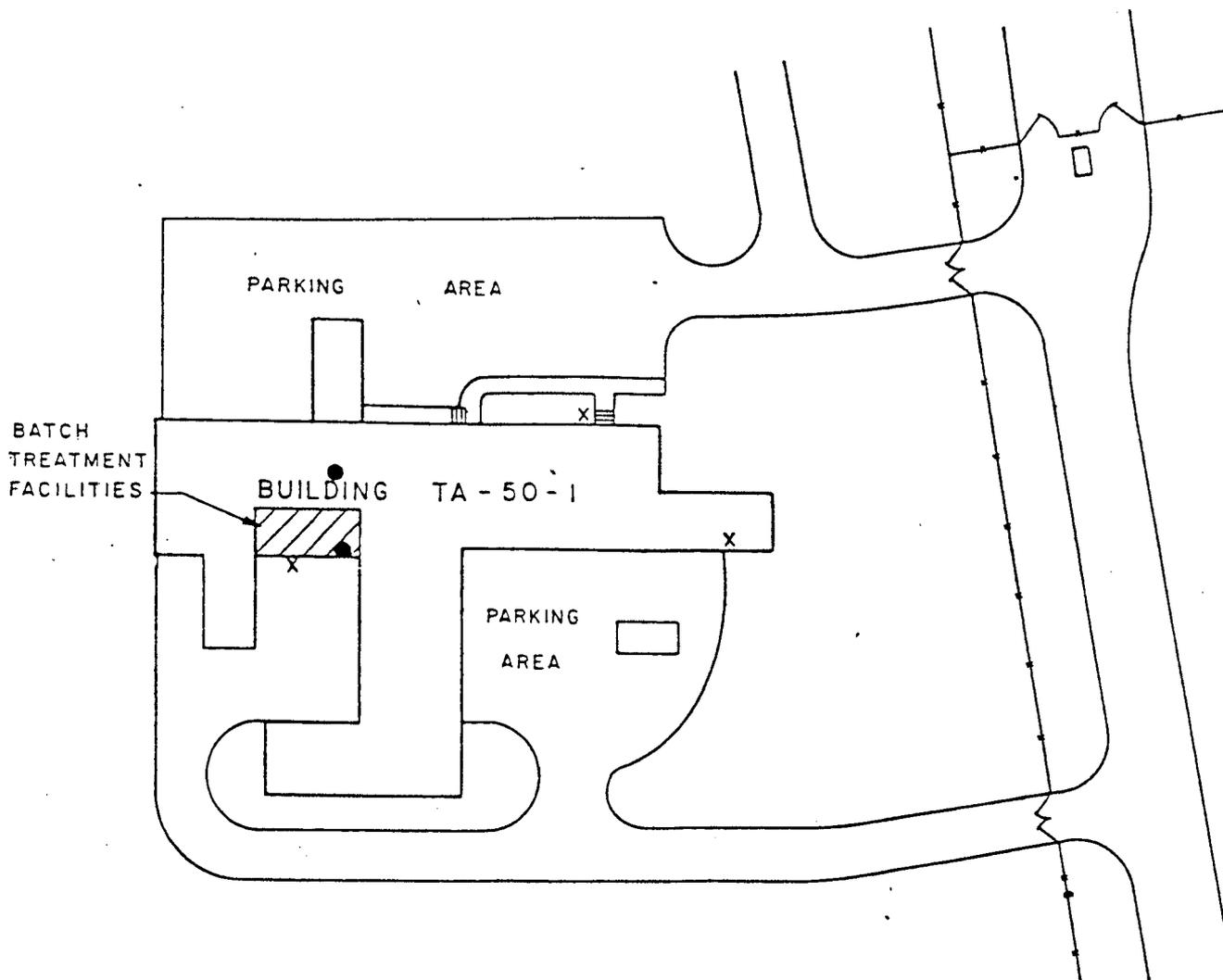


FIGURE 7-4
 LOCATION OF
 BATCH TREATMENT FACILITIES
 IN BUILDING I IN TA-50
 PREPARED FOR
 LOS ALAMOS NATIONAL LABORATORY
 LOS ALAMOS, NEW MEXICO

- X ALARM PULL BOXES
- FIRE EXTINGUISHERS

IT CORPORATION

DRAWING NUMBER 846510-A17
 CHECKED BY [Signature]
 APPROVED BY [Signature]

