DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 27TH COMBAT SUPPORT GROUP (TAC)
CANNON AIR FORCE BASE, NM 88103

MAR 1991
RECEIVED
HAZARDOUS WASTE
PROGRAM

ENTERED

12 MAR 1991

Mr. Bill Gallagher, Chief
ALONM Section
RCRA Permits Branch
EPA Region VI
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202

Re: Permit #NM 5572124456, dated Jan 89 for Melrose Air Force Range (AFR), NM

Dear Mr. Gallagher

A revised Subpart X Part B permit application for the thermal treatment facility at Melrose AFR is enclosed. This application replaces the one dated January 1990. As discussed in our letter dated 15 May 1990, Cannon inadvertently left out information from the original application concerning the open detonation process and environmental compliance standards. These issues are addressed in this updated application.

Pictures of the open detonation process, which are currently being printed, will be forwarded to you under separate cover. These pictures clearly show that Cannon is treating very small quantities of explosives at Melrose AFR.

I am hopeful that this application will satisfy all of the requirements necessary to receive an operating permit. Cannon's point of contact for this application is Mr. Jim Richards at (505) 784-4639.

Sincerely

Thomas N. Chapman

THOMAS N. CHAPMAN, Colonel, USAF
Commander

1 Atch
Permit Application

cc: NMEID, Dr. Elizabeth Gordon w/Atch
HQ TAC/DEV w/o Atch
AFRCE/CR, Ronald Jahns w/o Atch
12 AF/DE w/o Atch

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RCRA PART B PERMIT APPLICATION

THERMAL TREATMENT FACILITY
AT
MELROSE AIR FORCE RANGE

DECEMBER 1990

PREPARED BY

ENVIRONMENTAL MANAGEMENT BRANCH

27TH CIVIL ENGINEERING SQUADRON

CANNON AIR FORCE BASE, NEW MEXICO 88103-3251

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(fill–in areas are spaced for elite type, i.e., 12 characters/inch). Form Approved – OMB No. 158-R0175

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

F NM 5 5 7 2 1 2 4 4 5 6 D

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill–in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space 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' YES	MARK 'X' NO	MARK 'X' FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge** to **waters of the U.S.**? (FORM 2A)		X	
B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge to waters of the U.S.**? (FORM 2B)		X	
C. Is this 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	
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		
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	
J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP MELROSE AIR FORCE RANGE

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 EARLS GARRY LT COL USAF BCE	505 784 2008

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 27 CSG/DE

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 CANNON AIR FORCE BASE	NM	88103

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

6 MI W & 5 MI S OF MELROSE NM

B. COUNTY NAME

CURRY & ROOSEVELT

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
6 CANNON AIR FORCE BASE	NM	88103	

CONTINUE ON REVERSE

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

A. FIRST	B. SECOND
9711 (specify) NATIONAL DEFENSE	7453 2 (specify) To Air Transporation, APT Flying Field, Fixed Facilit Related Service
C. THIRD	**D. FOURTH**
(specify)	7 (specify)

VIII. OPERATOR INFORMATION

A. NAME: THOMAS N CHAPMAN LT COL USAF MELROSE RANGE

B. Is the name listed in Item VIII-A also the owner? [X] YES [ ] NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)

F = FEDERAL
S = STATE
P = PRIVATE
M = PUBLIC (other than federal or state)
O = OTHER (specify)

F (specify)

D. PHONE (area code & no.): A 505 784 2761

E. STREET OR P.O. BOX: 27CSG/CC

F. CITY OR TOWN: CANNON AIR FORCE BASE

G. STATE: NM

H. ZIP CODE: 88103

IX. INDIAN LAND

Is the facility located on Indian lands? [ ] YES [X] NO

X. EXISTING ENVIRONMENTAL PERMITS

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

XI. MAP

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

XII. NATURE OF BUSINESS (provide a brief description)

This facility thermally treats outdated and unserviceable munitions.

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.

NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
THOMAS N. CHAPMAN, LT COL, USAF Combat Support Group Commander	Thomas N. Chapman	12 Mar 91

COMMENTS FOR OFFICIAL USE ONLY

(Blue lines are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-S80004

FORM 3 — EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER: F N M 5 5 7 2 1 2 4 4 5 6 — T/A: 1

OFFICIAL USE ONLY

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

II. FIRST OR REVISED APPLICATION

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

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

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

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

C	YR.	MO.	DAY
8	5 9	0 1	0 1

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

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

YR.	MO.	DAY

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

[ ] 1. FACILITY HAS INTERIM STATUS

[ ] 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES — CODES AND DESIGN CAPACITIES

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

B. **PROCESS DESIGN CAPACITY** — For each code entered in column A enter the capacity of the process.
1. AMOUNT — Enter the amount.
2. UNIT OF MEASURE — For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
STE PILE	S03	CUBIC YARDS OR CUBIC METERS
FACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

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

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

C — DUP — T/A: 1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S 0 2	600	G	
X-2	T 0 3	20	E	
	T 1 8	100	*	
2				
3				
4				

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
5				
6				
7				
8				
9				
10				

CONTINUE ON REVERSE

PROCESSES *(continued)*

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

Two distinct processes occur at the thermal treatment facility. The most commonly used one is open detonation. Approximately 15 lbs. permonth of unserviceable and out dated munitions are treated using this process.

The open burn process consists of burning approximately 20 lbs. of unserviceable munitions on an as needed basis (1-3 times per year).

*Unit of measure for Process Design Capacity is "Pounds per month".

DESCRIPTION OF HAZARDOUS WASTES

EPA HAZARDOUS WASTE NUMBER – Enter the four–digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four–digit number*(s)* from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

ESTIMATED ANNUAL QUANTITY – For each **listed waste** entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each **characteristic** or **toxic contaminant** entered in column A estimate the total annual quantity of all the non–listed waste*(s)* that will be handled which possess that characteristic or contaminant.

UNIT OF MEASURE – For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

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

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

PROCESSES

1. PROCESS CODES:
   For listed hazardous waste: For each **listed** hazardous waste entered in column A select the code*(s)* from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non–listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code*(s)* from the list of process codes contained in Item III to indicate **all** the processes that will be used to store, treat, and/or dispose of all the non–listed hazardous wastes that possess that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code*(s)*.

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

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

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

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

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	K 0 5 4	900	P	T 0 3 D 8 0	
2	D 0 0 2	400	P	T 0 3 D 8 0	
3	D 0 0 1	100	P	T 0 3 D 8 0	
4	D 0 0 2				included with above

CONTINUE ON PAGE 3

Continued from page 2.
NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)		FOR OFFICIAL USE ONLY	
A5572124456	T/A:	S: W	T/A:
	C: 1		C: 2
		DUP	DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	D003	200	P	T18	
2					
3					
4					
5					
6					
7					
8					
9					
10					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
25					
26					

EPA Form 3510-3 (6-80)

CONTINUE ON REVERSE

DESCRIPTION OF HAZARDOUS WASTES *(continued)*

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

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

N	M	5	5	7	2	1	2	4	4	5	6	T/A	C
													6

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)*.

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)*.

FACILITY GEOGRAPHIC LOCATION

LATITUDE *(degrees, minutes, & seconds)*	LONGITUDE *(degrees, minutes, & seconds)*
34 17 039	103 47 011

FACILITY OWNER

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

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

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. *(area code & no.)*

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
	C G		

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.

NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
THOMAS N. CHAPMAN, LT COL, USAF Combat Support Group Commander	Thomas N. Chapman	12 Mar 91

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.

NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED

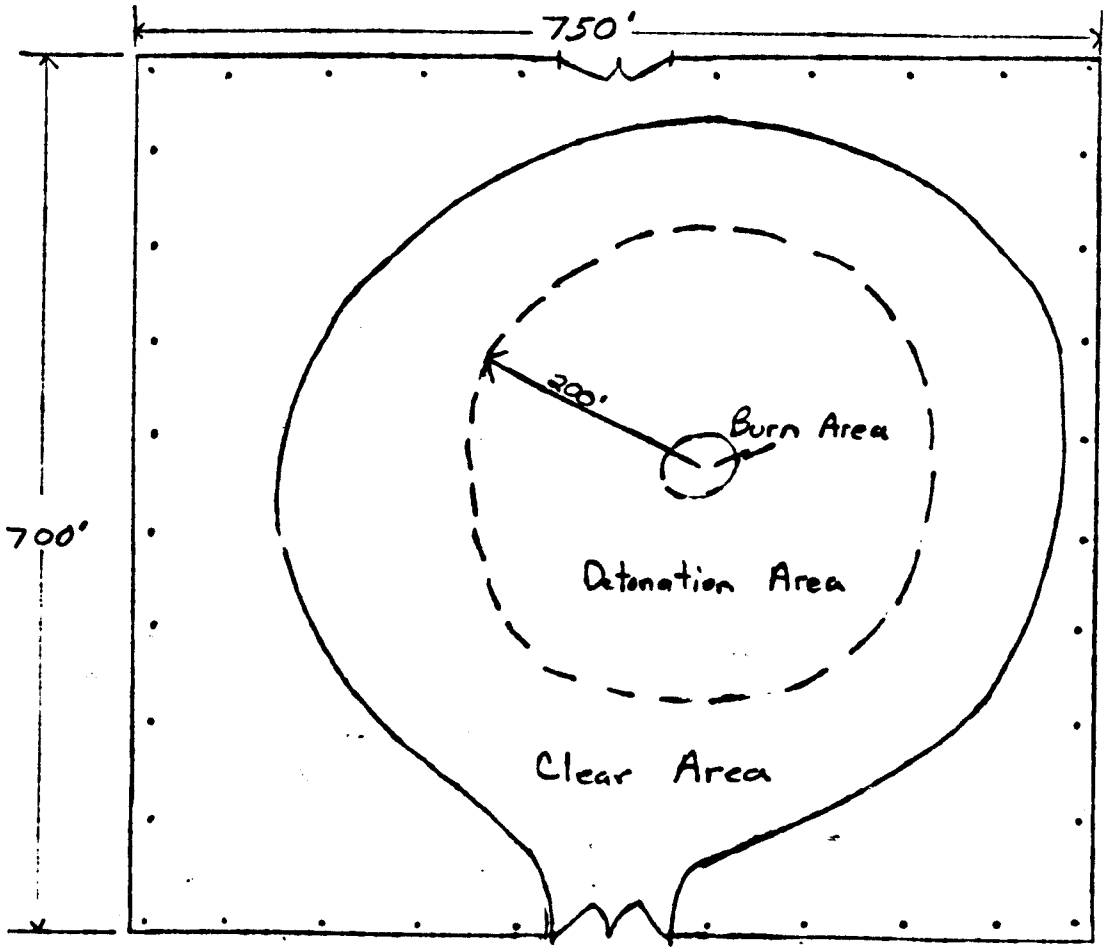
CONTINUE ON PAGE 5

Form Approved OMB No. 158-S80004

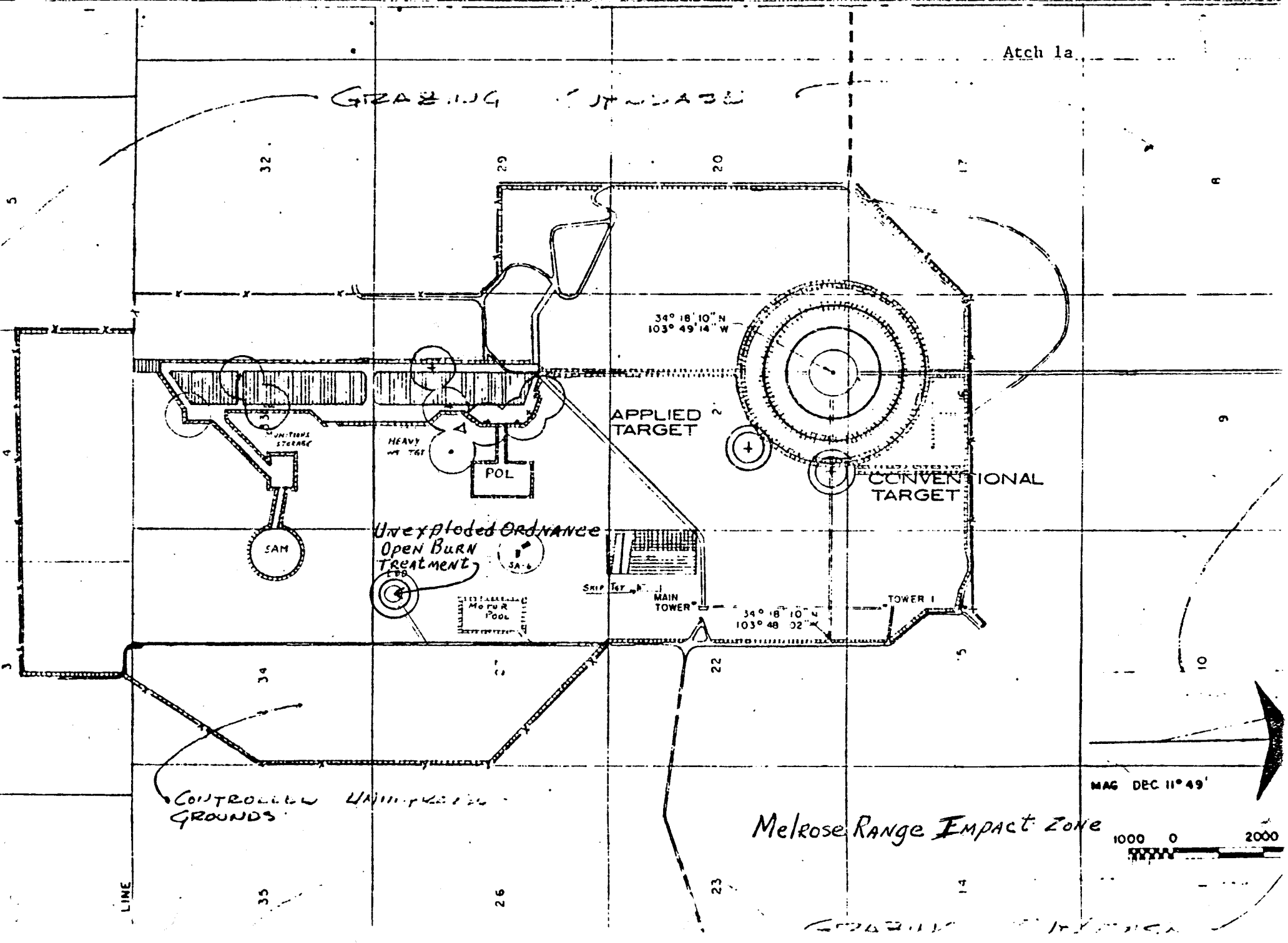
V. FACILITY DRAWING *(see page 4)*

Pictures sent in with original application dated 23 Mar 88.

Thermal Treatment Facility Diagram



Atch 1a


GRAZING
32
29
20
17
8
5
4
3
34
26
22
23
14
10
9
LINE
34° 18' 10" N
103° 49' 14" W
APPLIED TARGET
CONVENTIONAL TARGET
HEAVY WT TGT
POL
SAM
SA-6
Unexploded Ordnance Open Burn Treatment
MOTOR POOL
SKIP TGT
MAIN TOWER
34° 18' 10" N
103° 48' 02" W
TOWER 1
CONTROLLED GROUNDS
MAG DEC 11° 49'
Melrose Range Impact Zone
1000 0 2000

SECTION B

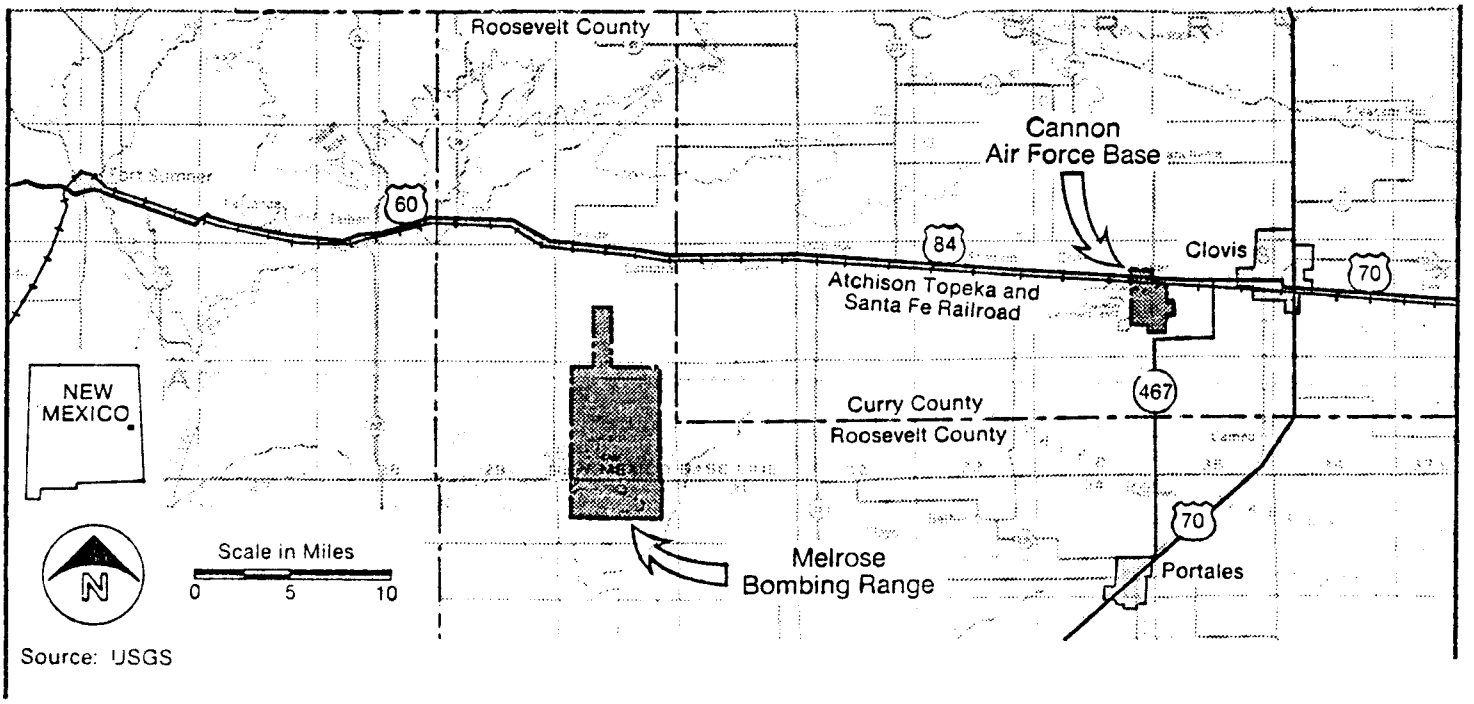
FACILITY DESCRIPTION

B.1 General Description [NMHWR-5 Part IX 270.14(b)(1)]

Melrose Air Force Range (AFR) is located in Roosevelt County, New Mexico, approximately 8 miles southwest of the Village of Melrose, New Mexico, and 25 miles west of Cannon AFB. The location of the range is shown on Figure B-1. It is comprised of approximately 60,040 acres of land, of which 8,560 acres form the impact area (exclusively for military use), 240 acres are used for roads and fire breaks, 49,177 acres serve as rangeland and 2,060 acres serve as cropland.

Figure B-1

Location Map of Cannon AFB and Melrose AFR



The Air Force originally leased 7,771 acres of grassland in early 1952 for use as a bombing and air-to-ground gunnery range. As faster aircraft with more complex weapons systems were introduced, the requirement for larger and more sophisticated range facilities grew accordingly. The range consists of a composite day and night simulated special and conventional weapon delivery range and a day/night tactical range. Live ordnance containing high explosives have not been used at the range since approximately 1969. Ordnance currently used at the range is limited to practice bombs, inert full-scale bombs, inert 2.75 inch rockets, target practice gun ammunition and .50 caliber and smaller live ammunition. The range is used primarily by F-111 aircraft from the 27th Tactical Fighter Wing at Cannon AFB and A-7D aircraft from the 105th Tactical Fighter Group, an Air National Guard unit at Kirtland AFB, New Mexico. The range is also used occasionally by 14 other Air Force, Air Force Reserve, Air National Guard, Navy, and Marine units.