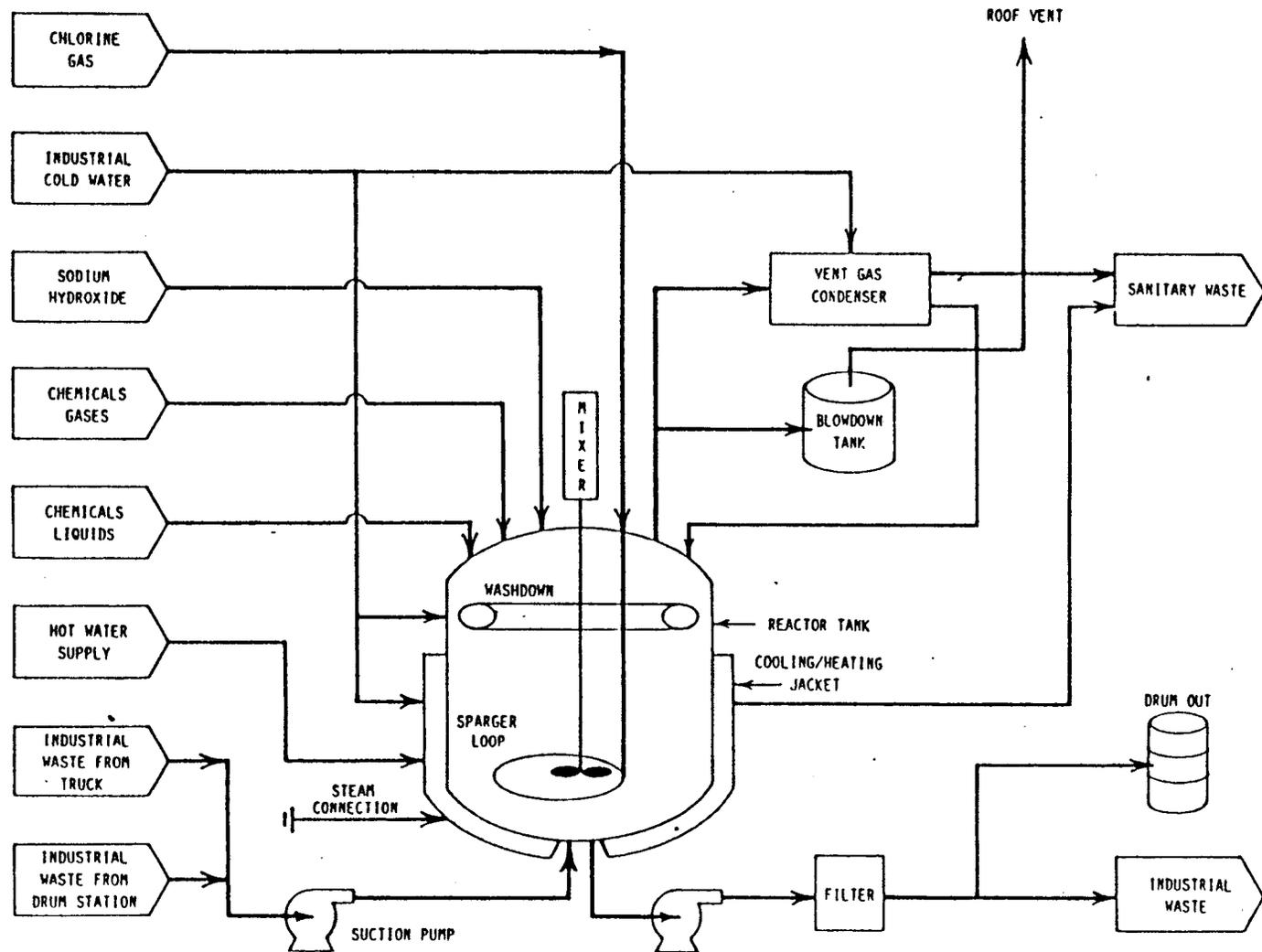
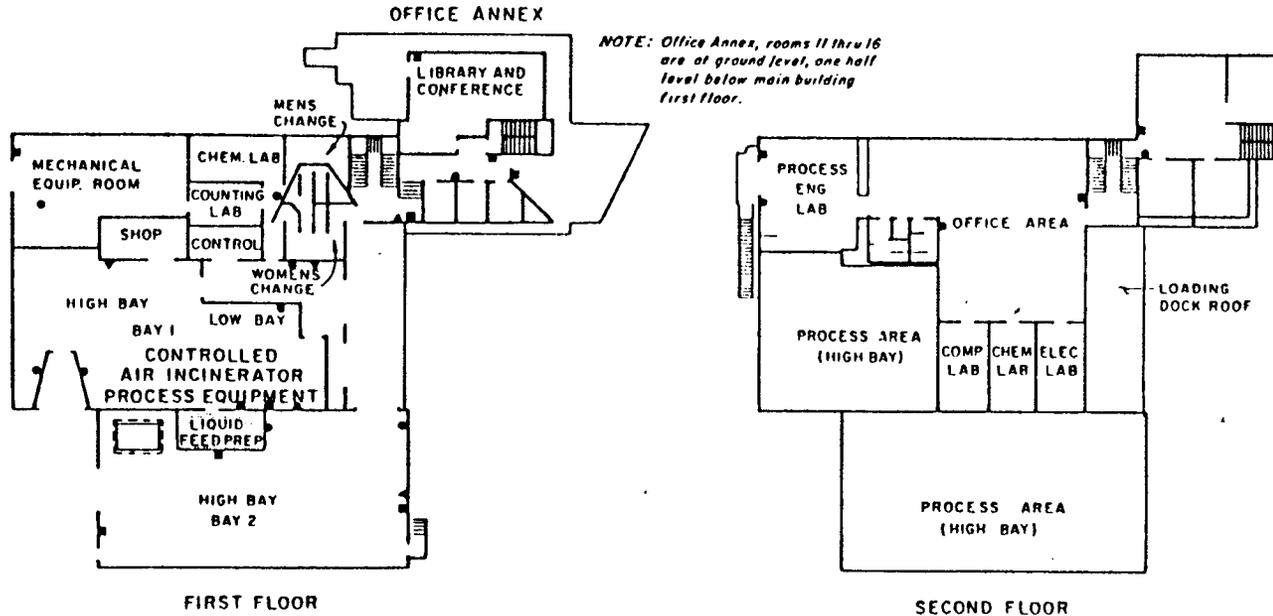


FIGURE 7-5
 FLOW DIAGRAM
 OF BATCH TREATMENT
 SYSTEM
 PREPARED FOR

LOS ALAMOS NATIONAL LABORATORY
 LOS ALAMOS, NEW MEXICO

IT CORPORATION

DRAWING NUMBER 8946570-A18
 CHECKED BY VZC
 APPROVED BY JSEP
 M.J.G. 11/20/84
 DRAWN BY



NOTE: Office Annex, rooms 11 thru 16 are at ground level, one half level below main building first floor.

**TREATMENT DEVELOPMENT FACILITY
TA-50, BUILDING 37**

*NOTE: All rooms are covered by automatic sprinkler heads.
Fire water flow activates automatic alarm pull.*

- ▲ EVACUATION ALARM
- ALARM PULL (FIRE)
- FIRE EXTINGUISHER
- HALON SYSTEM

FIGURE 7-6
TREATMENT DEVELOPMENT FACILITY
SHOWING LOCATIONS OF
CHEMICAL WASTE INCINERATOR
AND SUPPORT FACILITIES
 PREPARED FOR
LOS ALAMOS NATIONAL LABORATORY
LOS ALAMOS, NEW MEXICO

IT CORPORATION

DRAWN BY: []
 CHECKED BY: []
 APPROVED BY: []
 DRAWING NUMBER: []