B.2 Topographic Map [NMHWR-5 Part IX 270.14(b)(19)]

The location of the thermal treatment facility is indicated on the map of Melrose AFR included in Figure B-2. The map is drawn at a scale of 1-inch equal to 2,000 feet. The contour interval is ten feet.

B.2.a General Requirements

B.2.a.(1) Land Uses [NMHWR-5 Part IX 270.14(b)(19)(iv)]

The closest dwelling to Melrose AFR is located 4.56 miles away on Sundale Road.

B.2.a.(2) Facility Boundary [NMHWR-5 Part IX 270.14(b)(19)(vii)]

The thermal treatment area is located 9500 feet from the closest boundary of Melrose AFR.

TO VIEW THE MAP AND/OR MAPS WITH THIS DOCUMENT, PLEASE CALL THE HAZARDOUS WASTE BUREAU AT 505-476-6000 TO MAKE AN APPOINTMENT

B.2.a.(3) Wind Rose [NMHWR-5 Part IX 270.14(b)(19)(v)]

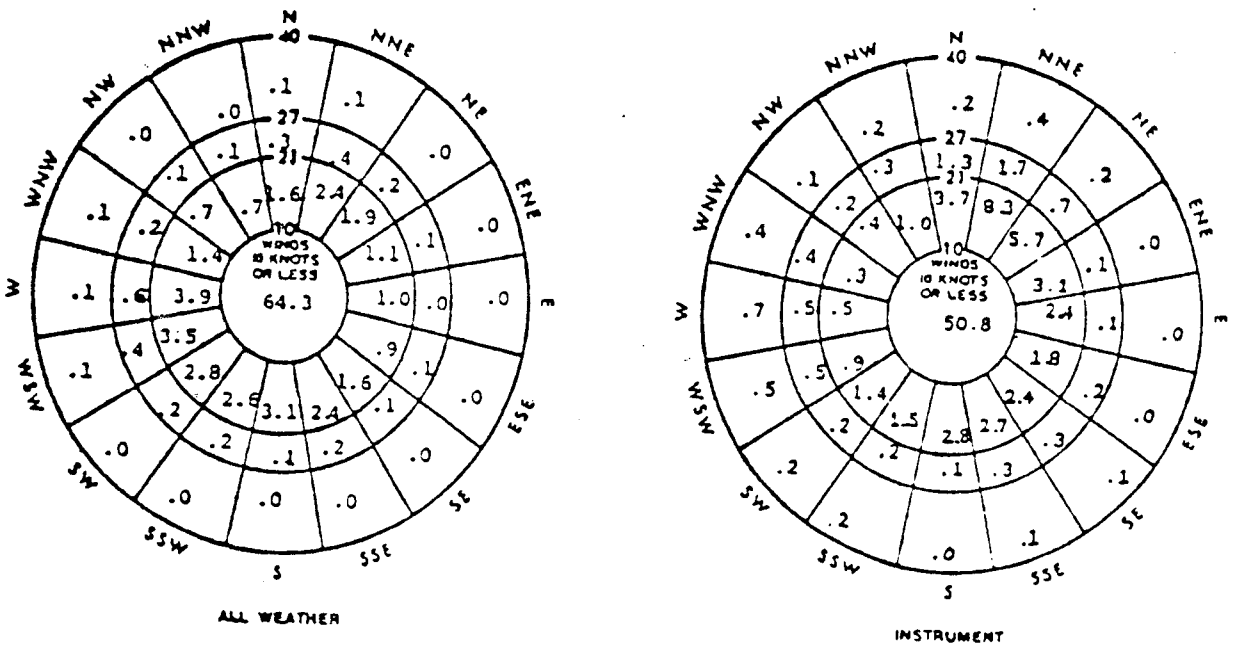
Figure B-3 illustrates the annual wind rose of meteorological data collected during the period of January 1943 to February 1981 at Cannon AFB. The wind roses show the total percent of winds by speed group and direction based on true bearing.

B.2.a.(4) Access Control [NMHWR-5 Part IX 270.14(b)(19)(viii)]

The Melrose AFR thermal treatment facility is surrounded by a five foot high, five strand barbed wire fence. This facility has two gates which are locked at all times except during the open burning and open detonation (OB/OD) process.

Figure B-3

Wind Roses



.2.a.(5) Injection and Withdrawal Wells [NMHWR-5 Part IX 270.14(b)(19)(ix)]

One potable water well is located on Melrose AFR, approximately 12,000 feet from the thermal treatment facility, as shown on the range map (Figure B-2).

B.2.a.(6) Buildings, Treatment, Storage, Disposal Areas, and other Structures [NMHWR-5 Part IX 270.14(b)(19)(x)]

The thermal treatment facility is approximately 700 feet by 750 feet. The facility is surrounded by a five foot high, five strand barb wire fence with two entrance gates. A 250 foot diameter circle centered in the facility is kept clear of grass and brush.

B.2.a.(7) Recreation Areas [NMHWR-5 Part IX 270.14(b)(19)(x)]

No recreation areas are located within 1,000 feet of Melrose AFR.

B.2.a.(8) Run-off Control Systems [NMHWR-5 Part IX 270.14(b)(19)(x)]

No liquids remain as a result of the treatment process at Melrose AFR. The open burn process consumes all of the ignition source (fuel). Liquids are not present nor are they created during open detonation. Empty metal casings are the only residue which remain.

B.2.a.(9) Storm, Sanitary and Process Sewer [NMHWR-5 Part IX 270.14(b)(19)(x)]

No storm or sanitary sewers are located near the thermal treatment facility. A septic tank/drainfield system is used for the disposal of domestic waste on Melrose AFR.

There are no process sewers located on Melrose AFR.

B.2.a.(10) Loading and Unloading Areas [NMHWR-5 Part IX 270.14(b)(19)(x)]

No loading or unloading area exists at the facility.

B.2.a.(11) Fire Control Facilities [NMHWR-5 Part IX 270.14(b)(19)(x)]

A well is located on Melrose AFR to provide water for fire control. The Cannon AFB Fire Department remains on standby at its Melrose compound during the treatment process.

B.2.a.(12) Surface Waters [NMHWR-5 Part IX 270.14(b)(19)(iii)]

Floodplain Statement be certified!

There are no surface water areas on Melrose AFR.

B.2.a.(13) Flood Control/Drainage Barriers [NMHWR-5 Part IX 270.14(b)(19)(xi)]

This facility is not located in a floodplain.

B.3 Location Information [NMHWR-5 Part IX 270.14(b)(11)]

B.3.a Seismic Considerations [NMHWR-Part IX 270.14(b)(11)(i) and (ii), and Part V 264.18(a)]

Melrose AFR is located in Roosevelt County which does not require seismic data per NMHWR-5 Part V 264, Appendix VI.

B.3.b Floodplain Standard [NMHWR-5 Part IX 270.14(b)(11)(iii) and Part V 264.18(b)]

Melrose AFR is not located in the 100-year floodplain. There are no Flood Insurance Rate maps available because the range is not included in a National Flood Insurance Program.

B.4. Traffic Information [NMHWR-5 Part IX 270.14(b)(10)]

Outdated and/or excess munitions are transported to the thermal treatment facility from Cannon AFB once per month. These shipments are generally 15 to 20 pounds and are transported by pick-up or 1-1/2 ton trucks, diesel or gas, meeting the requirements for vehicles carrying explosives.

B.4.a Traffic Control [NMHWR-5 Part IX 270.14(b)(10)]

Melrose AFR is located approximately 25 miles west of Cannon AFB. The facility can be accessed from Route 60/84 by turning south on Route 487 (east of Melrose) and then turning west on Sundale Road.

B.4.b Access Road Surfacing [NMHWR-5 Part IX 270.14(b)(10)]

All access roads to the Melrose AFR offices are asphalt surfaced, generally with 1-1/2 to 2 inches of hot mix asphaltic concrete. There is approximately one mile of dirt roads between the range offices and the thermal treatment facility. These dirt roads are maintained by Arcata, the contractor who manages the range.

B.4.c Load-Bearing Capacity [NMHWR-5 Part IX 270.14(b)(10)]

All access routes to Melrose AFR are capable of handling pickup trucks carrying unexploded munitions.

B.4.d Traffic Control Signals [NMHWR-5 Part IX 270.14(b)(10)]

The only traffic control signals going to the range from Cannon AFB are a stop sign at the base entrance and at the intersection of Ranchvale Road and Route 60/84.

SECTION C

WASTE CHARACTERISTICS

C.1 Chemical and Physical Analyses [NMHWR-5 Part IX 270.14(b)(2), 264.13(a), 270.62(b)(2)(i)]

A wide variety of small munition items and dud fired practice bombs are treated at the Melrose AFR thermal treatment facility. Larger items, however, are sent to centralized munitions depots for treatment. Table C-1 lists typical munitions which are treated at the range.

C.1.a Containers (Guidance) [NMHWR-5 Part IX 270.15(a), 264.275(a)]

All munitions will be treated in their original product container. These containers are designed to provide longterm stability for energetic material.

C.1.b Tanks (Guidance) [NMHWR-5 Part IX 270.16, 264.190(a)]

This facility will not utilize storage tanks.

C.1.c Wastes Piles (Guidance) [NMHWR-5 Part IX 270.18, 264.250(a)]

No wastes piles will be maintained at this facility.

C.1.d Surface Impoundments (Guidance) [NMHWR-5 Part IX 270.17(a)]

This facility has no surface impoundments.

Table C-1
Typical Waste Munitions

Cartridges	Miscellaneous
Fire extinguisher cartridge	Detonation cord
Impulse cartridge	Infrared flares
Booster cartridge	Marker charge
25 Caliber cartridge	20 Gauge shotgun shells
30 Caliber cartridge	Personal distress kits

C.1.e Incinerators [NMHWR-5 Part IX 270.62(b)(2)(i)]

No wastes will be incinerated at this facility.

C.1.f Landfills (Guidance) [NMHWR-5 Part IX 270.21, Part V 264.300]

No landfill will be maintained at this facility.

C.1.g Land Treatment (Guidance) [NMHWR-5 Part IX 270.20, Part V 264.270]

No land treatment units will exist at this facility.

C.1.h Additional Requirements for Land Storage, Treatment and Disposal Facilities [NMHWR-5 Part IX 270.14(c)]

None required.

C.2 Waste Analysis Plan [NMHWR-5 Part V 264.13(b) and (c) and 264.341]

The wastes treated at the thermal treatment facility have essentially the same composition as serviceable munitions. In the same way, the composition of dud fired practice bombs are essentially the same as good practice bombs.

C.2.a Parameters and Rationale [NMHWR-5 Part V 264.13(b)(1)]

Open burning and open detonation (OB/OD) are believed to consume virtually all of the waste munition's energetic material. The DoD study, "Identification and Characterization of Emissions and Residues from Open Burning and Open Detonations of Munitions," proves this point through a series of studies and experiments which have been coordinated with the EPA. The study examines the environmental affects of thermally treating munitions at large demilitarization facilities run by the US Army, Armament, Munitions and Chemical Command (AMCCCOM). The draft final report will be published by 31 Dec 90. The scale of the Melrose AFR thermal treatment facility, which is miniscule compared to these centralized DoD treatment facilities, further

reduces the potential for any significant release to the environment. Additionally, results from past sampling events at Melrose AFR (Appendix C-1) indicate that the surrounding soils are not EP toxic and that contaminants have not migrated to underlying soils.

To verify that no significant releases to the environment are occurring analysis will continue to be performed on the soil annually. Based on the composition of the energetic material being treated (as identified in Section C-1) all soil samples will be analyzed for reactivity and TCLP metals. Due to the use of diesel fuel as an ignition source during open burning, the samples will also be analyzed for oil and grease.

Air and water samples will not be taken for the reasons outlined in Section E.

C.2.b. Test Methods. All tests will be performed by an EPA approved lab in accordance with SW 846, "Test Methods for Evaluating Solid Waste," as listed below.

Reactivity	SW 846 Section 2.1.3
TCLP - metals	SW 846 Section 2.1.4
Oil and grease	E 413

C.2.c. Sampling Methods. Split spoon samples will be taken to a depth of 8" using a clean stainless steel trowel. Approximately 10 random samples of the surface soil will be taken from within the OB/OD area and combined into a composite. The sample locations will be marked on a map of the thermal treatment facility.

C.2.d. Sampling Frequency. Samples will be taken from the thermal treatment facility following each year of use.

C.2.e. Chain of Custody. Samples will be sent to an EPA approved lab in a

Figure C-1

Chain of Custody Record

Figure A-2 Chain-of-Custody Record

Survey

Samplers: *Signature*

Station Number	Station Location	Date	Time	Sample Type: Water Comp	Sample Type: Water Grab	Sample Type: Air	Seq. No	No. of Containers	Analyses Required

Relinquished by: *Signature*	Received by: *Signature*	Date/Time
Relinquished by: *Signature*	Received by: *Signature*	Date/Time
Relinquished by: *Signature*	Received by: *Signature*	Date/Time
Relinquished by: *Signature*	Received by Mobile Laboratory for Field analysis: *Signature*	Date/Time
Dispatched by: *Signature* — Date/Time	Received for Laboratory by:	Date/Time

Method of Shipment:

Distribution: Orig.—Accompany Shipment
1 Copy—Survey Coordinator Field Files

Figure C-2

Sample Submission Form

BULK MATERIAL SAMPLING DATA

OEHL USE ONLY

(Use this space for mechanical imprint)

WORKPLACE OR SITE IDENTIFIER

BASE

ORGANIZATION

WORKPLACE OR SITE

DATE COLLECTED (YYMMDD)

BLDG NO/LOCATION

ROOM/AREA

MAIL REPORTS TO (circle if change)

ORIGINAL

COPY 1

COPY 2

SAMPLE COLLECTED BY (Name, Grade, AFSC)

SIGNATURE

AUTOVON

REASON FOR SUBMISSION

A-ACCIDENT/INCIDENT C-COMPLAINT F-FOLLOWUP/CLEANUP
R-ROUTINE BACKGROUND/PERIODIC SURVEY O-OTHER

OEHL PID

SOURCE BEING SAMPLED

EXISTING CONTROLS (Personal protective equipment, Engineering, Administrative)

SAMPLE COLLECTION DATA

OEHL SAMPLE NUMBER

BASE SAMPLE NUMBER

ANALYSES REQUESTED

A CHECK FOR ☐ MAJOR COMPONENTS ☐ MAJOR COMPONENTS

B NAME

NIOSH NO

C NAME

NIOSH NO

D NAME

NIOSH NO

E CHECK FOR ☐ HAZARDOUS/TOXIC WASTE ☐ HAZARDOUS/TOXIC WASTE

MATERIAL NAME

LOT NUMBER

NSN / FSN

SPECIFICATION (MIL or FED)

MANUFACTURER'S NAME

DESCRIPTION OF MATERIAL USAGE (Heated, blended, sprayed, etc)

SUPPORTING SAMPLES

OEHL SAMPLE NO

BASE SAMPLE NO

SAMPLE TYPE

COMMENTS

AF FORM JAN 81 2751

sealed container. A Chain-of-Custody record (Figure C-1) will be filled out, signed and placed in a plastic bag along with the usual sample submission form (Figure C-2) and sealed in the shipping container. A duplicate will be kept by Bioenvironmental Engineering (SGPB) with the duplicates of the sample submission forms. Lab personnel will acknowledge receipt of the samples in good condition by signing the Chain-of-Custody form and returning it to Cannon AFB. If the container is damaged in any way or not sealed when the lab receives the package, the technician will so annotate on the form.

C.2.f. Record Keeping. Sample results (along with Chain-of-Custody forms) will be maintained by SGPB, Explosive Ordnance Disposal (EOD) and Environmental Management (DEV) for at least three years.

C.2.g. Additional Requirements for Facilities Handling Ignitables, Reactive, or Incompatible Waste [NMHWR-5 Part V 264.13(b)(6) and 264.17]

Precautions to prevent the accidental ignition or reaction of ignitable, reactive, or incompatible wastes are described in Section F-5 of this permit application.

Appendix C-1

Soil Analysis Results from Past Sampling Events

LABORATORY ANALYSIS REPORT AND RECORD (General)	DATE 1 8 JUN 1990
TO:	FROM:
SAMPLE IDENITY Soil	DATE RECEIVED
SAMPLE FROM	LAB CONTROL NR
TEST FOR	

Workcenter I.D. MK-90-19 Date Received: May 31, 1990

Base # GS900231 Date Started: May 31, 1990

OEHL # 033678 Date Completed: June 13, 1990

Lab # 9009530

Parameter	Concentration	Quant. Limit	Method
EP Toxicity (mg/L):			1310
Arsenic	<0.5	0.5	6010
Barium	<10	10	6010
Cadmium	<0.1	0.1	6010
Chromium	<0.5	0.5	6010
Lead	<0.5	0.5	6010
Mercury	<0.02	0.02	7470
Selenium	<0.1	0.1	6010
Silver	<0.5	0.5	6010
Reactivity (mg/kg dry weight):			SW846Ch.8.3
Cyanide	<0.26	0.26	
Sulfide	<12.8	12.8	

MICHAEL J. WANTLAND, TSgt, USAF,
NCOIC Occupational Chemistry Branch

SAMPLES ANALYSED BY CONTRACT LAB

REQUESTING AGENCY (MAILING ADDRESS)	
Cannon AFB 27 Medical Group (TAC)/SGPB Cannon AFB, NM 88103-5300	Analyzed by Biospherics Incorporated

LABORATORY ANALYSIS REPORT FOR RECORD | DATE 16 Dec 87

SAMPLE IDENTITY: EOD Burn Pit At Mel Rose Range

| ORDER: USAFOEHL/SA BROOKS AFB TX 78235-5501

DATE RECEIVED: 6 Oct 1987

| DEHL #

E.P. TOXICITY METALS ANALYSIS (UNITS = Mg/L)

BASE #	G8870584	G8870585			
DEHL #	65474	65475			
Arsenic 1002	<0.01	<0.01			
Barium 1007	<1.0	<1.0			
Cadmium 1027	<0.01	<0.01			
Chromium 1034	<0.05	<0.05			
Lead 1051	<0.1	0.12			
Mercury 71900	<0.01	<0.01			
Selenium 1147	<0.01	<0.01			
Silver 1077	<0.01	<0.01			

MICHAEL J. WANDLAND, TSgt, USAF
NCOIC Occupational Chemistry Branch

Requesting Agency:
27 Med Group (TAC) / SGPB
Cannon A.F.B. N.M.
88103-3381

Edward A. Hrna

EDWARD A. HRNA
Physical Science Technician
Metals Analysis Section

TO:

FROM: USAF OEHL/BA
Brooks AFB TX 78235-5000

SAMPLE DESCRIPTION: G5870584 + G5870585 soil samples

DATE RECEIVED: 6 Oct

LAB CONTROL: G5474-75

REVIEW:

Hazardous Waste Analyses by: Infrared Spectrograph: X-ray fluorescence: PH measurement Gas Chromatograph: closed cup flash pt. Testor: Other

OEHL No.	Base No.	Ignitable Below 140°F	Corrosivity and/or Reactivity	RESULTS OF ANALYSIS
G5474	870584	—	—	Does not ignite with applied flame
G5475	870585	—	—	Does not ignite with applied flame

REQUESTING AGENCY (Mailing Address)

J7 Med Gp/SGPB
Cannon AFB
NM 88103-3381

J. D. Hillsberry

J. D. HILLSBERRY, GS-12
Chief, Industrial Products and Compressed Gas Analysis Section

LABORATORY ANALYSIS REPORT AND RECORD

DATE 16 Dec 87

SAMPLE IDENTITY: EOD Burn Pit At MelRose Range

FROM: USAFSAM/VSA BROOKS AFB TX 78235-5501

DEML #

DATE RECEIVED: 6 Oct 1987

E.P. TOXICITY METALS ANALYSIS (UNITS = Mg/L)

BASE #	G3870584	G3870585			
DEML #	65474	65475			
Arsenic 1002	<0.01	<0.01			
Barium 1007	<1.0	<1.0			
Cadmium 1027	<0.01	<0.01			
Chromium 1034	<0.05	<0.05			
Lead 1051	<0.1	0.12			
Mercury 71900	<0.01	<0.01			
Selenium 1147	<0.01	<0.01			
Silver 1077	<0.01	<0.01			

Michael [illegible]
NCOIC Occupational Chemistry Branch

Requesting Agency:
27 Med Group (TAC) / SGPB
Cannon A.F.B. N.M.
88103-3381

Edward A. Hrna

EDWARD A. HRNA
Physical Science Technician
Metals Analysis Section

LABORATORY ANALYSIS REPORT AND RECORD (Continued)

PAGE 1 of 1

FROM: USAF OEHL/BA
Brooks AFB TX 78235-5000

DATE RECEIVED: 6 Oct 87

LAB CONTROL NO: 65474-75

SAMPLE DESCRIPTION: 65870584 & 65870585 soil samples

SAMPLE TYPE: Hazardous Waste

Analyses by: Infrared Spectrograph: X-ray fluorescence: PH measurement: Gas Chromatograph: closed cup flash pt. Testor: Other

OEHL No.	Base No.	Ignitable below 140°F	Corrosivity and/or Reactivity	RESULTS OF ANALYSIS
65474	870584	—	—	Does not ignite with applied flame
65475	870585	—	—	Does not ignite with applied flame

REQUESTING AGENCY (Mailing Address)

27 Med Gp/SGPB
Cannon AFB
NM 88103-3381

J. D. Hillsberry

J. D. HILLSBERRY, GS-12
Chief, Industrial Products and Compressed Gas Analysis Section

DAT PERFORMING ANALYSIS: OE HL

LAB SAMPLE NUMBER: 065461 065462

G. REQUESTOR SAMPLE NO: G5870584

SAMPLE COLLECTION INFORMATION

SITE DESCRIPTION: 6 OCT 1987

8. SITE LOCATION NO	9. FLOW RATE AT SITE 00058 GAL/MIN	10. WEATHER 00041	16. WATER TEMP 00010 °C	17. PH 00400 UNITS	18. DISS O2 00300 MG/L

4. RECEIVED BY LAB	5. DATE ANALYSIS COMPLETED
6 OCT. 87	13 OCT. 87

ON-SITE ANALYTICAL RESULTS

11. COLLECTION DATE/PERIOD	12. COLLECTOR'S NAME	19. RESULTS OF OTHER ON-SITE ANALYSES

13. SAMPLING TECHNIQUE	14. PHONE NUMBER

15. REASON FOR SAMPLE SUBMISSION: WPDES

ANALYSES REQUESTED AND RESULTS 065462

PRESERVATION GROUP A

PARAMETER	TOTAL	MG/L
Chemical Oxygen Demand	00340	
Total Organic CARBON as C	00680	

065461

PRESERVATION GROUP B

PARAMETER	TOTAL	MG/L
OIL & GREASE FREON-IR Method	00550	6.90

PRESERVATION GROUP C

PARAMETER	TOTAL	MG/L
AMMONIA as N	00610	
NITRATE as N Cd Reduct. Method	00620	
NITRITE as N	00615	
TOTAL KJELDAHL NITROGEN as N	00625	
PHOSPHORUS Ortho PO4 as P	70507	
PHOSPHORUS as P	00665	

PRESERVATION GROUP D

PARAMETER	TOTAL	MG/L
CYANIDE	00720	
CYANIDE Free, Amenable to Cl	00722	

PRESERVATION GROUP E

PARAMETER	TOTAL	µG/L
PHENOLS	32730	

PRESERVATION GROUP F (282)

PARAMETER	DISS	TOTAL	µG/L
ARSENIC	01000	01002	2.8
BARIUM	01005	01007	182.3
CADMIUM	01025	01027	1.2
CHROMIUM	01030	01034	9.9
CHROMIUM Hexavalent		01032	
COPPER	01040	01042	
IRON	01046	01045	
LEAD	01049	01051	<2.0
MANGANESE	01056	01055	
MERCURY	71890	71900	<0.1
NICKEL	01065	01067	
SELENIUM	01145	01147	<1.0
SILVER	01075	01077	<1.0
ZINC	01090	01092	
CALCIUM as Ca	00915	00916	mg/l
MAGNESIUM as Mg	00925	00927	mg/l
POTASSIUM	00935	00937	mg/l
SODIUM	00930	00929	mg/l

PRESERVATION GROUP G

PARAMETER	TOTAL	MG/L
BORON	01022	µg/l
BORON, Dissolved	01020	µg/l
CHLORIDE	00940	
COLOR	00080	Units
FLUORIDE	00951	
Residue Filterable (TDS)	00515	
Residue Non Filt (SS)	00530	
Residue	00500	
Residue Volatile	00505	
Specific Conductance	00095	µmhos
SULFATE as SO_4	00945	
SURFACTANTS MBAS as LAS	38260	
TURBIDITY	00076	Units

PRESERVATION GROUP J

PARAMETER		

1. ORGANIZATION REQUESTING ANALYSIS: 27 Med GP (TAC)/SGPB

CANNON AFB NM 88103-5381

CHEMIST: DAT REL OB CHMTPRP

REVIEWED BY:

APPROVED BY: [signature]

AFSC Form 3145, DEC 85 REPLACES AMD FORM 201, MAR 83, WHICH IS OBSOLETE

NON-POTABLE WATER ANALYSIS

ORY PERFORMING ANALYS	3. LAB SAMPLE NUMBER	4. REQUESTOR SAMPLE NO
OEHL	065463	G5870585

SAMPLE COLLECTION INFORMATION

5. DATE RECEIVED BY LAB	6. DATE ANALYSIS COMPLETED
6 OCT, 87	13 OCT, 87

SITE DESCRIPTION

-S OT...

8. SITE LOCATION NO	9. FLOW RATE AT SITE 00056 GAL/MIN	10. WEATHER 00041
11. COLLECTION DATE/PERIOD	12. COLLECTOR'S NAME	
13. SAMPLING TECHNIQUE	14. PHONE NUMBER	
15. REASON FOR SAMPLE SUBMISSION NPDES e		

ON-SITE ANALYTICAL RESULTS

16. WATER TEMP 00010 °C	17. PH 00400 UNITS	18. DISS O2 00300 MG/L

19. RESULTS OF OTHER ON-SITE ANALYSES

A 065463 ED AND RESULTS

PRESERVATION GROUP A

PARAMETER	TOTAL	MG/L
Chemical Oxygen Demand	00340	
Total Organic CARBON as C	00680	

PRESERVATION GROUP B

PARAMETER	TOTAL	MG/L
OIL & GREASE FREON-IR Method	00560	

PRESERVATION GROUP C

PARAMETER	TOTAL	MG/L
AMMONIA as N	00610	
NITRATE as N Cd Reduct. Method	00620	
NITRITE as N	00615	
TOTAL KJELDAHL NITROGEN as N	00625	
PHOSPHORUS Ortho PO4 as P	70507	
PHOSPHORUS as P	00665	

PRESERVATION GROUP D

PARAMETER	TOTAL	MG/L
CYANIDE	00720	
CYANIDE Free, Amenable to Cl_2	00722	

PRESERVATION GROUP E

PARAMETER	TOTAL	µG/L
PHENOLS	32730	

ON GROUP F 202

PARAMETER	DISS	TOTAL	µG/L
ARSENIC	01000	01002	3.4
BARIUM	01005	01007	199.8
CADMIUM	01025	01027	1.2
CHROMIUM	01030	01034	10.2
CHROMIUM Hexavalent		01032	
COPPER	01040	01042	
IRON	01046	01045	
LEAD	01049	01051	<2.0
MANGANESE	01056	01055	
MERCURY	71890	71900	<0.1
NICKEL	01065	01067	
SELENIUM	01145	01147	<1.0
SILVER	01075	01077	<1.0
ZINC	01090	01092	
CALCIUM as Ca	00915	00916	mg/l
MAGNESIUM as Mg	00925	00927	mg/l
POTASSIUM	00935	00937	mg/l
SODIUM	00930	00929	mg/l

PRESERVATION GROUP G

PARAMETER	TOTAL	MG/L
BORON	01022	µg/l
BORON, Dissolved	01020	µg/l
CHLORIDE	00940	
COLOR	00080	Units
FLUORIDE	00951	
Residue Filterable (TDS)	00515	
Residue Non Filt (SS)	00530	
Residue	00500	
Residue Volatile	00505	
Specific Conductance	00095	µmhos
SULFATE as SO_4	00945	
SURFACTANTS MBAS as LAS	38260	
TURBIDITY	00076	Units

PRESERVATION GROUP J

PARAMETER		

1. ORGANIZATION REQUESTING ANALYSIS

CANNON

CHEMIST

EHJMTPP

REVIEWED BY

APPROVED BY

AFSC Form 3145, DEC 85 REPLACES AMD FORM 201, MAR 83, WHICH IS OBSOLETE.

NON-POTABLE WATER ANALYSIS

SECTION D

PROCESS INFORMATION

D.1 Containers [NMHWR-5 Part V 264.171]

Hazardous waste is not containerized at this facility; therefore, Section D.1 is not applicable.

D.2 Tanks [NMHWR-5 Part IX 270.16]

Section D.2 is not applicable.

D.3 Waste Piles [NMHWR-5 Part IX 270.18]

Section D.3 is not applicable.

D.4 Surface Impoundments [NMHWR-5 Part IX 270.17]

Section D.4 is not applicable.

D.5 Incinerators [NMHWR-5 Part IX 270.19]

Section D.5 is not applicable.

D.6 Landfills [NMHWR-5 Part IX 270.21]

Section D.6 is not applicable.

D.7 Land Treatment [NMHWR-5 Part IX 270.20]

Section D.7 is not applicable.

D.8 Thermal Treatment [NMHWR-5 Part IX 270.23]

There are two distinct processes which occur at the Melrose AFR thermal treatment facility: open detonation and open burning. Open detonation is used whenever possible because it is cleaner and safer. On occasion open burning may be specified as the sole means of treatment.

The maximum amount of energetic material that can be disposed of on Melrose AFR at one time is 100 pounds. Most operations involve the treatment of 10-20 pounds of energetic material.

D.8.a. Type, Quantity, Collection and Transportation of Waste

Munitions become wastes when either their shelf life expires or when they are determined to be unserviceable. As routine inspections are conducted in the munition storage area, outdated and damaged materials are set aside.

Once a month, approximately 15 lbs. of munitions are brought to the facility for treatment. An Ammunition Disposal Record (ADR) is prepared which lists the quantity, nomenclature and disposition method for each item. A hazardous waste manifest is also prepared in accordance with NMHWR-5 Part V 264.70. The munitions transported to the range from the base are packaged in containers of equal or greater strength than those described in 49 CFR Part 173 Subpart C - Explosives and Blasting Agents; Definition and Preparation. Chapter 7 of AF Regulation 127-100, "Explosives Safety Standards," which describes procedures for the safe transportation of explosive materials is included at the end of this section as Appendix D-1. Larger items are sent to centralized munition disposal facilities.

In addition to munitions, unexploded practice bombs are detonated at the thermal treatment facility. These dud fired practice bombs are identified and gathered during monthly range clearances. Approximately 150 bombs, with a net explosive weight of 3 lbs. are collected and treated monthly. Cannon AFB Regulation 136-18, "Decontamination of Melrose Bombing/Gunnery Range and disposal of Air Munitions," which describes the procedures for range clearance and other range operations is included as Appendix D-2.

A third use of the thermal treatment facility is for emergency disposal. On an as needed basis, approximately twice a year, EOD responds to calls from surrounding communities which have uncovered a suspected explosive. Usually

the explosive will be disposed of in place, but under certain circumstances it may be safer to treat the explosive at the thermal treatment facility. Any such activity will be reported to NMEID within 30 days of treatment.

D.8.b. Open Detonation

As explained above, open detonation is the preferred method of treatment. All range clearance items are detonated and virtually all outdated and unserviceable munitions are detonated. The steps used in the open detonation process are listed below.

Inspect the area for safety and security.

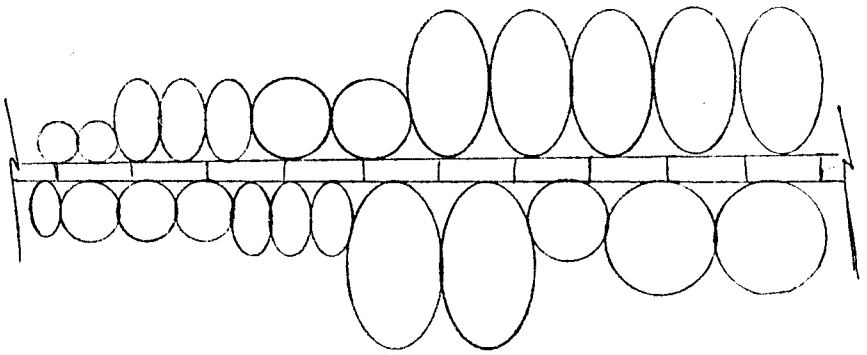
Insure that the OB/OD area (a circular area, 200' in radius) is cleaned and cleared.

Examine munitions to make certain that all removable detonator and blasting caps are removed to avoid unexpected detonation.

Line up munitions as shown in Figure D-1.

Figure D-1

Munitions Lineup (Schematic)



Outdated or Unserviceable Munitions

C-4 Detonating Charge (RDX)

Prepare the initiation set up.

After clearance is obtained initiate charges and depart area.

Conduct a post detonation inspection to insure that all munitions are thoroughly treated.

When determined safe, secure the area.

D.8.c. Open Burning

Open burning was the primary method used to treat out of date and unserviceable munitions at the thermal treatment facility until 1987. Since then, however, it has only been used when absolutely necessary. In 1989 open burning was used to treat less than 4 lbs. of energetic material.

D.8.c.1 Small Burns

In order to open burn small quantities of munitions (up to 5 Lbs of energetic material) the following steps will be taken.

Inspect the area for safety and security.

Insure that the OB/OD area (a circular area, 200' in radius) is cleaned and cleared.

Obtain a metal container free of holes and leaks of sufficient size to contain the munitions.

Examine munitions to make certain that all removable detonator and blasting caps are removed to avoid unexpected detonation.

Place approximately 1 foot of combustible material, such as scrap wood, in the bottom of the container.

Place munitions on combustible material, ensuring that the combustible material extends beyond the layer of munitions.

Pour approximately 2.5 gallons of diesel fuel over the pile.

Ignite the material using an ignition train.

Conduct a post burn inspection to insure that all munitions are thoroughly treated.

When determined safe, secure the area.

D.8.c.2 Large Burns

A trench method will be used when open burning is specified for larger munitions. This method of treatment has not been used since 1987 and would only be used as a last resort. If the trench method is required, the following steps well be taken.

Arrange in advance to have a pit (5 feet wide by 25 feet long by 9 feet deep) dug in the center of the thermal treatment facility.

Inspect the area for safety and security.

Insure that the OB/OD area (a circular area, 200' in radius) is cleaned and cleared.

Place a burn pan in the bottom of the pit.

Examine munitions to make certain that all removable detonator and blasting caps are removed to avoid unexpected detonation.

Place approximately 1 foot of combustible material, such as scrap wood, in the bottom of the pit.

Place munitions on combustible material, ensuring that the combustible material extends beyond the layer of munitions. Layers of munitions and combustible material will be formed as necessary, allowing an air space of approximately 1 foot between the top layer of munition and the top of the pit.

Pour 50 to 100 gallons of diesel fuel over the pile.

Ignite the material using an ignition train.

Observe the burn from a specified safety distance.

Conduct a post burn inspection to insure that all munitions were thoroughly treated.

When determined safe, secure the area.

Appendix D-1
Chapter 7 of "Explosives Safety Standards"
Air Force Regulation 127-100

Chapter 7
TRANSPORTATION

7–1. General. This chapter gives safety requirements for the transportation of explosives and for the safe operation of vehicles and materials handling equipment in explosives locations. In-use ammunition items which must accompany security police or other defense forces are not governed by transporation rules; however, safety considerations should be applied to the extent possible as directed by the major commands.

7–2. Federal Regulation. Department of Transportation (DOT) Title 49, CFR, Hazardous Materials Regulation, Transportation, regulates commercial shipment of hazardous material, including explosives, by rail, motor vehicle, cargo aircraft, and ship within the United States (except maritime explosives).

7–3. Basic Directives. The following directives apply to military shipments of hazardous materials within the Air Force system.

a. AFRs 55–14, 71–4, 136–4, and AFMs 75–1 and 75–2. AFR 71–4 regulates transportation of hazardous materials (including explosives) by military air, including contract air carriers. The AFM 75-series cover other phases of transportation. The TO 11N–45–series regulate the movement of nuclear weapons and their applicable components.

b. These regulations parallel the Code of Federal Regulation, but due to the many special items required by the Department of Defense (DOD) and the controlled transportation conditions within DOD, these items are assigned hazard classifications by the services according to TO 11A–1–47. Tests determine the item hazard and the related packaging and handling requirements. The military services coordinate in the hazard classification assignments and forward the pertinent classification data to DOT.

7–4. Application of Basic Directives. DOT and Department of Health and Human Services regulations, as such, do not apply to the movement of explosives beginning and ending within the confines of a given military base or installation. DOT regulations do not apply to any shipment of DOD munitions in DOD vehicles operated by DOD personnel. However, to promote safety, parts of these regulations have been adopted for use by the USAF.

7–5. Local Laws. Each state and nearly all local and foreign governments have laws or ordinances regulating the transportation of explosives and other dangerous articles within their jurisdiction. The local laws must also be obeyed.

7–6. Hazard Classification Requirements. Explosives, to be acceptable for transportation by any mode, must have an assigned hazard classification (Q-D hazard class/division; storage compatibility group; DOT class, markings, shipping name and label; and UN serial number).

a. Developmental or test items without an approved classification must be assigned an interim hazard classification by the major command that has the development or test responsibility. The classification is approved by HQ AFISC/SEV which provides descriptive, packaging, and assigned interim hazard classification data to the Department of Defense Explosives Safety Board and Military Traffic Management Command.

b. Commercial explosives items purchased for official use that do not have a proper hazard classification must be cleared through this interim hazard classification process prior to transportation and use. See paragraph 2–8 for an exception for fireworks. If the Bureau of Explosives has assigned classifications for labeling, class, and DOT markings, the DOD component will assign only a class, division, storage compatibility group, and UN serial number.

7–7. Mailing Prohibition. Explosives items, including those exempted under section 173.55, Title 49 CFR, will NOT be mailed. Provisions and penalties of the US Postal Manual about "nonmailable" matter apply to the US Air Force.

7–8. Authorized Transportation. Government explosives will be moved only in an approved manner in acceptable military and commercial rail, air, or surface vehicles.

7–9. Compatability of Explosives During Transportation. Items that may be shipped in the same commercial railcar, motor vehicle, cargo aircraft, or vessel are listed in CFR Title 49. These regulations are reproduced by the American Trucking Association as ATA Hazardous Materials Tariff and the Association of American Railroads as Bureau of Explosives Tariff No. BOE–6000, Hazardous Materials Regulations of the Department of Transportation by Air, Rail, Highway, Water, and Military Explosives by Water, Including Specifications for Shipping Containers. Cargo-configured items that may be shipped in the same Air Force aircraft are listed in AFR 71–4 and TO 11N–45–51. Compatibility criteria for the movement of DOD munitions in DOD vehicles operated by DOD personnel will be according to chapter 4.