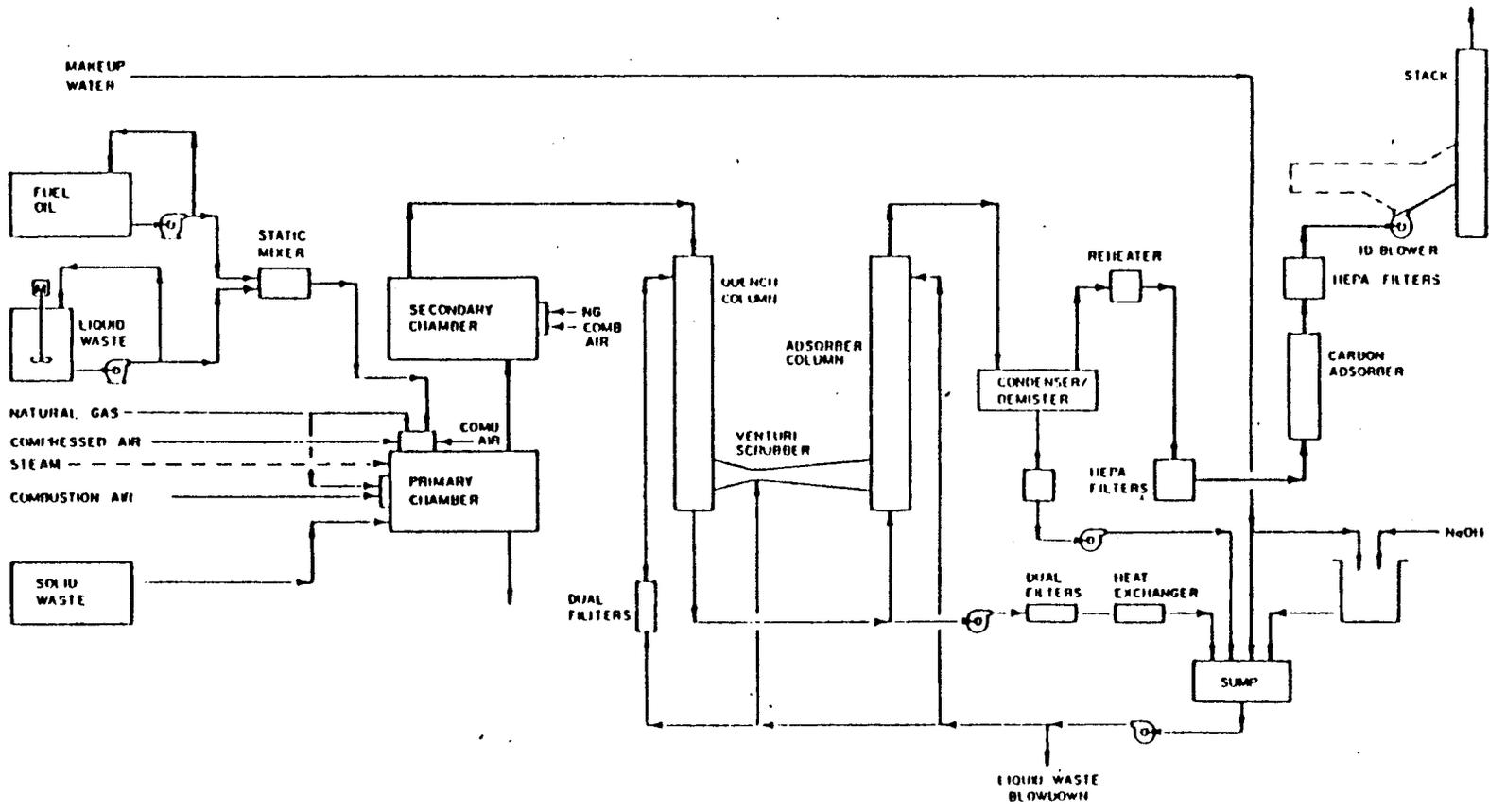
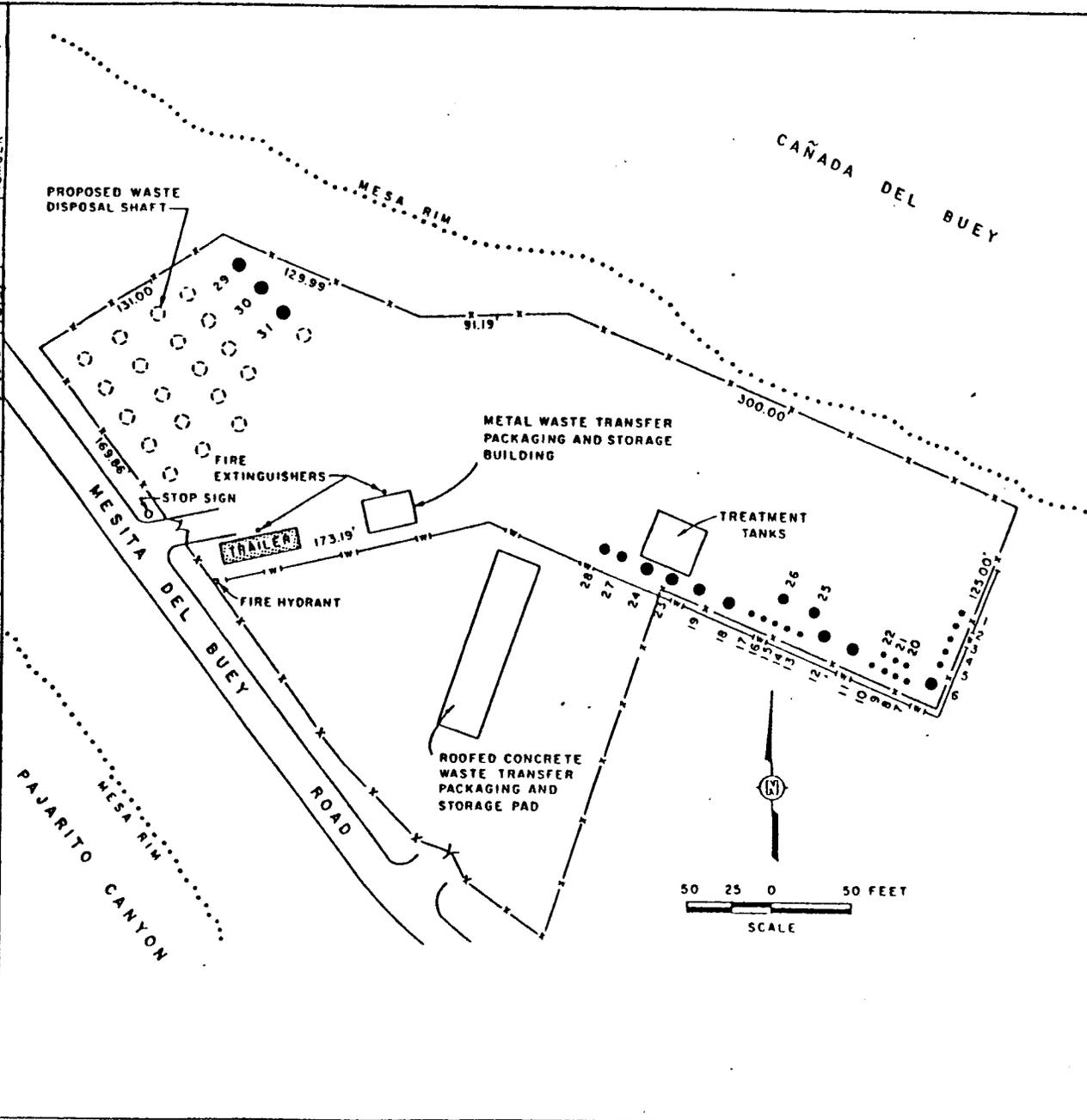


FIGURE 7-7
 INCINERATOR
 PROCESS DIAGRAM

PREPARED FOR
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 LOS ALAMOS, NEW MEXICO

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 APPROVED BY [Signature]
 DRAWN BY [Signature]



AREA L SHAFTS(1)
(INFORMATION CURRENT MARCH 1985)

SHAFT NO.	SHAFT DIAMETER (FEET)	DATE DRILLED	DATE CAPPED	CONTENTS
1	3	4/80	9/83	ORGANICS(2)
2	3	2/75	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	6/79	5/82	INORGANIC
14	3	6/79	5/82	REACTIVE
15	3	6/79	5/82	REACTIVE
16	3	6/79	5/82	GAS CYLINDERS
17	3	6/79	5/82	ORGANIC
18	8	6/79	6/80	WASTE OIL
19	8	4/80	5/82	WASTE OIL
20	3	4/80	9/83	INORGANIC
21	3	4/80	OPEN	GAS CYLINDERS
22	3	4/80	9/83	ORGANIC
23(3)	8	4/82	1/84	WASTE OIL
24(4)	8	4/82	4/84	ORGANIC & WASTE OIL
25	6	9/82	OPEN	INORGANIC
26	6	9/82	3/84	ORGANIC
27	4	1/83	2/85	SPECIAL(5)
28	4	1/82	OPEN	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	9/84	ORGANIC
33	6	9/84	2/85	ORGANIC
34	6	2/85	OPEN	ORGANIC

- NOTES:
 (1) ALL SHAFTS ARE APPROXIMATELY 60 FEET DEEP.
 (2) SHAFT ONE CONTAINS WASTES NOT IN DRUMS.
 (3) PRIOR TO SHAFT 23, LIQUIDS WERE DISPOSED OF IN DRUMS WITHOUT ADDING ABSORBENTS.
 (4) MIDDLE SECTION OF THIS SHAFT NOT USED.
 (5) USED FOR MISCELLANEOUS WASTE REQUIRING GREATER ISOLATION.