NOTE: Nothing in this paragraph is to be construed to prohibit:

a. The development of new items in an increased state of assembly or the standardizing of an assembled version of existing items to meet approved military characte or requirements. Such items will be subjected to th mal hazard classification procedure (TO 11A–1–47). Safety analysis will be done by the Nonnuclear Munitions Safety Board.

b. The movement of assembled or partially assembled explosives items between servicing explosives locations and aircraft loading points or other such locations where necessary to meet valid operational requirements.

c. The movement of minimum quantities of explosives items necessary for demolition operations, to include proficiency training. Blasting caps, demolition explosives, and unserviceable (but not dangerous) munitions may be transported in the same vehicle, subject to MAJCOM control. Dangerously unserviceable munitions should be transported in a separate vehicle or, when this is not possible, segregated and sandbagged from other explosives being transported.

d. The movement of complete round (item) component loads when essential to meet operational requirements, and when separate (unmixed) movement is not feasible. (See AFR 71–4 or AFM 75–2 for procedures where exceptions to such directives are required.)

7–10. Shipping Containers. Containers of explosives offered for shipment will comply with DOT regulations or AFR 71–4 specifications, as appropriate.

a. Locally made containers must meet the packing and marking specifications for the item being packed.

b. Each container must be marked to identify the contents; show the correct DOT marking as well as other required markings. See TO 11A–1–46, AFR 71–4, TO 11N–45–51, or the triservice hazard classification listing, as appropriate.

c. If the item is not listed in the above references or if it must be shipped to a United Nations country, contact OO-ALC/MMWRE, Hill AFB UT, for the required data.

d. Do not open or repair a container in a railcar, motor vehicle, or aircraft unless it is essential for inflight safety or to safely unload a damaged container. If a container is damaged or defective, remove it from the transporting vehicle at the earliest opportunity for repair. If it is held for repair, it must be stored properly.

7–11. Shipment of Explosives Which Have Been Damaged or Failed to Function. If it is necessary to ship a "live" explosives item that has been damaged, subjected to abnormal force, or has failed to function, ask the cognizant AFLC (prime ALC) or AFSC element for shipping, packing, marking, and safety instructions.

a. The item must be judged safe for shipment (within the meaning of the normal DOT category for the material involved) before being offered for movement by a commercial carrier or transported over a public transportation system by a government conveyance. The shipment must be carefully packed and blocked to prevent movement and shock in transit.

b. Items containing a small quantity of explosives that is so constructed or packaged that the effects of an explosion are self-contained are excepted from this paragraph.

7–12. Guides for Controlling Incoming Explosives Shipments. Personnel concerned with the operation of aircraft and transportation of explosives must review the guidance in AFM 75–42 (Defense Logistics Agency Handbook 4510.3), Terminal Facilities Guide, United States Air Force. Notification procedures must clearly state the net explosives weight, by hazard class/division, that can be received at unloading facilities without violating approved explosives capacities. If amendments to this publication are needed, they must be processed promptly.

7–13. Damaged or Improper Shipments. Any shipment received in damaged or improper condition will be reported on SF 364, Report of Discrepancy, according to AFR 400–54. Transportation discrepancies will be reported on SF 361, Discrepancy in Shipment Report, according to AFR 75–18. (Also see TO 11A–1–10.)

7–14. Selection of Operators. Operators of vehicles and equipment used in transporting and handling explosives will be carefully selected, physically fit, trained, and tested in the operation of the type vehicle or equipment being used, and informed of the explosives hazards involved. Instructions are in AFR 50–24, AFM 75–2, and this regulation.

7–15. Explosives Movement Routes on Base. The safest possible primary and alternate explosives movement routes will be designated. Such routes will cover all phases of movement on base from the point of entry, storage, delivery to and on the flightline, etc. Routes and any limitations on quantities by hazard class/division of explosives will be set forth in base publications. Movement routes will avoid built-up areas and key, mission-oriented facilities and equipment to the maximum extent possible. EXCEPTION: Movements of munitions within a munitions storage area or to and from licenced storage locations are not restricted to designated routes.

7–16. Temporary Storage:

a. DOT or table 4–1 compatibility criteria will be used while explosives are in the transportation mode. Either of these criteria may also be used for the temporary mixing of explosives while undergoing packing/unpacking operations or while in temporary storage awaiting shipment. However, shipping, receiving, and storage facilities will comply with DOD quantity-distance criteria for the hazard class/division involved. For example, DOT Class C explosives which are classified as class/division 1.1 will be stored in facilities meeting class/division 1.1 Q-D criteria.

(1) Incoming shipments will be moved on or be sent to proper storage with a minimum of delay.

(2) The assembly of outgoing shipments should be scheduled to reduce to a minimum the holding time in the shipping/receiving building.

b. Rooms, other than those exempted under paragraph 4–10, used for the storage of explosives awaiting shipment will be separated from other rooms by substantial dividing walls.

c. The total quantity of explosives in buildings, on loading platforms, and on transporting vehicles will be used to determine Q-D requirements to other facilities.

7-17. Vehicle and Materials Handling Equipment General Safety Requirements:

a. Passengers:

(1) No person will be allowed to ride on, or in the cargo compartment of, a motor vehicle transporting explosives.

(2) Passengers may ride in the compartments that do not contain explosives if they can be safely seated.

(3) Explosives will not be transported in a passenger compartment of a vehicle.

EXCEPTION: Under certain conditions, the minimum essential personnel and limited quantities of class/division 1.4, 1.3, and (04) 1.2 explosives, as approved by a local OI, may be transported together in the cargo portion of vehicles (including "Metro" types used on flightlines) or in vehicles used as RSUs. These conditions are:

(a) Explosives must be packed separately from other items and packed in closed, clearly identified, metal or wooden containers properly secured in the vehicle body.

(b) Seats must be provided for personnel.

(c) Smoking in the vehicle must be prohibited or controlled as prescribed in paragraph 2-13b.

(d) Explosives-laden vehicles must not be left unattended.

(e) Aircraft seats or survival kits with explosives devices installed must contain all of the required safety pins and devices, and all seats or survival kits must be secured to prevent movement during transit.

b. Placarding of Vehicles. Department of Transportation placards provide a general warning to all personnel and furnish specific guidance for firefighting forces and other personnel, such as disaster control, responding to an emergency. Shippers must furnish DOT placards. These placards also have been adopted for use on base and in areas outside of DOT jurisdiction in order to give a standard identification method of nonnuclear explosives-laden vehicles of all types.

(1) All commercial or military vehicles transporting DOT Class A or B explosives will display EXPLOSIVES A (SF 431 or facsimile) or EXPLOSIVES B (SF 432 or facsimile) placards according to DOT CFR Title 49 or Tariff No. BOE-6000-A.

(2) Placards are not required for DOT Class C explosives which do not require an EXPLOSIVE C label (SF 402 or facsimile). For items that require an EXPLOSIVE C label, a DANGEROUS placard (SF 430 or facsimile) must be used. If the quantity of DOT Class C material normally requiring a DANGEROUS placard is less than 1000 pounds gross weight, the DANGEROUS placard is not required.

(3) Vehicles transporting chemical agents or biological defense research material with or without explosive components will be properly placarded for the DOT class of material involved as described in the DOT regulations or TO 11A-1-46. Section 172.504 Title 49, Code of Fede Regulations, includes situations where DOT placards or are not, required, depending upon the classes quantities of material being transported.

(4) Display of Placards. One DOT placard will be conspicuously displayed on each side, back, and front of each vehicle transporting hazardous materials. The following exceptions apply:

(a) Commanders may omit placards where necessary to avoid attention of hostile forces. However, all personnel involved must be instructed in proper actions to take in an emergency.

(b) Placards are not required on the side of towing vehicles or tractors, unless such vehicles are actually loaded with material requiring placarding.

(c) If prohibited by local law, the front placard will be omitted during offbase transportation.

(d) Where tow vehicle and trailer combinations are used on base, placards may be omitted only from the "inside" ends of vehicles that are coupled together. The leading vehicle will be placarded on the front, and the last vehicle will be placarded on the rear. All loaded vehicles in between will be placarded on each side. All placards will reflect the most hazardous item being transported.

(e) Materials handling equipment will be placarded only when it is used in the same manner as a transport vehicle or trailer (that is, for point to point delivery side the munitions storage area).

(f) Vehicles used as RSUs will not require DOT placards provided:

1. Pyrotechnics are transported in a closed, latched, and properly marked metal or wooden container.

2. Pyrotechnics are not stored or allowed to remain in the RSU while unattended.

3. Smoking is prohibited while pyrotechnics are in the RSU.

4. Vehicles are inspected for compliance with fire prevention requirements by the base fire chief who will issue a signed certificate of acceptability. Such certification will be reviewed annually, and a copy will be kept in the vehicle at all times.

(g) Placards will not be used on vehicles when transporting nuclear weapons on base but will be used on off-base convoy vehicles as required by TO 11N-series directives and DOT regulations. Nuclear weapons convoys need not stop just to apply/remove placards. In this case placards should be applied the last time the convoy stops prior to going off base and removed the first time the convoy stops after arriving on base.

(h) Placards will not be displayed on vehicles transporting or towing conventional explosives while in nuclear weapon or combined nuclear/conventional weapons storage/alert areas. The gate guard for the storage/ area(s) will serve as a check point for the installati removal of placards as needed.

(5) DOT placards will be used by US activities both on and offbase in host nation countries.

(a) Use of host nation placards in combination with US placards will be according to local agreements or major command direction in the absence of such agreements.

(b) In all instances, US munitions, missile, fire protection, transportation, and EOD personnel must be given appropriate training in the use of proper placards.

(c) When the host nation is responsible for on and offbase firefighting support, the host nation placarding system may be used exclusively.

(6) All placarding requirements will be coordinated with the Base Transportation Officer (BTO), to ensure compliance with DOT and base transportation regulations. When appropriate, a local agreement should be made with the BTO to supply required placards to the using units for on or offbase transportation activity.

c. Fire Extinguishers:

(1) Each item of powered materials handling equipment used to handle or transport explosives must have a fire extinguisher suitable for class B/C fires on the unit, except where a suitable extinguisher is available at the work site. For example, a bomb lift truck does not require an extinguisher while loading a combat aircraft because of the extinguisher provided for the aircraft.

(2) Each explosives-laden vehicle used for transportation or operated inside structures that contain explosives will be equipped with at least two portable fire extinguishers, each rated at least 2A:10BC.

(a) When two extinguishers are used on government vehicles, one should be mounted on the outside of the cab on the driver's side and the other in the cab.

(b) When trucks are equipped with an interior carbon dioxide flooding system, one vaporizing liquid extinguisher should be carried.

d. Load Protection. All lifting devices on vehicles or handling equipment used in explosives operations will have a serviceable mechanism designed to prevent the sudden dropping of the load in the event of power failure.

e. Load Stability. All explosives loaded on all types of vehicles and handling equipment must be stable and secure, consistent with the type of equipment being used, before movement.

f. Vehicle Refueling. Gasoline and diesel-powered vehicles and equipment will not be refueled inside any structure in the explosives storage area or in any facility, site, revetment, or other building containing explosives, regardless of location. When being refueled, vehicles will be at least 100 feet from structures or sites containing explosives. When refueling is completed, remove the refueling vehicle from the storage area.

(1) Use the smallest available size of refueling unit. If a vehicle of more than 500 gallons capacity must be used, the distance between refueling and explosives must be that required for POL storage in chapter 5.

(2) During refueling, maintain an electrically continuous path between the tank being filled and the tank being emptied. The entire system will be grounded.

(3) Do not allow smoking or open flame devices within 50 feet of gasoline or diesel refueling. At least one person must be present during the entire operation. During the refueling, stop the motors of both the vehicle being refueled and the refueling truck (unless the refueling truck motor drives the pump).

(4) In event of a fuel spill, immediately notify the base fire department. Do not start the motors of the refueling truck or unit being refueled until the area is rendered safe by the fire department.

(5) Refueling will not be done within 20 feet of a warehouse, inert storage building/loading dock.

g. Flammable Vapor and Exposed Explosives Precautions:

(1) Battery, gasoline, or diesel-powered vehicles and materials handling equipment will not be used inside any structure or building containing "exposed explosives" or where the flammable vapors level is greater than 90-percent of the lower explosive limit.

(2) Such vehicles or equipment may be used outside the structures or buildings, within the vicinity of or for transporting "exposed explosives." Gasoline or diesel-powered units must have exhaust system spark arrestors and carburetor flame arrestors (standard air cleaners).

(a) The vehicle operator must inspect the spark arrestors prior to each daily use and clean them if there is an excess of carbon particles.

(b) Spark arrestors must meet military specifications for the particular equipment and be installed so that they will not be clogged in normal operation. (See AFOSH Std 127–66 and TO 38–1–23.)

h. Liquified Petroleum (LP) Fueled Vehicles. Motor vehicles or other equipment utilizing LP gas for propulsion will have a fuel system which complies with the current edition of the National Fire Code, Standard 58, Section 35, Engine Fuel Systems. Vehicles that do not meet this code will not be allowed in explosives areas or locations nor will they be used in transporting explosives.

i. Safety Chains. Safety chains will be fastened between towing vehicles and trailers carrying explosives when lunette and pintle fastenings are used. Safety chains are not required when other types of specifically designed "breakaway control" safety features, as prescribed by the pertinent TO, are used.

j. Storage. Battery, gasoline, or diesel-powered equipment may be stored in a magazine, storehouse, or other suitable location that contains only inert materials.

(1) The equipment should be at least 10 feet from any combustible material.

(2) Aisles will be kept clear at all times and individual pieces of equipment stored should be spaced to minimize the spread of fire from one unit to another.

(3) Equipment may be parked in fire-resistive buildings containing explosives, providing such equipment is essential to day-to-day operations. However, the following minimum requirements must be met:

(a) Equipment must be stored in an area that is suitably and completely separated (by firewalls and closed doors) from the bays, rooms, or cubicles that contain the explosives.

(b) Designed fire-resistant ratings for the enclosures containing explosives are not degraded.

(c) Battery charging should not be done. However, where it is essential, venting will be provided, and the operation will be monitored to prevent overcharging.

(d) The local situation will be reviewed by safety and fire protection personnel for any additional measures necessary to enhance safety.

(e) Base commander approval has been granted.

(f) Detailed safety rules or conditions are available to the immediate supervisors or posted in the parking area.

k. **Operating Inside Structures.** Hazardous concentrations of exhaust fumes can develop within 20 minutes from operating a properly serviced forklift inside a structure the size of a 60-foot igloo with the door open. Commanders and supervisors must ensure mission requirements are met without exposing workers to unsafe levels of these fumes. Exhaust fans, respirators, or alternate mechanical or electrical lifting devices may be needed. If gasoline or diesel-powered vehicles or equipment are operated inside buildings, the following precautions will be taken:

(1) The concentration of carbon monoxide (CO) in the operating area must not exceed the current threshold limit value (TLV). Consult the local environmental health services for a determination of time-weighted TLVs and short-term maximum exposure limits. Exhaust purifiers are authorized where necessary to reduce CO concentrations in locations where ventilation is inadequate (see AFOSH Std 161-2).

(2) The base bioenvironmental engineer will periodically check the area to monitor the adequacy of ventilation and recommend methods to control the hazard.

7-18. Battery-Powered Materials Handling Equipment. Battery-powered equipment is preferred for handling explosives and should be used whenever possible.

a. Battery-powered equipment used within an explosives area will have all electrical cables mounted to prevent catching on stationary objects or damage by cutting or abrasion. Cables will be protected to prevent short-circuiting as far as is practicable.

b. Batteries will be securely fastened. Battery boxes will give ample ventilation, with ventilation openings that prevent access to the cell terminals from the outside.

c. Battery-powered equipment must be equipped with a dead-man switch and a main service switch that can be operated from the driving position.

7-19. Gasoline or Diesel-Powered Materials Handling Equipment Safety Precautions:

a. Equipment for handling materials within an explosives storage area will have a standard air cleaner securely attached to the carburetor throat.

b. Gas caps must be in place.

c. If necessary, a deflector plate will be installe prevent overflow from the fuel tank from reaching motor or exhaust pipe.

d. On gravity feed fuel systems or on pump systems that can be siphoned, an emergency shutoff valve will be installed at the fuel tank, or in the feed line.

e. Fuel lines will be protected from rupture due to vibration.

f. All electrical connections will be securely fastened to prevent accidental disconnection which might result in sparks or fire.

g. This equipment will not be used in areas which are classified as hazardous locations for electrical equipment (see paragraph 6-2a).

7-20. Motor Vehicle Transportation:

a. **General:**

(1) Existing specially designed equipment for explosives and specific weapons should be used where possible or required according to directives.

(2) Cargo-type trucks and tractor-drawn semitrailer vans are preferred for the general transportation of explosives. Other types of vehicles should not be used unless the items involved make handling by cargo vehicles or vans impractical. Cargo will be properly secured, regardless of the transportation used.

(3) Vehicle batteries and wiring will be located so they will not come in contact with containers or explosives.

b. **Vehicle Body.** Exposed ferrous metal in the cargo compartment will be covered before transporting any explosives which are not packaged in DOT specification containers or equivalent. Except for flatbeds and specialized equipment, cargo compartments with open tops will have strong, securely fastened sides to insure that explosives are safely retained. If tops or coverings are needed, they should be of a noncombustible or flameproof material.

c. **Red Lights.** Red lights will not be used on the front of vehicles transporting explosives on or off base. A security police vehicle may use a flashing red light on and off base when escorting a convoy unless prohibited by local law.

d. **Inspection of Vehicles.** Government-owned motor vehicles used to transport explosives will be inspected before use to determine that:

(1) Fire extinguishers are filled and are in good working order.

(2) Electric wiring is in good condition and properly attached.

(3) Fuel tank and piping are secure and not leaking.

(4) Spark arrestors, when applicable, meet mil[illegible] specifications and are properly installed and clean.

(5) LP-fueled vehicles comply with the National [illegible]e Codes.

(6) Safety chains or other breakaway control devices are properly installed, if applicable.

(7) Brakes, tires, steering, and other equipment are in good condition and tires are properly inflated.

(8) Exhaust system is free of oil, grease, and fuel.

e. Operating Requirements. Ensure safe operation of vehicles transporting explosives. The following applies:

(1) Use wheel chocks (in addition to brakes or gears as prescribed for the specific vehicle) when loading or unloading explosives from vehicles and trailers parked on any grade or ramp steep enough to cause the vehicle to roll.

(2) When it is necessary to transport explosives on routes where ferryboats, tunnels, or toll bridges will be encountered, ask the local or state officials what procedures must be followed to comply with their regulations.

(3) If a motor vehicle containing explosives is to use a ferryboat or other passenger-carrying vessel, the driver will be furnished an identification letter, signed by an officer, requesting transportation on the vessel. The letter will be presented to the master of the vessel or a representative. The letter will refer to the bill of lading (copy of which will be in the possession of the driver) and will state the truck license number and the name of the owner. (See CFR Title 49.)

(4) Trucks containing explosives should not be refueled within an explosives area of an installation, including refueling from mobile units. A central refueling station should be used. Trucks should be refueled before loading explosives.

(5) Explosives will not be loaded on or unloaded from a motor vehicle while the engine is running, except under the following conditions:

(a) Where the engine is required to provide power to vehicle mechanical handling equipment used in the loading and unloading of the vehicle.

(b) Where necessary for emergency operations or timing for exercises simulating execution of emergency plans. In this case, small loads or packages of explosives, requiring only momentary unloading time to be delivered to aircraft on the flightline, may be removed from a vehicle while the motor is running.

(c) Engines of diesel-powered vehicles (excluding commercial carriers) may continue to run during loading or unloading of explosives except when exposed explosives are involved.