FIGURE 7-8
 TA-54 AREA L
 WASTE MANAGEMENT FACILITIES
 PREPARED FOR
 LOS ALAMOS NATIONAL LABORATORY
 LOS ALAMOS, NEW MEXICO
 IT CORPORATION

DRAWING NUMBER 46510-A21
 CHECKED BY JAC
 APPROVED BY JRP
 L.L.F. 9/26/84
 DRAWN BY

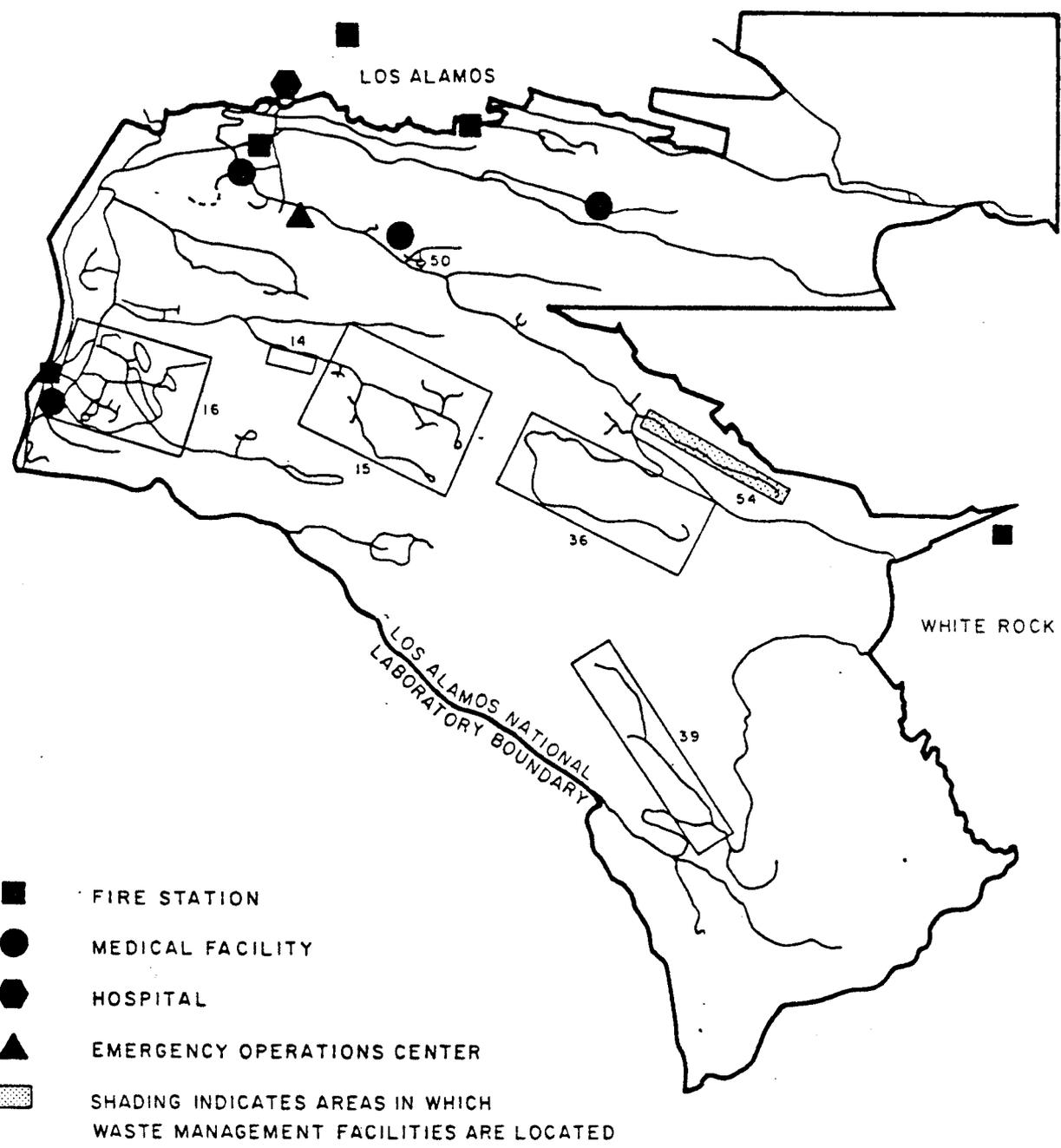


FIGURE 7-9

EMERGENCY FACILITIES

PREPARED FOR
 LOS ALAMOS NATIONAL LABORATORY