(d) When the vehicle engine is being operated under (a), (b), or (c) above, the following conditions apply:

1. The exhaust gases from the motor must be emitted at least 6 feet from the point at which the loading operation is done and be directed away from this point.

2. The vehicle must be equipped with spark and flame arrestors where necessary according to paragraph 7–17h.

3. The vehicle must remain at the aircraft or storage location only as long as needed to complete the explosives loading or unloading operation. If a delay occurs, the vehicle must be moved away from the location.

4. The vehicle operator must set the brakes an remain in the driver's position or must set the brakes an chock the wheels and remain close to the vehicle.

(6) Vehicles containing explosives will not be operate until the cargo has been checked to ensure safe transpor tation. Explosives containers will be loaded, blocked braced, tied down, or otherwise secured to the vehicle t prevent movement. Load-securing methods must no damage explosives or containers. Vehicles will have side boards and tailgates as high as the load. These are no needed where item size would make such protection im practical (b above) or where the vehicle is specially de signed or adapted for the item and the load is hel securely.

(7) When transporting items containing EEDs, ful consideration must be given to the hazards discussed i paragraph 6–21 where vehicles are equipped with trans mitters or other electromagnetic radiation sources whic may create exposures on the routes to be traveled.

(8) Explosives-laden vehicles will not be left unat tended unless they are parked in a properly designate area, such as the weapons storage area, holding yard, o ready munitions area.

(9) Forklifts will use skids or pallets to transpor containers of explosives, except when the containers ar designed with fully enclosed stirrups (360°) for forklif tines.

(10) Unfuzed weapons may be carried on forklift fork when the weapon body is long enough to be firmly sup ported on both forks and strong enough to preven damage.

f. Offbase Explosives Shipments:

(1) Inspection of Incoming Shipments. All incomin motor vehicles carrying DOT Class A and B explosive and poisons will be inspected at a designated inspectio station by a representative of the commander.

(a) The inspection station should be as remote a practical from hazardous areas such as explosives or PO sites, populated areas, and flightlines.

(b) If the inspection station is used as a temporar explosives storage or operating location, it must meet Q-I criteria. Also, vehicle inspections must be stopped whil storage or operations are in progress.

(c) The inspection station may be used as an inter change yard (see (4) below).

(d) Inspections will be done according to AF 75–2, using DD Form 626, Motor Vehicle Inspectio (Transporting Hazardous Material).

(e) Once a vehicle has passed the initial inspection a visual inspection of the external condition of the carg may be done at any suitable location, including the unload ing point.

(f) Any vehicle found or suspected to be in a hazard ous condition will be moved to a "suspect vehicle" are which is isolated from other locations by the appropriat Q-D unless it is more hazardous to move the vehicl Prompt corrective action or a detailed inspection will b

done at this location to ensure that the vehicle and cargo are safe enough for further movement.

(2) Inspection of Outgoing Shipments. All vehicles to be used for offbase shipments of explosives will be inspected by shipping activities before and after loading for compliance with safety regulations.

(a) DD Form 626 will be filled out according to AFM 75–2.

(b) A record will be kept of the vehicle number, the type of explosives cargo, and the number of each seal applied to the vehicle.

(c) Drivers must be thoroughly familiar with the DOT Motor Carrier Safety Regulations.

(d) DD Form 836, Special Instructions for Motor Vehicle Drivers, will be used to instruct drivers on the nature of their cargo, firefighting methods, and other specific precautions for the particular shipment. Information on the preparation and use of DD Form 836 is in AFM 75–2.

(e) Overseas units should use bilingual instructions on DD Forms 626 and 836 where needed.

(f) Where special purpose vehicles are authorized to transport explosives loads, applicable technical data will be used.

(g) Use of DD Forms 626 or 836 is not required for military vehicles or drivers transporting explosives (assembled or partially assembled in a delivery mode) across or on public highways from one part of a base to another. For example, transportation of munitions from a preparation area across the highway to the main base flightline, or on the highway to a nearby auxiliary field. If this is a daily operation, there should be an agreement with local authorities on any local restrictions to be imposed. Driver qualification and motor vehicle inspection requirements of paragraphs 7–14 and 7–20d apply.

(3) Internal Shipments by Commercial Carrier. Commercial carriers used to move explosives over public highways from one area to another area of an installation will be externally inspected before entering the second area. This is not needed if they were escorted or under surveillance enroute.

(4) Interchange Yards. Where necessary, an interchange yard may be established in a remote area on the same basis, or together with the inspection station in (1) above. This location will be used for the exchange of tractor-trailers between the common carrier and the base activity involved. Explosives Q-D criteria will not be applied if the exchange is made and the vehicles removed promptly.

g. Holding Yards. If the explosives-loaded vehicles cannot be dispatched to unloading points immediately, they must be moved to a holding yard.

(1) The holding yard will be sited to meet Q-D criteria to all other facilities and exposures.

(2) Where possible, explosives-loaded vehicles should be separated from each other by the applicable aboveground magazine distance.

(3) If magazine distance between vehicles cannot be met, vehicles should be parked in groups, with magazine separation between each group. Distances to other exposures will then be based on the total amount of explosives within a group of vehicles.

(4) Where neither (2) nor (3) is possible, the total explosives weight of the all vehicles will be used to determine separation distances.

(5) Loaded vehicles should not remain in a holding yard for a period exceeding 24 hours.

(6) Holding yards may be used for interchange and inspection activities. However, when loaded vehicles are being held there, the yard may not be concurrently used for vehicle inspections.

h. Maintenance of Vehicles Carrying Explosives:

(1) Only operator inspection and maintenance normally related to the operation of a vehicle will be done on explosives-laden vehicles. Such maintenance includes servicing with fuel, oil, air, lubrication and water, changing tires, fuses, hoses and drive belts, etc.

(2) No maintenance will be done on an explosives-loaded vehicle or trailer that would increase the probability of fire or would require the use of heat-producing equipment.

(3) No restrictions are imposed on tractor maintenance when the tractor is physically separated by at least 50 feet from an explosives-loaded trailer.

(4) When tires are being changed, the vehicle or trailer must not be elevated so as to shift the load or place excessive strain on the tiedowns.

(5) Vehicles carrying nuclear weapons are also subject to the maintenance restrictions in TO 11N–45–51.

7–21. Transporting Dangerously Unserviceable Explosives Items for Disposal:

a. Dangerously unserviceable items such as partially burned signals, markers, etc., should be packaged and marked as specified in item technical publications or EOD publications. In some cases the training and experience of EOD supervisors and unique hazards of a specific situation may dictate modification of packaging. Authorization for the modification of procedures is contained in TO 00–5–1.

b. It is not intended that only EOD personnel can transport these items; however, EOD should be consulted prior to transporting any dangerously unserviceable items other than as approved by DOT. Routine transportation of explosive item residue may be provided by any DOD personnel who are properly trained in procedures to be followed and specific hazards of the material.

7–22. Railroad Transportation. DOT safety regulations for safety devices, safeguards, design of equipment, etc., are mandatory for railway equipment transporting materials outside an installation. These regulations should also be followed within an installation. Special attention be given to rail clearances to buildings, loading [illegible], overhead lines, etc.

a. Locomotives. Portable fire extinguishers will be carried on all locomotives and other self-propelled rail vehicles.

b. Track Layout. Railroad lines serving explosives areas should be looped to give at least two ways of exit.

c. Movement of Railcars Containing Explosives:

(1) By Engine. Before any movement of a car(s) containing explosives, the load will be secured and the air brakes will be cut-in. Cars should not be uncoupled while in motion or pulled apart by locomotive power. Safety precautions will be observed in breaking air hose connections.

(2) By Car Mover. An individual must be stationed at the hand brake during any manual movement of a car.

d. Spotting Railcars:

(1) When single cars are spotted, the hand brakes will be set and the wheels properly chocked. When more than one car is spotted and the engine detached, the hand brakes will be set on enough cars of a cut of cars to ensure adequate braking is provided. The hand brakes will be set on the downgrade end of the cut of cars. Do not rely on the automatic air brakes to hold spotted cars.

(2) Locomotives will not stop in front of buildings and loading docks containing hazardous materials longer than needed to "spot" cars for loading or unloading.

(3) Cars at a magazine or building should be located so that personnel may evacuate the building or car rapidly if necessary.

e. Switching Railcars Special care will be taken to avoid rough handling of cars.

(1) Cars must not be "cut off" while in motion. Cars will be coupled carefully to avoid unnecessary shocks. Other cars will not be "cut off" and allowed to strike a car containing explosives.

(2) Cars will be placed in yards or on sidings so that they may be removed from danger of fire quickly and will be handled as little as possible. They will not be placed under bridges or alongside passenger sheds of stations. Engines on a parallel track should not be allowed to stand opposite or near them.

(3) "Dropping," "humping," "kicking," or use of the "flying switch" is prohibited.

f. Marking Railcars With Blue Flags or Signals. Blue flags or signals will be placed at both ends of a car or cut of cars when personnel are working in, on, or under the cars. Cars marked in this manner will not be coupled to or moved. The supervisor or foreman in charge of the personnel loading or unloading the car(s) will be responsible for placing and removing the blue flag or signal. Train crews will be informed of the use of blue flags or signals. EXCEPTIONS:

(1) Flags are not required when flat cars are involved and the presence of a working party is clearly evident.

(2) Flags or signals may be omitted from the end of a car located against or toward a dead end spur. This also applies to a loading ramp where no other rolling stock can approach from that direction.

g. Control of Vegetation Along Railroad Right-o Way. Vegetation along the railroad right-of-way whic presents a fire hazard to explosives-laden cars will b controlled on the base as directed in paragraph 3–6.

h. Loading Railcars. When a car arrives, it should b inspected thoroughly, inside and out, to determine it suitability to carry the type of explosives involved. Th interior of the car should be "broom clean" before explo sives are loaded into it.

(1) Protruding nails and bolt heads should either b removed or covered to prevent the packages from bein damaged. Substantial gangways should be provided. An obstructions that may prevent free entry to the car shoul be removed. The immediate area should be cleared o leaves, dry grass, and other flammable materials.

(2) During loading operations, the car and magazin doors should be closed when engines or speeders ar passing.

(3) Cars should not be left partly loaded unless it i impossible to finish loading at one time. In this case, ca doors will be securely locked. If it becomes necessary t move a partially loaded car before loading has been com pleted, the load will be braced.

(4) During and after loading, the shipment should b properly braced and stayed, the car properly sealed, and permanent record of car numbers kept.

i. Loading and Bracing Guidance. When loadin freight cars, consult Bureau of Explosives Pamphlets and 6A for guidance unless specific instructions or ca loading drawings are available for the items involved These pamphlets govern the method of loading, staying and bracing of carload and less than carload (LCL) ship ments of explosives. Refer to Bureau of Explosives Pam phlet 6C for guidance in securing truck bodies or trailer on flat cars. Also see this pamphlet for loading, blocking and bracing of the cargo within, or on, such vehicles o containers. The carrier or cargo must not shift under a impact of 8 miles per hour from either end.

j. Placarding of Railcars. Railcars transporting ex plosives will be placarded according to DOT regulations o those of the host nation involved.

(1) Placards will be displayed when the first containe of explosives is loaded in the railcar. Placards will b removed when the last container of explosives is remove from the railcar. Four placards are required for each rai car. It is the responsibility of the shipper to furnish th needed placards.

(2) Commanders may omit placards on conclusion suitable arrangements with the host nation or govern mental agency involved, where necessary, to avoid atter tion of hostile forces. All involved (including essenti train crews) must be instructed in proper emergenc actions.

k. Railcar Requirements. Cars used for the shipmer of material requiring placarding under DOT regulatio must meet DOT standards for the class of material bein shipped. Cars for DOT Class A explosives will be i

spected before and after loading. Car certificates will be accomplished, distributed, and affixed to cars according to DOT regulations.

l. Leaking Packages in Railcars. A constant alertness will be maintained to detect leaking packages or leaking tank cars.

(1) Leaking packages should be removed from cars and repaired. In the case of tank cars, the contents should be transferred. Leaking tank cars containing compressed gases should be switched to a location distant from habitation and highways and action taken to transfer contents.

(2) Cars containing leaking packages or leaking tank cars will be protected to prevent ignition of liquid or vapors.

(3) Movement of a leaking car will be held to a minimum until the unsafe condition is corrected. If artifical light is necessary, only approved explosive-proof electric lights should be used.

m. Tools for Loading and Unloading Railcars. Steel tools may be used inside cars with reasonable care if explosives subject to initiation are not exposed. When explosives subject to initiation are exposed, special care will be taken to prevent sparks.

n. Sealing Railcars. Cars containing explosives will be sealed with railway-type car seals on which is stamped an identifying number. The shipper will keep a record of car numbers and seals (see AFM 75–2 for additional car seal regulations). If the seal is not in place when the car is received, the car will be thoroughly inspected at a suspect car site.

o. Changing Car Seals. When a car seal is changed on a car of explosives, a record will be made showing the following information:

(1) Railroad.
(2) Place.
(3) Date.
(4) Number or description of seal broken.
(5) Number or description of seal used to reseal car.
(6) Reason for opening car.
(7) Condition of load.
(8) Name and occupation of persons opening car.

This record will be shown on waybill or other form or memorandum that accompanies car to destination.

p. Inspection of Incoming Loaded Railcars:

(1) Railcars containing explosives will be inspected by a competent representative of the commander at a designated inspection station.

(a) The inspection station should be as remote as practical from any hazardous or populated area. It should not be near any POL sites, other explosives locations, and flightlines.

(b) Inspect the outside and underside of each car to detect damage (such as defective brakes, couplings, wheel flanges, or hot boxes) or unauthorized and suspicious articles. Check individual car numbers and seal numbers against bills of ladings.

(c) Such inspections may be done from ground level if pits are not available. If sabotage is possible, an inspection pit should be provided.

(d) If rail traffic is heavy enough or in an emerg cy, a pit will help in inspecting and moving cars rapid.

(2) Cars of explosives will be isolated for prompt corrective actions when foreign and suspicious articles have been attached outside or underneath the car. They will also be isolated when they have a defect that could affect the safety of the installation or contents of the car.

(a) Unless the problem prohibits, the car will be moved over the safest route to a location separated from other areas by proper inhabited building distances.

(b) Before the car and cargo are released from the designated "suspect car" site, the unsatisfactory conditions will be corrected unless a determination is made that they are safe to move.

(3) If the seal numbers on a car do not correspond to the numbers shown on the bill of lading, treat the car as a suspect car. Remove it to the suspect car siding for additional inspection, as under (2) above.

(4) Visual inspection of the external condition of the cargo in cars that pass the initial inspection may be done at any suitable place, including the unloading point. Such cars may be considered reasonably safe. However, care should be exercised in breaking seals and opening doors because of the possibility of shifting lading or leaking containers.

(5) If warranted by the inspection results, cars at the inspection station will be moved promptly from the

(6) The inspection station will not be used as an explosives location or holding yard unless Q-D criteria are applied. However, the inspection station may be used as an interchange yard (q below).

(7) Commercial carriers used to move explosives through a public access route, from one area to another area of the installation, will be externally inspected before entering the second area. This is not needed if it was escorted or under surveillance enroute.

q. Rail Interchange Yard. Rail interchange yards are set up and operated on the same basis as truck or trailer interchange yards. The rules in paragraph 7–20f(4) apply.

r. Rail Holding Yards. If the car cannot be dispatched immediately to the point where it is to be unloaded, it may be moved to a holding yard. Rail holding yards, where required, are set up and operated on the same basis as holding yards for motor vehicles. The rules in paragraph 7–20g apply. In developing large holding yards, consider the following layout guidance:

(1) Rail holding yards should be laid out on a unit car or explosives weight group basis. (For example, 50,000, 100,000, or 250,000 net pounds of class/division 1.1 explosives, regardless of the number of cars involved). Each such explosives quantity car group will be separated from all other groups by the intermagazine dist criteria.

(2) Yards may be formed by two parallel ladder tracks connected by diagonal spurs or by a "Christmas tree" arrangement (a ladder track with diagonal dead-end spurs projecting from each side at alternate intervals). Other arrangements tailored to the operation are allowed. However, parallel tracks and spurs of all types will be separated by intermagazine distances for the group quantities of explosives involved.

s. Classification Yards. A classification yard may be established, where the volume of rail traffic necessitates, for the primary purpose of receiving, classifying, switching, and dispatching explosives-laden rail cars. These rules apply:

(1) Intermagazine Q-D separation is required, as a minimum, between explosives locations of all types and the classification yard.

(2) Car inspection station activities under p above may be done in classification yards, if such yards are remotely located according to the cited paragraph.

(3) Interchange yard activities under paragraph 7–20f(4) and g above may be done in classification yards, if such yards are remotely located according to the cited paragraphs.

(4) Cars may be opened in the yard for removing documents or for visual inspection of the external condition of the cargo if the entrance can be done in the normal manner. Freeing or repairing a stuck or damaged car door or doing any work inside a car is prohibited unless Q-D requirements can be met.

(5) The Q-D criteria other than in (1) above do not apply to a classification yard used exclusively for the purposes outlined above. If yards are used for other purposes (such as placing or removing dunnage or explosives items into or from cars), Q-D criteria will apply.

t. Trailers on Flat Cars (TOFC) or "Piggyback" Explosives Loading/Unloading Sites. This transportation method is considered a "change-of-mode" during loading or unloading operations. It requires only the use of good judgment in the site choice and proper control of operations in the local environment. The following criteria govern the siting and use of explosives TOFC railheads.

(1) Location will be as remote as practical from hazardous or populated areas.

(2) Facilities will be adequate for the operation, and safe loading or unloading ramps will be designated.

(3) Loading or unloading operations will be controlled to reduce exposures to a minimum.

(4) Trailers will be removed quickly from the railroad car and sent at once to their destination or scheduled for prompt loading on arrival at the site. If there is an unforeseen delay in loading or unloading, an explosives-loaded trailer may be kept at the site for a short time. This holding period will not exceed 24 hours.

(5) Piggyback shipping trailers and containers will not be opened at the site unless an emergency or suspected emergency situation necessitates.
EXCEPTION: "Shipping and Storage Containers, Ballistic Missile" (SSCBM) received by TOFC may be opened at the site only for inspection and road transport preparation as required by pertinent TOs.

(6) Adequate tie-down of trailers to railcars and blocking and bracing of the explosives in the trailer to ensure cargo stability in transit is essential.

(7) All of the safety rules in this chapter on explosives-laden motor vehicles and their operation will be applied.

(8) The provisions of Bureau of Explosives Pamphlet 6C apply to explosives "Piggyback" operations (lists railcars and hitches approved for TOFC service).

(9) Operations other than the foregoing are not to be done on explosives items or explosives-laden containers, trailers, cars, etc., unless Q-D criteria can be met.

u. Inspection of Outgoing Empty Railcars. Cars transporting explosives will be inspected after unloading to make sure that they are clean and free from loose explosives and from other flammable materials. Ensure that placards and car certificates are removed.

7–23. Movement of Explosives Shipments by Air. Air transportation of explosives by commercial aircraft is regulated by Federal Aviation Administration (FAA) regulations which are now incorporated into DOT CFR Title 49. Instructions about explosives-laden military aircraft (and certain DOD contract airlift operations) are in AFRs 71–4 and 55–14, the applicable aircraft TO, and other parts of this regulation.

7–24. Transportation of Explosives by Water. Transportation of explosives and other hazardous materials by water in vessels engaged in commercial service is regulated by the United States Coast Guard. Shipments overseas will be made according to the regulations of the carrier, the United States Coast Guard, or the Department of the Army.