 LOS ALAMOS, NEW MEXICO

IT CORPORATION

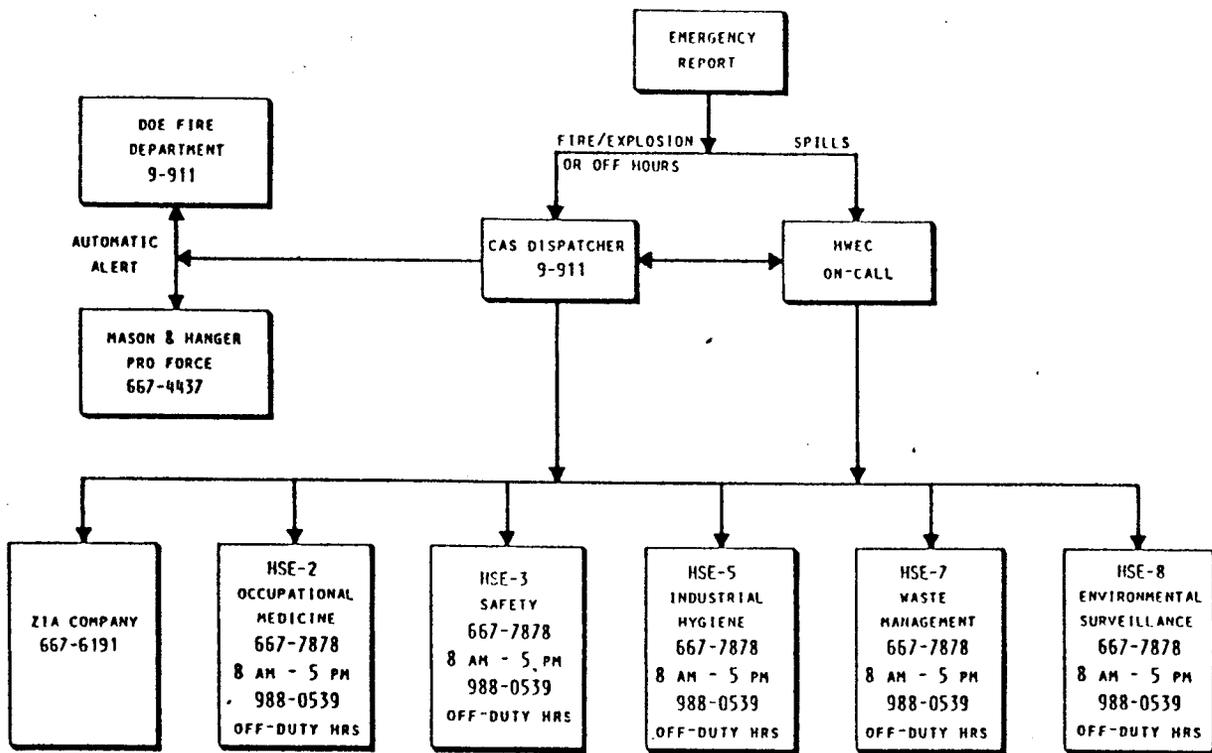


FIGURE 7-10
HAZARDOUS WASTE
EMERGENCY
NOTIFICATION STRUCTURE
PREPARED FOR

LOS ALAMOS NATIONAL LABORATORY
LOS ALAMOS, NEW MEXICO



... Creating a Safer Tomorrow

DRAWING NUMBER: JH510-810
 CHECKED BY: L.L.F.
 APPROVED BY: 3/14/85
 DRAWN BY:

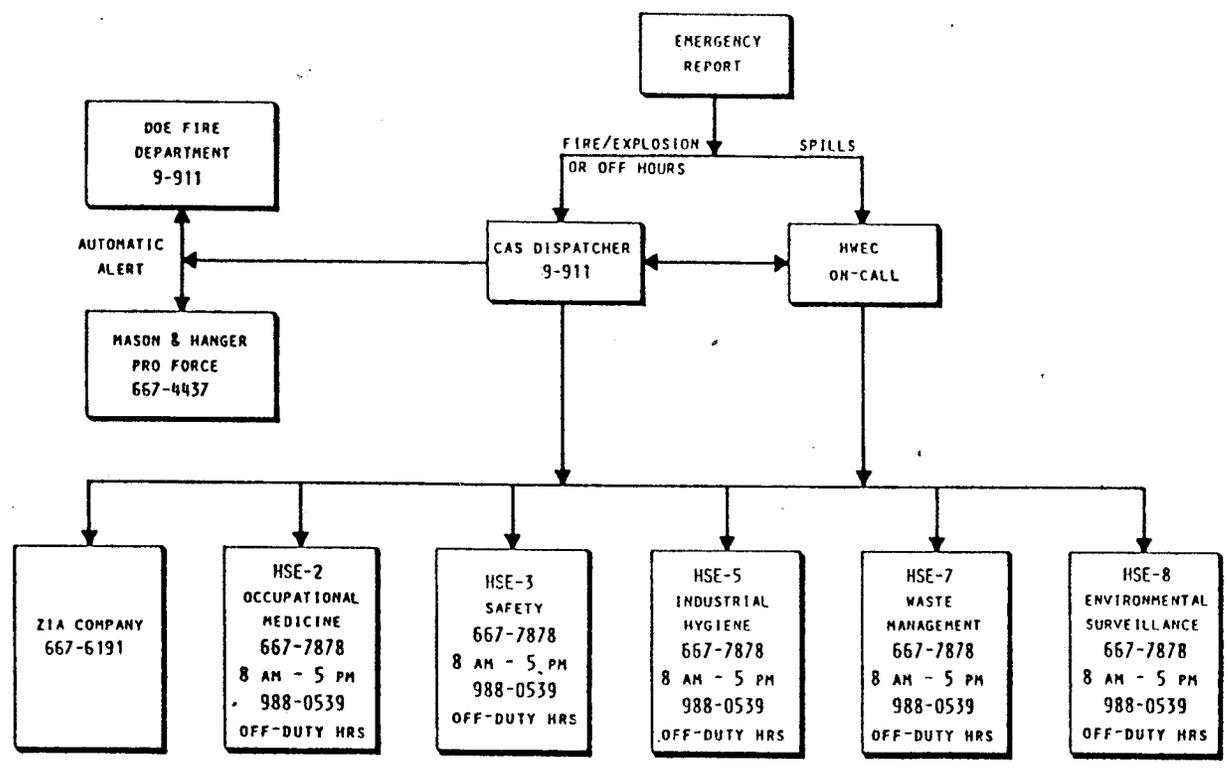


FIGURE 7-10
 HAZARDOUS WASTE
 EMERGENCY
 NOTIFICATION STRUCTURE
 PREPARED FOR

LOS ALAMOS NATIONAL LABORATORY
 LOS ALAMOS, NEW MEXICO



... Creating a Safer Tomorrow

PS Form 3811, Dec. 1980

● SENDER: Complete items 1, 2, 3, and 4.
Add your address in the "RETURN TO" space on reverse.

(CONSULT POSTMASTER FOR FEES)

1. The following service is requested (check one).
 Show to whom and date delivered \$
 Show to whom, date, and address of delivery.. \$

2. **RESTRICTED DELIVERY**
(The restricted delivery fee is charged in addition to the return receipt fee.) \$

TOTAL \$

3. ARTICLE ADDRESSED TO: *NM0549010515*
Los Alamos Scient. Lab.
Los Alamos, NM 87544

4. TYPE OF SERVICE:
 REGISTERED INSURED
 CERTIFIED COD
 EXPRESS MAIL

ARTICLE NUMBER
P333
853 176

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE Addressee Authorized agent
Shirley J. ...

5. DATE OF DELIVERY

6. ADDRESSEE'S ADDRESS *(Only if requested)*

7. UNABLE TO DELIVER BECAUSE:

7a. EMPLOYEE'S INITIALS

POSTMARK

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

RETURN TO

SENDER INSTRUCTIONS
Print your name, address, and ZIP Code in the space below.
• Complete items 1, 2, 3, and 4 on the reverse.
• Attach to front of article if space permits.
• Otherwise affix to back of article.
• Endorse article "Return Receipt Requested" adjacent to number.

UNITED STATES POSTAL SERVICE
OFFICIAL BUSINESS

PENALTY FOR PRIVATE USE TO AVOID PAYMENT OF POSTAGE, \$300



RCRA Nicholson
(Name of Sender)

(Street or P.O. Box)

(City, State, and ZIP Code)