Appendix D-2
CAFB Regulation 136-18
Decontamination of Melrose Bombing/Gunnery Range and Disposal of Air Munitions

DEPARTMENT OF THE AIR FORCE
Headquarters 27th Combat Support Group (TAC)
Cannon Air Force Base, New Mexico 88103-5000

CAFB REGULATION 136-18
24 April 1987

Armament

DECONTAMINATION OF MELROSE BOMBING/GUNNERY RANGE AND DISPOSAL OF AIR MUNITIONS

This regulation establishes procedures for the removal and/or disposal of inert/live ordnance from Melrose Bombing/Gunnery Range, and airmunitions approved for disposal on AF Form 191, Ammunition Disposition Report, by any approved method.

1. Responsibilities. The senior Explosive Ordnance Disposal (EOD) member, AFSC 464X0, of the team involved with the operations(s) and supervisors of supporting activities will be responsible for ensuring compliance with this regulation.

2. References. AFR 50-46, AFM67-1 Vol VI, AFR 127-100, TACR 136-7, Technical Orders (T.O.'s) 11A-1-42, 11A-1-46, 60A-1-1-31, and other applicable 60 series T.O.'s.

3. Explosive limits. Explosive limits will be held to the minimum, consistent with safe operation. This includes transportation of dud ordnance to a disposal site, consolidation of duds in disposal site, disposal in place, air munitions approved for disposal (AF Form 191), etc.

a. Consolidation of items. Charges prepared for disposal will be limited to 1000 pounds of Class 1, Division 1 explosive.

b. Disposal in place. Explosive limits will be held to the minimum amount necessary to effect disposal of munition(s) encountered.

4. Location of operations - Melrose Bombing/Gunnery Range.

a. Monthly/Annual/Five Year Clearance. Targets are cleared in accordance with AFR 50-46, as supplemented.

b. EOD Disposal Site. 6000 feet south of the Main Tower and 4000 feet west of the east boundary fence of the range complex.

c. Burial Pit area. 4000 feet north of the Main Tower or as determined by Base Civil Engineering and Defense Reutilization and Marketing Office (DRMO).

5. Personnel limits.

a. Minimum.

(1) Munitions disposal operations will be conducted under the supervision and control of a qualified and experienced supervisor, E-5 or above, possessing the AFSC 46450/4054B. Also, at least two qualified personnel, knowledgeable of the task to be performed, will be physically present at each disposal operation.

(2) A minimum of two EOD or assigned range personnel will be physically present during any range decontamination operation.

(3) At least one qualified EOD or assigned range personnel will be included in each range team working in a contaminated area.

b. Maximum. Personnel limits will be based on the type of range decontamination or area clearance to be performed. At no time will the number of people exceed the number that can be effectively controlled or supervised. When practical, individual teams will be limited to one qualified EOD, or assigned range person, or qualified supervisor for every seven team members.

6. Equipment requirements.

a. EOD Equipment

(1) Vehicle: 4 X 4 six passenger, as required.

(2) Spare tires: one per vehicle.

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(3) Intrabase radio: one per vehicle and one per operating team chief

(4) Range book: one each

(5) First aid kit: one per vehicle, including augmentee vehicle

(6) Fire fighting equipment: as required

(7) Common hand tools: as required

(8) Pioneer tools: as required

(9) Stencils/stamps (inspector): one per qualified inspector

(10) Spray paint: as required

(11) Spray handles: as required

(12) Water cans: two each

(13) Paper drinking cups: as required

(14) Work gloves: one pair per EOD personnel

(15) Non-explosive demolition equipment: as required

(16) Augmentee briefing statement: as required

(17) Personal gear: individual

b. Equipment provided by 27CSG/OTR

(1) Dump trucks: as required

(2) Bus: as required

(3) Front end loader: as required

(4) Wrecker: as required

(5) Bulldozer: as required

(6) Grader: as required

(7) Gloves for augmentees: as required

(8) Goggles for augmentees: as required

(9) Water cans for augmentees: as required

(10) Paper cups: as required

7. Safety precautions.

a. General

(1) Comply with all applicable safety precautions listed in referenced publications.

(2) All augmentee personnel having access to the range will be supervised by qualified or experienced individuals.

(3) Personnel will not work on the range unless properly briefed by EOD, range, or explosive safety personnel.

(4) At least two individuals will be present during any work in contaminated areas.

(5) When doubt exists as to the condition of an item, the item will be considered hazardous until proven otherwise.

(6) During clearance operations, personnel will maintain safe distances and will assemble only in safe cleared areas.

(7) Ordnance items, other than small arms and 20mm Target Practice (TP) ammunition, will not be touched or picked up until inspected and certified as inert.

(8) When an unusual situation or safety deviation is noted, all work will be stopped and the senior EOD member or range NCOIC notified.

(9) Heavy equipment operators will not run over small ordnance items, such as small arms and practice bombs. Items will be by-passed or removed by qualified personnel.

(10) Areas will be cleared of all ordnance prior to grading, plowing, etc. These areas include access roads and lead-in lines in, around, and through target areas.

(11) During range clearance operations, the senior EOD member will maintain radio communication with range tower by intrabase mobile/portable radio. Range crews and teams will maintain communications with senior EOD member or range tower.

(12) Areas where work is to be performed will be checked by EOD personnel or the range NCOIC prior to dispatching work crews.

b. Emergency procedures.

(1) Cease all operations immediately and, as time permits, relay specific details to 27 TFW Command Post by land line or by intrabase mobile radio through Cannon Rescue Control.

(2) Unscheduled aircraft. Depart the area immediately to a safe area using the safest and most direct route. Concurrently notify Range Tower or Cannon Control Tower by intrabase radio.

(3) Personal injury. Administer self aid and buddy care and request an ambulance by land line or intrabase radio or, if available, air evacuation.

(4) Range fires. Notify the senior fire fighter. Do not attempt to control grass fires in areas contaminated with explosive ordnance. Control fires in a safe area by means of firebreaks.

8. Responsibilities of support agencies.

a. 27 CSG Operations and Training will:

(1) Notify and coordinate with the EOD Branch Operations NCOIC all range maintenance operation involving work in contaminated areas except strafe target areas. Such operations include periodic range work clearance and grading access roads around and through conventional, nuclear, skip-bomb, and tactical targets.

(2) Clean and/or supervise the cleanup of strafe target areas as required by applicable directives. Cleanup will be limited to only practice training ammunition. This ammunition consists of small arms (up to and including 50 cal ammunition) and 20 mm cartridges, cartridge cases, projectiles and hard objects which can be readily identified as being free of explosive hazards.

(3) Provide heavy equipment and operators for scheduled range clearance operations.

(4) Select munitions residue burial sites by coordinating with Base Civil Engineers.

(5) Prepare and maintain burial sites IAW T.O. 11A-1-60.

(6) Designate and control holding areas for munitions residue pending disposition by means other than burial.

(7) Not release any munitions residue from the range without the approval of the EOD Branch.

(8) Ensure that all personnel assigned to the range complex receive required range safety briefings.

b. Defense Reutilization and Marketing Office (DRMO) will:

(1) Furnish guidance on disposition of munitions residue where specific instructions have not been issued. As a rule, items which can not be redistributed locally or sold with a monetary return equal to or greater that the cost, will be marked for burial.

(2) Determine storage location and classification of munitions residue pending local redistribution/sale to commercial buyers.

(3) Contact the EOD Branch prior to the release of any munitions material recovered from the range.

c. 27 CSG Base Fire Department will provide fire fighting equipment and personnel during disposal of explosive items, and standby personnel when deemed necessary by the Base Fire Chief.

d. 27 TFW Hospital will provide an ambulance or a first aid vehicle staffed with qualified personnel trained to handle casualties that may occur during monthly, annual and other similar range clearance operations.

e. Munitions Storage Area will:

(1) Provide munitions inspectors for processing all small arms and 20mm brass (cartridge cases) for turn in to DRMO. Inspectors will also perform final outshipment inspection on these items.

(2) Provide personnel and transportation to transport munitions in accordance with applicable directives.

(3) Assign holding areas for air munitions which are documented on the Ammunition Disposition Request or Report (ADR) and explosives required for operation, ensuring pre-inspection and accountability prior to range disposal operations.

f. EOD personnel will:

(1) Inspect and certify all munitions except small arms and 20mm TP ammunition.

(2) Destroy all items containing explosives or other hazardous materials.

(3) Process all munitions residue with a resale value for disposition.

(4) Coordinate the disposition of all munitions residue (burial, local redistribution, sale to commercial buyers, etc.) with DRMO.

(5) Perform or monitor final inspection of munitions residue released for local redistribution, sale to commercial buyer, etc.

g. Augmentees will:

(1) Report to area of operation with required safety equipment.

(2) Read, understand, and sign range safety briefing statement.

(3) Not remove any items from range complex.

(4) Perform assigned task as directed.

9. Sequence of operations.

a. Preliminary actions:

(1) Ensure specific dates and times for all range operations, including recovery of regular practice bombs, have been coordinated with 27 CSG/OTR, 27 TFW Command Post and 27 TFW Current Operations.

(2) Upon notification of a range operation, determine personnel, equipment, and demolition explosive requirements.

(3) Coordinate with the following agencies the date of operation and action indicated (as applicable).

(a) Inform munitions AFK section of the pre-inspection and inventory of all air munitions authorized for disposal as specified on completed AF Form 191.

(b) Notify munitions storage section of the type, quantity, date and time munitions will b picked up or delivered as required.

(c) Contact Base Fire Chief and coordinate the type of fire fighting equipment to be provided.

(d) Contact 27 TFW Hospital Emergency Room and coordinate with the Base Medical Facility the type of equipment to be readily available during range operations.

(e) Contact the range maintenance chief to coordinate heavy equipment requirements for transportation of munitions residue to burial site, DRMO, munitions storage area, etc.

(f) Inform the Evironmental Coordinator of the quantity (lbs) of explosives to be disposed and date of disposal.

(4) Notify all agencies involved of any change or cancellations.

(5) For explosive disposal operations, contact base weather one or two days prior to the disposal date and obtain preliminary weather forecast. Postpone or cancel the disposal operation when adverse conditions such as severe thunderstorms, winds exceeding 15 miles per hour for burning operations, etc., are expected during the disposal period.

(6) Check vehicles for fuel, proper operating conditions, essential accessories, and ensure that all safety appliances are in good working order.

b. Prior to departure to Melrose Range:

(1) If explosives are to be picked up, ensure the proper placards are loaded in the truck. Check for two serviceable fire extinguishers, vehicle chocks, and tie down straps.

(2) If not already accomplished, notify the following agencies, as applicable. Inform each agency of location, type of operation and duration:

AGENCY	REQUIREMENTS
Munitions Storage	See Para 9a(3)(b)
Munitions AFK	See para 9a(3)(a)
Medical Facility	See para 9a(3)(d)
Security Police	Notification only
Fire Department	See para 9a(3)(c)
Base Operations	Notification only
Command Post	Overflight restrictions are in effect
Wing Safety	Notification only

(3) Assemble personnel, tools and equipment.

(4) When more than one vehicle is used, dispatch vehicles with required number of personnel to pick up demolition materials.

(5) Load equipment in other vehicle(s) when available.

(6) Proceed to Munitions Storage Area (MSA) and assemble convoy at the main entrance gate, if applicable.

(7) If transporting explosives from the MSA to Melrose, ensure that the explosives are properly secured to the vehicle and the proper placards are placed on the vehicle.

(8) Brief all personnel on convoy procedures. Refer to CAFBR 75-1.

(9) Assure that the route approved through 27 TFW/SE is used when transporting explosives.

c. Arrival at Melrose Range:

(1) Notify security police of arrival, if applicable.

(2) Call Command Post to confirm that EOD is working on the range and that the range is inactive.

(3) Ensure medical and fire fighting personnel are available and proper equipment is operational.

(4) Coordinate range operations with the range NCOIC.

(5) Brief EOD, range, medical, and fire department personnel on specific operations to be

conducted, to include the following:

(a) Location of work, size and number of working parties, team chief, equipment requirements, etc.

(b) Obtain range radio and establish communications with Base or other control point. Sign out radio and access gate key.

(c) Ensure range building is staffed by range personnel.

(d) Designate individual to administer EOD briefing of augmentees and, if required, range personnel.

(6) Assemble personnel for EOD briefing and emphasize the following:

(a) Only personnel that have been properly briefed and have specific authorization will be allowed in the target areas.

(b) All working parties/teams will be supervised by EOD or assigned range personnel.

(c) No one will touch or pick up any item without proper instruction and understanding of hazards.

(d) Augmentees will not touch or pick up any items except small arms, 20mm brass (cartridge cases) and items that can be readily identified as being free of explosives unless inspected and marked by EOD personnel for removal.

(e) Small arms and 20mm cartridges (unfired) will be handled only by assigned range or EOD personnel. Other personnel that may handle complete rounds are those that have been designated and briefed by the team chief, and understand specific hazards and safety precautions associated with the item.

(f) Munitions items will not be removed from the range for personal retention. Personnel will be subject to search prior to departing the range complex.

(g) Personnel will sign the EOD briefing statement only when instructions have been properly understood.

(h) Adherence to safety rules will be observed at all times.

(7) Divide augmentees into teams and assign working locations.

(8) Dispatch working parties.

d. Clearance of targets:

(1) Tactical targets:

(a) EOD personnel will line up and walk through an area to inspect and certify munitions for augmentee removal.

(b) Certify residue as follows:

1 BDU-33 and MK 106 practice bombs that are dud fired or non-probable will be placed in the trailer and transported to the EOD disposal site and placed in the disposal pit.

2 Expended munitions residue will be marked with white spray paint for removal by augmentees.

3 M/MK 80 series and BDU-45/50 practice bombs will be inspected to determine filler, sand or concrete and marked as follows:

a Inspect nose and tail to determine filler. If INERT, bomb will have "BURY" marked in white spray paint on the side and will be removed by range personnel to disposal area and 60 series procedures performed.

b If determination cannot readily be made, item will have "BLOW" marked on the side in white paint and disposal procedures will be performed using applicable 60 series technical data. Then item will be removed by range personnel.

e. Disposal of munitions on Melrose Range:

(1) Items which cannot be redistributed locally or sold with a monetary return equal or greater than the recovery cost will be placed/dumped in approved burial pits. The following items will normally be included in this category:

(a) MK 106 practice bombs.

(b) Tail sections of BDU 33 practice bombs.

(c) 20mm TP and small arms projectiles.

(d) Concrete filled MK 80 series, M117 and BDU 50 practice bombs.

(e) BDU 33 practice bombs with tail sections.

(2) BDU 33 practice bomb bodies will be placed in the range holding area as time permits for consolidation of items. They will be inspected, marked, transported and processed through DRMO in accordance with T.O. 11A-1-60 and local directives.

(3) MK 80, M series, and BDU 50 practice bombs will be demilitarized in a manner to expose the filler.

(4) Dud fired practice bombs and ADR air munitions will be processed and transported to the EOD disposal site and disposed of in accordance with T.O. 11A-1-42 and applicable 60 series technical orders.

(5) Coordinate with range control and verify permission to conduct required operations, such as disposal in place, detonation on disposal range, burn operations, etc.

f. Removal of munitions residue from Melrose Range:

(1) Coordinate equipment requirements with the range NCOIC.

(2) Inspect outgoing loads of brass for extraneous material, then transport brass to MSA and turn into inspection section.

(3) Ensure all items except brass are 100 percent inspected and marked in accordance with T.O. 11A-1-60 prior to being loaded for removal.

(4) Ensure loads are secured to vehicle so materials will not break loose enroute.

(5) Complete proper paperwork at DRMO, as applicable.

g. Release/sale of munitions residue by DRMO:

(1) Contact the EOD Branch Operations section as soon as shipments or release of munitions residue are scheduled.

(2) Ensure outshipment inspections are performed prior to release of any range munitions residue.

(3) Ensure paperwork is accomplished in accordance with T.O. 11A-1-60 and other applicable directives.

h. Completion of range operations:

(1) Inspect cleared and disposal areas for munitions residue and dispose of in accordance with applicable directives.

(2) Release medical and fire fighting personnel, to include augmentees, when no longer required.

(3) Turn in range radios and access gate key.

(4) Call the Command Post to notify them that EOD is departing the range, and that the range may go active as required.

(5) Return any unused explosives to the MSA.

(6) Accomplish the required reports:

(a) AFTO Form 358.

(b) AF Form 191 if applicable.

(c) AF Form 2005 (MSI).

(d) EOD Thermal Treatment Facility inspection log.

(e) DD Form 1348-1 if applicable.

1 If the identity of the item is not retained and a salable quantity of residue remains after disposal, ensure that the disposal statement reads: "Disposal has been accomplished. There is material which has been downgraded to scrap/waste."

2 If the identity of the item is not retained and a salable quantity of residue does not remain after disposal, ensure that the disposal statement reads: "Disposal has been accomplished. There is no residue material which has been downgraded to scrap/waste.".

3 When engaged in a demilitarization operation, the word "disposal" will be deleted from the statement. The "residue material" portion of the statement will be accomplished as in paragraphs 1 and 2 above.

10. Distribution. This regulation will be readily available to all personnel concerned and will be available at the operating location.

HEADQUARTER OFFICIAL 27 CMBT SPT GP

BOYCE W. WILTROUT, Colonel, USAF
Commander

JOSE R. ACOSTA, Major, USAF
Chief, Base Administration

1 Attachment
Expended Munitions List

SUMMARY OF CHANGES

This regulation updates procedures for conducting monthly, annual and 5 year clearances of Melrose Bombing/Gunnery Range Complex, while defining and adding support agencies responsibilities. Changes sequence of operations and adds notification of Command Post upon arrival to Melrose Bombing/Gunnery Range Complex. Adds turning in access key and notifying Command Post upon completion of range operations. Changes the word "DPDO" to "DRMO", para 8.b.. Changes Cannon AFB Hospital to 27 TFW Hospital, para 9.a.(3)(d).

SECTION E

ENVIRONMENTAL PERFORMANCE STANDARDS

The following section addresses the potential for a release of waste to have adverse effects on human health or the environment due to its migration in groundwater, soil and air. As explained in Section C the potential for hazardous waste to migrate is minimal due to the virtual complete combustion of all energetic material during OB/OD treatment. The DoD study of the environmental effects of OB/OD has shown that for outdated and unserviceable munitions, OB/OD is not only effective at combusting all of the energetic material present, but also environmentally sound. The thermal treatment facility being used only once a month further minimizes the cumulative effect of treatment on the environment.

E.1 Subsurface Assessment [NMHWR-5 Part V 264.601(a)]

E.1.a Volume and Physical and Chemical Characteristics of the Waste [NMHWR-5 Part V 264.601(a)(1)]

The types and quantities of waste being treated at the thermal treatment facility were discussed in Sections C and D. Munitions are brought to the treatment facility in their original product container. This container is designed for longterm stability and insures that no wastes are released to the environment prior to treatment. A release is most likely to occur at the time of treatment. Trace amounts of reactive waste or heavy metals are possible contaminants. Past soil analysis (Section C.2.a) has not shown any of these parameters to be above the lab's detection limits.

Munition wastes which could be released during the thermal treatment process are generally not water soluble. This limits the potential for wastes

to migrate through the soil or into the groundwater, which is over 160 feet below the surface. The wastes, however, are soluble in petroleum products such as diesel. Although this is not a cause for concern during open detonation, it is a concern during open burns. In the case of small burns the diesel is contained in the drum. A containment pan, which is being developed, would be used if a large burn was ever necessary.

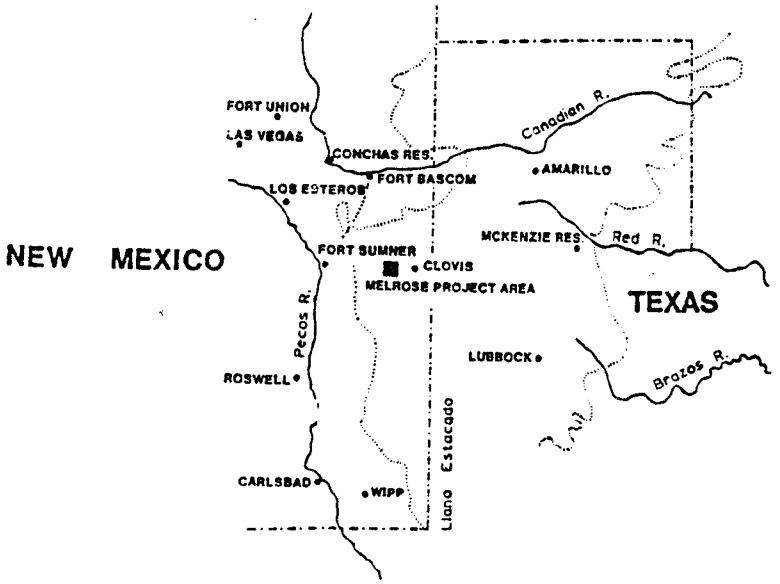
E.1.b Hydrologic and Geologic Characteristics [NMHWR-5 Part V 264.601(a)(2)]

Melrose AFR is located near the western margin of the Llano Estacado region of the Southern High Plains as shown in Figure E-1. The Llano Estacado has an area in excess of 30,000 square miles and ranges in elevation from 4,940 to 2,470 feet.

The highest elevation within Melrose AFR is approximately 4,700 feet

Figure E-1

Llano Estacado Region



above sea level and the lowest elevation approximately 4,200 feet. The topography gently slopes to the northeast away from a 200 foot mesa.

Permanent surface water is not present within the boundaries of Melrose AFR. The water table in the area is currently 160 feet below the surface and dropping rapidly as a result of groundwater usage for irrigation. There are no springs on Melrose AFR.

E.1.c Existing Quality of Groundwater [NMHWR-5 Part V 264.601(a)(3)]

The groundwater is potable.

E.1.d Quantity and Direction of Groundwater Flow [NMHWR-5 Part V 264.601(a)(4)]

The Portales Basin of the Ogalla Aquifer flows beneath Melrose AFR from the northwest to the southeast. The existing groundwater is considered adequate for irrigation purposes.

E.1.e Groundwater Use Patterns [NMHWR-5 Part V 264.601(a)(5)]

The only potable water well on Melrose AFR is approximately 12,000 feet north of the thermal treatment facility. Nine irrigation wells located four to five miles north and northeast of the treatment facility are presently in use. Thirty-four wells are used to supply water for domestic livestock. South and southwest of the thermal treatment facility the groundwater becomes deeper and the aquifer is considered less productive (from 1000 gallons per minute (gpm) to 0.5 gpm).

E.1.f Land use Patterns [NMHWR-5 Part V 264.601(a)(6)]

Melrose AFR consists of 8,560 acres of impact area (exclusively for military use), 49,177 acres of rangeland, 2,060 acres of cropland and 240 acres of roads and firebreaks.

E.1.g Waste Migration through the Subsurface [NMHWR-5 Part V 264.601(a)(7)]

As discussed in Section E.1.a the types of wastes treated at the thermal treatment facility are not water soluble and therefore will not migrate easily through the soil. Additionally, the area surrounding the OB/OD area is kept clear of vegetation.

E.1.h Health Risks of Human Exposure [NMHWR-5 Part V 264.601(a)(8)]

The distance to the nearest potable water well (12,000 feet) eliminates any realistic possibility for humans to be exposed to any health risks.

E.1.i Potential Damage to Domestic Animals, Wildlife, Crops, Vegetation, and Physical Structures [NMHWR-5 Part V 264.601(a)(9)]

Domestic animals and crops are not permitted in the confines of the impact area where the thermal treatment facility is located. Additionally, the minimal amount of waste which could be released to the environment, its limited ability to migrate and the depth to groundwater confine any possible contaminants to the OB/OD area. Within the treatment facility only prairie grass grows.

E.2 Surface Assessment [NMHWR-5 Part V 264.601(b)]

E.2.a Volume and Physical and Chemical Characteristics of the Waste [NMHWR-5 Part V 264.601(b)(1)]

The types and quantities of waste being treated at the thermal treatment facility and their potential to migrate were discussed in Sections C, D and E.1.a.

E.2.b Containing, Confining and Collecting Systems [NMHWR-5 Part V 264.601(b)(2)]

The only time free liquids (other than precipitation) are introduced

into the thermal treatment facility is during large burns when fuel is used as an ignition source. This treatment process has not been used since 1987. A containment pan will be utilized for any future large burns. The containment pan, several versions of which are under development by DoD, will prevent the ignition source from being released to the environment.

E.2.c Hydrologic Characteristics [NMHWR-5 Part V 264.601(b)(3)]

Permanent surface water is not present within the Melrose AFR boundaries. The water table in the area is currently 160 feet below the ground surface and is dropping as a result of groundwater usage for crop irrigation. There are no springs on Melrose AFR.

E.2.d Precipitation Patterns [NMHWR-5 Part V 264.601(b)(4)]

The climate of Melrose AFR is classified as semiarid, with an annual average rainfall of 14 inches. Intense thunderstorms throughout the late summer months account for 73% of the area's precipitation. The evapotranspiration rate of 92 inches per year is six times the average rainfall.

E.2.e Quantity, Quality and Direction of Groundwater Flow [NMHWR-5 Part V 264.601(b)(5)]

The Portales Basin of the Ogalla Aquifer flows beneath Melrose Range from the northwest to the southeast. While the groundwater yield in the north and northeastern area of the range is considered adequate for irrigation purposes, the yield in the central and southern areas of the range is approximately 0.5 gpm.

E.2.f Proximity to Surface Waters [NMHWR-5 Part V 264.601(b)(6)]

There are no permanent surface waters within Melrose AFR. Ponding

occurs, however, within three dirt embankments during periods of heavy rainfall. The nearest ponding occurs 8,000 feet south of the treatment facility. Due to the surface flow patterns of the range, the surface water which feeds into the ponds does not flow through the thermal treatment facility.

E.2.g Quality Standards and Uses of Nearby Surface Waters [NMHWR-5 Part V 264.601(b)(7)]

There are no water quality standards for the temporary ponds which occur on Melrose AFR. Wild animals native to the range drink this water when it is available.

Similarly, no water quality standards exist for ephemeral streams, which are the only other surface waters found on the range. The streams do not have a specified use.

E.2.h Existing Quality of Surface Water and Surface Soils [NMHWR-5 Part V 264.601(b)(8)]

Surface water quality is not a concern at Melrose AFR because there is no permanent surface water.

In general, the surface soil is highly susceptible to wind erosion and tends to form sand dunes. The topsoil in many places is thin and generally consists of a light sandy loam which does not support top agricultural production.

E.2.i Land Use Patterns [NMHWR-5 Part V 264.601(b)(9)]

Melrose AFR consists of 8,560 acres of impact area, 49,177 acres of rangeland, 2,060 acres of cropland and 240 acres of roads and firebreaks.

E.2.j Health Risks of Human Exposure [NMHWR-5 Part V 264.601(b)(10)]

The distance to the nearest potable water well (12,000 feet) eliminates any realistic potential for humans to be exposed to any health risks.

E.2.k Potential Damage to Domestic Animals, Wildlife, Crops, Vegetation, and Physical Structures [NMHWR-5 Part V 264.601(b)(11)]

Domestic animals and crops are not permitted in the confines of the range impact area where the treatment facility is located. The amount of waste which could be released to the environment is not enough to have an adverse effect outside of the OB/OD area. Prairie grass is the only vegetation which grows in the thermal treatment facility.

E.3 Air Assessment [NMHWR-5 Part V 264.601(c)]

E.3.a Volume and Physical and Chemical Characteristics of the Waste [NMHWR-5 Part V 264.601(c)(1)]

The types and quantities of waste being treated at the thermal treatment facility and their potential to migrate were discussed in Sections C, D and E.1.a.

E.3.b Systems and Structures to Reduce or Prevent Emissions [NMHWR-5 Part V 264.601(c)(2)]

There are no systems or structures to prevent or reduce the emission of hazardous constituents to the air. The instantaneous nature of the OB/OD process, coupled with its infrequent use, minimize the potential for longterm damage to the area's air quality. An open burning permit is obtained annually from the New Mexico Environmental Improvemnt Division for operations at Melrose AFR.

E.3.c Operating Characteristics [NMHWR-5 Part V 264.601(c)(3)]

Use of the thermal treatment facility will occur, at most, once per month. Treatment is only performed between the hours of 0600 and 1500 on clear days when the wind speed is less than 20 miles per hour. Detailed operating procedures are outlined in Section D.

E.3.d Atmospheric, Meteorological and Topographic Characteristics [NMHWR-5 Part V 264.601(c)(4)]

The Melrose AFR area is classified as semiarid, with an average of 14 inches of precipitation annually. Intense thunderstorms throughout the late summer months account for 73% of the area's precipitation. The evapotranspiration rate averages 92 inches per year which is six times the average rainfall. A wind rose for Melrose Range is included in Section B.2.a.(3).

The topography gently slopes to the northeast away from a 200 foot mesa. The highest elevation in the range is approximately 4,700 feet above sea level and the lowest elevation approximately 4,200 feet.

E.3.e Existing Air Quality [NMHWR-5 Part V 264.601(c)(5)]

Melrose AFR is located in the Pecos-Permian Basin Interstate Air Quality Control Region. While there are no monitoring sites on or adjacent to the range, both Curry and Roosevelt Counties meet the National Ambient Air Quality Standards (NAAQS). The EPA indicates that ambient concentrations of particulates and sulfur oxides are lower than the national standards and that ozone, carbon monoxide and nitrogen oxides cannot be classified or are better than the standards. The area has not been designated as an Air Quality Maintenance Area for any of the criteria pollutants discussed above.

Table E-1 shows the present pollution (by source) occurring on the range. These emissions have been occurring for the past few years and were a part of the area's pollutant load when EPA ruled on the attainment status of the NAAQS. The air emissions released during OB/OD primarily consist of organic gasses. Compared to the existing pollutants, the emissions from the thermal treatment facility are negligible.

Figure E-2

Current Pollution Emissions - Melrose AFR

SOURCE	ANNUAL HOURS	FUEL FLOW (lb/hr)	ANNUAL CONSUMPTION (1000 lb)	POLLUTANT EMISSION RATE (lb/1000 lb fuel) CO	HC	NOx	PART	SOx	POLLUTANT EMISSIONS (lb/yr) CO	HC	NOx	PART	SOx
.11D[1]	2,104	14,516	30,542	0.8	0.1	20.0	0.35	1.0	24,434	3,054	610,840	10,690	30,542
A-7[1]	527	8,419	4,437	1.8	0.2	21.0	0.67	1.0	7,987	887	93,177	2,973	4,437
F-4C[1]	23	17,859	411	2.2	0.2	8.9	2.2	1.0	904	82	3,658	904	411
HH-53BC[2]	19	2,856	54	2.4	0.9	23.3	2.9	1.0	130	49	1,258	157	54
F-111A[1]	7	14,516	102	0.8	0.1	20.0	0.35	1.0	82	10	2,040	36	102
60 kw Generator and Power Plant[3]	-	-	37	0.7	0.14	2.5	0.34	0.1	26	5	92	13	4
Vehicles:[3]													
Gasoline-Powered	-	-	21	64.0	7.86	9.1	1.1	0.23	1,340	165	191	23	5
Diesel-Powered	-	-	119	6.3	1.0	4.62	0.33	0.62	752	120	550	39	74
								TOTAL	35,655	4,372	711,806	14,835	35,629

NOTE: Calculations based on military mode only.

Reference Source: [1] Aircraft Air Pollution Estimations-ACEE, CEEDO-TR-78-33, Sep 78.

[2] Aircraft Engine Emissions Catalog, R/S NAVAIRWORKFAC 13790-4, Feb 76.

[3] Compilation of Air Pollutant Emission Factors, AP-42, 3rd Edition, Aug 77.

E.3.f Health Risks of Human Exposure [NMHWR-5 Part V 264.601(c)(6)]

The distance to the nearest potable water well (12,000 feet) eliminates any realistic potential for humans to be exposed to any health risks.

E.3.g Potential Damage to Domestic Animals, Wildlife, Crops, Vegetation, and Physical Structures [NMHWR-5 Part V 264.601(c)(7)]

Domestic animals and crops are not permitted in the confines of the range impact area where the treatment facility is located. The maximum amount of waste which could be released to the environment is not enough to have an adverse effect outside of the fenced in treatment facility. Prairie grass is the only vegetation which grows within the facility.

SECTION F

PROCEDURES TO PREVENT HAZARDS

This section addresses general security provisions, inspection schedules and the prevention of accidental ignition.

F.1 Security

Security procedures to be implemented in order to prevent hazards are described below.

F.1.a Security Procedures and Equipment [NMHWR-5 Part IX 270.14(b)(4) and Part V 264.14]

A waiver of the security requirements is not requested.

F.1.a.(1) 24-Hour Surveillance System [NMHWR-5 Part V 264.14(b)(1)]

Cannon AFB is responsible for onsite security to control entry at all times through the gates or other entrances to the active portion of Melrose AFR.

F.1.a.(2) Barrier and Means to Control Entry [NMHWR-5 Part V 264.14(b)(2)(i) and (iii)]

Melrose AFR is surrounded by a 5-foot barbed wire fence equipped with a lockable gate.

F.1.a.(3) Warning Signs [NMHWR-5 Part V 264.14(c)]

Signs with the legend "Danger-Explosive Disposal Range - Keep Out" will be posted at the entrance to Melrose Range and at intervals around the perimeter. These signs will be printed in English and Spanish.

F.1.b Waiver [NMHWR-5 Part V 264.14(a)]

Cannon AFB does not request a waiver.

F.2.a Inspection Schedule [NMHWR-5 Part IX 207.14(b)(5) and 264.15]

The thermal treatment facility will be inspected prior to each use. The inspection checklist is shown in Figure F-1.

F.2.b Specific Process Inspection Requirements [NMHWR-5 Part IX 270.14(b)(5) and 264.15(b)(4)]

Since this permit application only addresses one process there is not a separate process inspection for thermal treatment. This process inspection was covered in Section F.2.

F.2.c Remedial Action [NMHWR-5 Part V 264.15(c)]

If inspections reveal that non-emergency maintenance is needed, immediate action will be initiated to preclude further damage and to reduce the need for emergency repairs. If a hazard is imminent, or occurs during the course of an inspection, or at any time between inspections, then remedial action will immediately be taken.

F.3 Waiver of Preparedness and Prevention Requirements [NMHWR-5 Part IX 270.14(b)(6)]

This applicant does not request a waiver of the preparedness and prevention requirements under NMHWR-5 Part V 264. Requirements of this subpart are addressed in Section D, F, and G of this application.

F.3.a Equipment Requirements [NMHWR-5 Part V 264.32]

Communication, emergency and fire control equipment are discussed in Sections F and G.

F.3.b Aisle Space Requirement [NMHWE-5 Part V 264.35]

Aisle space requirements are not applicable to this facility.

Figure F-1

Inspection Checklist

EXPLOSIVE ORDNANCE DISPOSAL THERMAL TREATMENT FACILITY

INSPECTION LOG

DATE_____ TIME_____

ITEM	CONDITIONS	STATUS SAT	STATUS UNSAT	REMARKS
SECURITY	A. FENCING			
	B. GATES			
	C. SIGNS			
FUEL REQUIREMENTS	A. DIESEL			
	B. CONTAINER			
FIRE PROTECTION	A. EXTINGUISHERS			
	B. CHARGED			
	C. SEALS			
	D. FIRE EQUIP			
COMMUNCATIONS EQUIPEMENT	A. RADIO			
	B. OPERATIONAL			
RANGE CONDITIONS	A. PIT			
	B. GRADED			
	C. PREPARED			

SIGNATURE _____

F.4 Preventive Procedures, Structures, and Equipment [NMHWR-5 Part IX 270.14(b)(8)]

See also Section G.5.

F.4.a Runoff [NMHWR-5 Part IX 270.14(b)(8)(ii)]

Runoff is not anticipated from the thermal treatment area. The munitions disposed of do not contain any liquid and no liquids are used during the open detonation process. A containment pan will be used during open burns to insure that the fuel used for ignition does not come in contact with the soil.

F.4.b Water Supplies [NMHWR-5 Part IX 270.14(b)(8)(iii)]

A well for potable water is located on Melrose AFR, 12,000 feet north of the thermal treatment facility.

F.4.c Equipment and Power Failure [NMHWR-5 Part IX 270.14(b)(8)(iv)]

No electrical equipment is used at the thermal treatment facility.

F.5 Prevention of Reaction of Ignitable, Reactive, and Incompatible Wastes

F.5.a Precautions to Prevent Ignition or Reaction of Ignitable or Reactive Wastes [NMHWR-5 Part IX 270.14(b)(9) and Part V 264.17(a) and (c)]

Explosives will be handled only by trained personnel under the supervision of an individual who understands the hazards and risks involved in the operation.

Detonators, initiators, squibs, and other such electrically or mechanically actuated devices required for operations such as loading, explosive ordnance disposal, and egress maintenance will be carried in protective containers. These containers will be designed to prevent item-to-item contact and will be marked to identify the contents.

Bale hooks will be used to handle explosives. Nails may be used to secure covers or make repairs on containers only if there is no hazard of penetrating protective coverings.

Smoking is prohibited in any area containing exposed explosives. Any battery-operated lights used in locations containing exposed explosives will be approved by the U.S. Bureau of Mines or other recognized authority.

Safety requirements for munitions personnel are included in Section I, "Safety and Accident Prevention" of General Instructions for Disposal of Conventional Munitions, T.O. 11A-1-42 (Appendix F-1)

F.5.b General Precautions for Handling Ignitable or Reactive Wastes and Mixing of Incompatible Wastes [NMHWR-5 Part V 264.17(b) and (c) and Part IX 270.14(b)(9)]

General precautions for handling ignitable or reactive wastes were discussed previously in Section F.5.a.

Appendix F-1

Section I - "Safety and Accident Prevention"

from

General Instructions for Disposal of Conventional Munitions (T.O. 11A-1-42)

SECTION I

SAFETY AND ACCIDENT PREVENTION

1-1. GENERAL.

1-2. These safety requirements and precautions will be complied with by munitions personnel during disposal of conventional munitions. All personnel engaged directly as well as indirectly in operations in which a munition is involved shall be thoroughly trained in explosives safety and capable of recognizing hazardous explosive exposures. Thinking safety and working safely must become a firmly established habit when working with or in the vicinity of items capable of creating a hazard due to the nature of their explosive, flammable or toxic fillers.

1-3. GENERAL REQUIREMENTS.

1-4. The Explosives Safety Standards, AFR 127-100 will be followed. The absence of a safety requirement in this technical manual, in a specific technical order covering a given item, or in AFR 127-100 does not necessarily indicate that no safeguards are required. Prompt action will be taken to control any hazard. If an immediately dangerous explosive item is encountered, all operations in the immediate vicinity will be shut down, personnel evacuated to a safe location, and EOD personnel called to render assistance in eliminating the hazard. Operations will not be resumed until the hazard has been eliminated.

1-5. If transmitting antenna of radio, radar, or other electromagnetic generating devices are in the vicinity of items covered in this manual, the appropriate section of AFR 127-100 will be consulted. The applicable safety distances for electromagnetic devices will be followed.

1-6. When an abnormal condition is noted, and pertinent procedures contained herein do not specifically relate to the noted irregularity, work shall be stopped and technically qualified guidance will be obtained before continuing the operation.

1-7. All disposal operations will be conducted in accordance with approved procedures as required by AFR 127-100 and this manual. Written procedures will be prepared covering disposal operations and will include applicable safety requirements. No attempt will be made to dispose of any items using less than the amount of explosives specified in disposal methods.

1-8. Some munitions are comparatively difficult to explode; therefore, a search of the area will be made after each detonation for any material that has not been detonated. Use caution when investigating post-firing results. Misfired charges may be present even though the shot appeared to be normal.

1-9. AFR 127-100 provides basic damage data and information concerning hazards to personnel and damage to facilities that may be expected at given distances. These distances do not provide protection to personnel in the open from fragments and debris.

1-10. Fire prevention is an integral part of any munitions disposal operation. At locations where a high fire hazard exists, such factors as weather and local environmental conditions become critical. When the fire department is contacted, the local fire hazard potential will be evaluated and a determination made as to additional protective measures

necessary to ensure effective fire prevention. If adequate fire preventive/protective measures cannot be taken, disposal operations will not be conducted.

1-11. Disposal actions will be completed in the safest most expeditious, and cost effective manner available at a particular disposal site. Items with compatible characteristics and similar disposal methods should be disposed of in a single operation whenever possible. In disposal operations completed by detonation, consideration should be given to utilizing items with a high explosive content to enhance efficiency and cost effectiveness. Mixing of bulk explosives will not be permitted during burning operations.

1-12. The maximum quantity of explosives that may be disposed of at one time will include the net explosives weight of the item(s) to be disposed of plus the weight of the demolition charge. The established explosive limit for the range will not be exceeded and safety distances will not be violated.

1-13. The disposal of munitions by burning or detonation involves the release of toxic fumes. A covered pit may effectively limit the range of fragments; but the control of fumes is dependent upon a number of factors, each of which must be carefully assessed for the particular material being destroyed at the time and place the operation is conducted.

1-14. Chemical munitions will be destroyed in an open space (preferably on a hilltop) and there should be no woods or heavy brush that might trap the fumes close to the operation, especially in the downwind direction.

1-15. A pit should be used to limit fragments. The pit will be a minimum of 1.22 meters (four feet) deep and the item to be destroyed covered with 0.61 meters (two feet) or more of earth. are not required when disposal takes place on a bombing range. If pits or similar aids are not used to limit fragments, cautions will be taken to protect personnel and equipment. The use of a pit or barricade or other means of confinement is mandatory where ranges do not have 732 meters (2400 feet) of clearance.

1-16. Inert filled items will not be disposed of or released for sale as scrap metal until internal fillers are exposed and unconfined. Heat generated during a reclamation operation can cause the filler, moisture and air to expand and burst sealed casings. Venting or exposure may be accomplished in any way necessary to preclude rupture due to confined pressure.

1-17. RANGE REQUIREMENTS.

1-18. All disposal ranges will be sited in accordance with AFR 127-100. A ical disposal range is shown in fig 1-1.

1-19. Regulations of host nations concerning disposal operations will not be violated. When Army/Navy disposal ranges are utilized by the Air Force, Army/Navy range requirements will control.

1-20. Bombing ranges may be utilized for disposal operations when authorized by the agency having operational control over them. Requirements of the range controlling activity will be adhered to; however, all safety criteria in this regulation must be followed. Normally, signs and warning devices employed during active range periods are adequate for disposal operations and need not be duplicated.

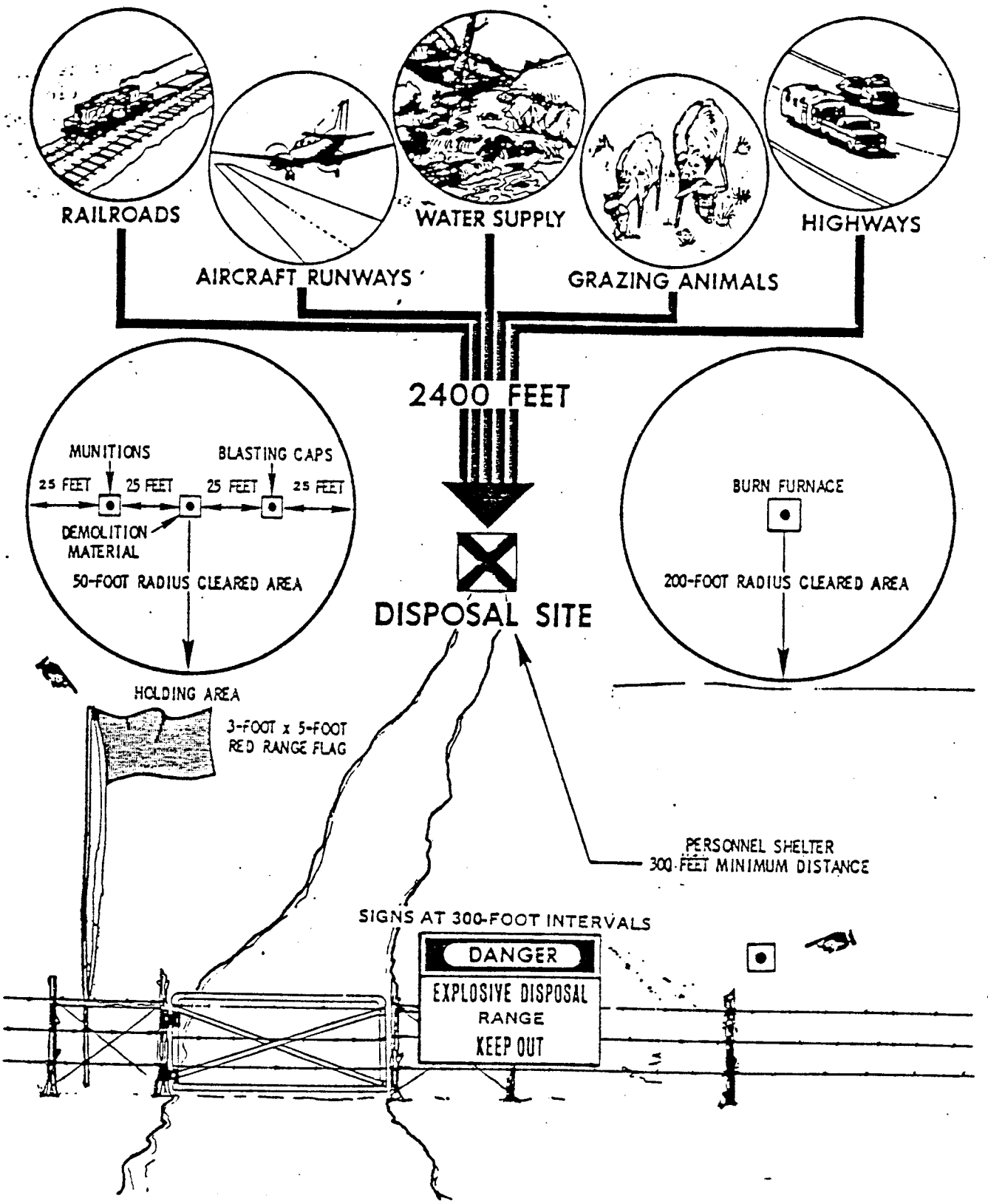


Figure 1-1. Typical Disposal Range

1-21. All dry grass, leaves, and other combustible materials within a radius of 61 meters (200 feet) will be removed from point of burning/detonating site. The radius may be reduced, commensurate with fire hazards, for recognized burning furnace sites provided written approval from Major Air Command has been received. Under no circumstances will the radius be reduced to less than 15 meters (50 feet). The site will be free of deep cracks in which unburned explosives or agents may lodge. The use of concrete pads for burning or detonation is not permissible.

1-22. A holding area will be provided to accept initial deliveries of munitions for disposal and demolition materials. The holding area will be located within the disposal range, but at a suitable distance from disposal sites to preclude uncontrolled destruction of the material by flying fragments, grass fires or burning embers. All dry grass, leaves and combustible material will be removed within a 15 meter (50-foot) radius of the holding area. Munitions to be disposed of, demolition material, and blasting caps will be separated by a minimum of 7.6 meters (25 feet) within the holding area. After initial delivery to the holding area, munitions disposal and the necessary demoliti material will be delivered to the actual disposal site as required. If a disposal range is not large enough to provide an absolutely safe holding area, munitions will only be delivered to the disposal site in quantities for immediate disposal.

1-23. Tools and equipment to be employed during disposal operations will be afforded protection to prevent damage. Safety equipment/clothing will be readily available but must be protected from damage.

1-24. A first aid kit, NSN 6545-00-116-1410, or suitable substitute, will be immediately available during disposal operations. An ambulance or first aid vehicle, manned by personnel trained to handle casualties that may occur during disposal of specific munitions, will be on hand or on call. Type of equipment for specific munitions being dispose of will be coordinated with the Bas Medical Facility.

1-25. Fire fighting equipment will be present at the scene to combat grass, brush or equipment fires. Type of equipment and any additional protective measures deemed necessary in high fire risk areas/periods will be coordinated with the Base Fire Marshal.

1-26. A means of communication with both base facilities and disposal personnel will be established. Communication may be by the most convenient method (radio, telephone, walkie-talkie, etc); but the equipment used will be in good working order prior to commencing any disposal operation.

1-27. Where operations require the use of a personnel shelter, the shelter will be located not less than 91 meters (300 feet) from the disposal site and will afford substantial fragment-proof overhead cover and frontal protection.

1-28. The following minimum requirements are to be employed during a disposal operation:

a. Red range flag to be flown during disposal operations and removed only after the range has been declared safe. The flag will be a minimum of 0.91 meters (three feet) wide by 1.52 meters (five feet) long. Flag must be displayed at a height to where it will be a visible warning from a safe distance at all points of access to explosive operation.

b. AFTO Forms 61, with legend "Danger - Explosive Disposal Range - Keep Out" imprinted in them may be ordered in amounts needed through proper channels. AFTO Form 61 is listed in AFR 0-9. These forms will be posted at entrances and at 91 meter (300 feet) intervals around perimeter of range. Any additional required multilingual information will be posted below forms in black letters 5.08 centimeters (two inches) on a white background. See figure 1-1.

c. Barricades, gates or guards at all entrances.

d. In areas where disposal ranges are not under constant control of US Armed Forces, the provisions of preceding subparagraphs a, b, and c may be waived, provided the following safety requirements are strictly adhered to:

(1) Prior to starting disposal operations, the disposal range will be searched for unauthorized personnel.

(2) Guards will be posted to prevent entry into the area prior to and throughout the disposal operation. Guards will be afforded adequate protection from fragments.

1-29. PERSONNEL REQUIREMENTS.

1-30. Personnel requirements and restrictions listed below are the minimum requirements for personnel assigned to disposal operations. Persons not necessary to the operation being conducted will be barred from the disposal area. The number of personnel engaged in disposal operations will be kept to a minimum but in no case less than two.

1-31. Commanders will ensure that care is exercised in the assignment of personnel to disposal duties. All personnel employed in disposal activities will be thoroughly trained in the nature of the material being handled, the hazards involved, and the applicable operating safety procedures and precautions to be observed. The danger of using shortcuts will be thoroughly instilled in the minds of all personnel.

1-32. Supervisory Personnel. Disposal procedures will be performed under the supervision of personnel qualified and highly proficient in such activities. The supervisor will be present during all disposal operations and will be charged with the control of all firing devices and will be responsible for preparation, placement, and firing of charges. Responsibility will not divided. Supervisory responsibili include, but are not limited to, the following actions:

a. Have at the site approved written procedures covering the specific munition being disposed of and enforce stric compliance with procedures as written.

b. Instill in all personnel the dangers of shortcuts or deviations from written procedures.

c. Take corrective action in all violations of procedures or orders whether or not an accident occurs.

d. Direct construction and use of personnel shelters if and where necessary.

e. Ensure availability of required protective equipment; that personnel are familiar with the use of such equipment; and enforce, if necessary, use of equipment.

f. Ensure that sufficient personnel are trained in treatment of casualties and will advise all personnel of any self-aid measures to minimize or prevent injury.

g. Be knowledgeable of the characteristics of chemical agents and methods of detecting leakage.

h. Be thoroughly familiar with the influence of weather conditions on disposal operations.

i. Contact Explosive Ordnance Disposal (EOD) personnel whenever hazardous conditions are encountered.

1-33. Protective measures regarding personnel and equipment will be strictly enforced during all disposal operations.

Additional guidance for explosive items and chemical agents may be found in AFR 127-100, AFM 160-12, Treatment of Chemical Agent Casualties and Conventional Military Chemical Injuries, and the specific item technical manual. The following agencies, as a minimum, will be notified prior to accomplishing disposal procedures listed in this manual:

a. Medical Facility

b. Security Police

c. Fire Department

d. Base Operations

e. EOD (When available on base)

1-34. At minimum safe distances in AFR 127-100, personnel in the open may be exposed to some fragments and debris. Therefore, greater distances should be used; explosive weights lowered; or action taken to reduce hazards by:

a. Confinement of the explosive results at the source to the extent possible.

b. Use of barricades adjacent to the exposure or the source or both.

c. Evacuation of personnel not essential to the disposal operation.

d. Employment of overhead and frontal cover for personnel involved.

1-35. Personnel engaged in disposal work shall be afforded ample time to reach a safe distance prior to detonation. The signal for detonation shall be given by the supervisor after all personnel in the vicinity are protected by substantial cover or have reached a safe distance. Safety distances will be observed by all personnel.

1-36. WEATHER PRECAUTIONS.

1-37. No disposal operation will be conducted during an electrical storm or when such a storm is approaching within 4.8 kilometers (3 miles). Additionally, disposal by detonation using an electrical firing system will not be conducted during sand, dust, or snow storms.

1-38. Disposal by open burning will not be conducted when wind velocity exceeds 15 miles per hour.

SECTION G

CONTINGENCY PLAN

The information contained herein is submitted in accordance with the requirements for a Contingency Plan, as contained in NMHWR-5 Part IX 270.14(b)(7) and Part V 264.50 - 264.56.

G.1 General Information [NMHWR-5 Part V 264.52]

This Contingency Plan is for the thermal treatment facility located on Melrose AFR. Melrose AFR is owned and operated by Cannon AFB. Information in this contingency plan is adapted primarily from the Cannon AFB Spill Prevention and Response Plan (SPR).

The thermal treatment facility on Melrose AFR is used to treat the explosive portion of outdated and unserviceable munitions. A site plan and description of the thermal treatment facility are contained in Section B. A description of the wastes disposed of is provided in Section C, and the treatment process is described in Section D.

G.2 Emergency Coordinators [NMHWR-5 Part V 264.52 (d) and 264.55]

The On-Scene Coordinator (OSC) is the individual assigned the responsibility for directing and coordinating all spill response actions. The OSC will have the authority to utilize the expertise and resources of the Spill Response Team (SRT) in determining and performing response actions. Deployment of the SRT will be activated only if called by the OSC or his/her designate. A list of the emergency coordinators is provided in Table G-1. The deployment of the SRT provides a coordinated response to contain, control, recover, and restore the environment for any releases to the environment. Members of the SRT are shown in Table G-2. If necessary, the OSC will also

Table G-1
Emergency Coordinators

Name and Title	Work Address	Home Address
On-Scene Coordinator: Combat Support Group Commander Lt Col Thomas N. Chapman	27 CSG/CC Cannon AFB, NM 88103 (505) 784-2761	7738 Oklahoma Ct Cannon AFB, NM 88101 (505) 784-8149
First Alternate: Base Civil Engineer Lt Col Garry W. Earls	27 CSG/DE Cannon AFB, NM 88103 (505) 784-2008	7726 Okalahoma Ct Cannon AFB, NM 88101 (505) 784-3694
Second Alternate: Base fire Chief William W. Thomas	27 CSG/DEF Cannon AFB, NM 88103 (505) 784-4076	2101 Glenarm Clovis, NM 88101 (505) 762-4855
Environmental Coordinator: Jimmie N. Richards	27 CSG/DEV Cannon AFB, NM 88103 (505) 784-4076	Rte 3, Box 538 Portales, NM 88130 (505) 356-4830

contact the outside organizations and agencies that are listed in Table G-3.

G.3 Specific Contingency Plan [NMHWR-5 Part IX 270.19(b)(7)]

Cannon AFB's Fire Department is always on site when munitions are being treated at Melrose AFR. If a highly flammable material is released, the following action will be taken:

1. All persons within a 1/4-mile radius will be notified.
2. All ignition sources will be eliminated.
3. Motor vehicles will be restricted or eliminated to avoid ignition of the vapor.
4. All persons within a 2000-foot radius of the source will be evacuated if the likelihood of an impending explosion is determined.

Table G-2
Spill Response Team

Organization	Phone	Organization	Phone
Combat Support Group Commander	2761	Legal	2211
Base Civil Engineer	2008	Public Affairs	4131
Base Fire Department	4117	Safety	2811
Base Fire Chief	4076	Base Hospital	4038
Environmental Coordinator	4639	Transportation	2641
Bioenvironmental Engineer	4063	Weather	2748
Disaster Preparedeness	4177	Photo Lab	2765
Security Police	2351	Liquid Fuels Maintenance	2112

Table G-3
Outside Organizations

Organization	Phone
Clovis Fire Department	769-2185
Clovis Police Department	769-1921
NM Health and Environment Department	827-9329 (24 hour emergency number)
EPA Region VI	(214) 767-3274
EPA Emergency Response Team	(201) 321-6600
HQTAC Langley AFB, VA	DSN 432-4430 or 432-2224
CHEMTREC	(800) 424-9300
ETIS	DSN 970-6167
National Response Center	(800) 424-8802

The Fire Chief will determine when the fire has been controlled and consult with the SRT and OSC to determine when activities in the area can resume.

In the event of a hazardous substance spill, the OSC will be responsible for directing and coordinating all response actions. The OSC or his/her designee will maintain an Incident Log detailing all actions taken during the course of the spill.

G.4 Prevention of Recurrence or Spread of Fires, Explosions, or Releases [NMHWR-5 Part V 264.56(e)]

The Environmental Coordinator will prepare a Pollution Incident Report which will assess the cause of the fire, explosion, or spill. This report will also indicate remedial actions which will be taken to prevent any recurrence of the hazardous situation.

G.4.a Equipment Maintenance [NMHWR-5 Part V 264.56(h)(2) and (i)]

After an emergency event, all emergency equipment which was utilized for clean-up purposes will be decontaminated or replaced. Equipment will be triple-rinsed using water or an appropriate solvent. All rinses will be containerized. The third rinse will be analyzed for appropriate parameters, which will be determined by the materials involved. An inspection of all safety equipment will be conducted before operations are resumed [NMHWR-5 Part V 264.56(i)]. The Director of the New Mexico Environmental Improvement Division will be notified that post-emergency equipment maintenance has been performed and operations will resume.

G.5 Emergency Equipment [NMHWR-5 Part V Section 264.52(e)]

The Fire Department will be present when munitions are being treated

at Melrose AFR. A groundwater well provides water for fire-fighting purposes.

G.6 Coordination Agreements [NMHWR-5 Part V 264.52(c), 264.53(b), and 264.37(b)]

The Curry and Roosevelt County Hospitals and the City of Clovis Fire Department will provide services to Cannon AFB's Fire Department in an emergency situation. These coordination agreements are shown at the end of this section in Appendix G-1. Copies of any correspondence with these organizations will be added to this appendix. A copy of this contingency plan will be provided to these organizations.

The agreement between the fire departments states that the requesting party (in this case, the Cannon AFB Fire Department) will be in charge of all operations. The Disaster Preparedness Plan (OPLAN 355-1) assigns the responsibility of Medical Disaster Operations to USAF Hospital, Cannon AFB.

Documentation will also be kept of the refusal of an organization to enter into such an agreement.

G.7 Evacuation Plan [NMHWR-5 Part V 264.52 (f)]

All emergencies require prompt and deliberate action. In the event of any major emergency, it will be necessary to follow an established set of procedures. Such established procedures will be followed as closely as possible; however, in specific emergency situations, the On-Scene Coordinator (OSC) may deviate from the procedures to provide a more effective plan for bringing the situation under control. The OSC is responsible for determining which emergency situations require evacuation.

In the event an evacuation from the thermal treatment area is necessary, the following actions will be taken:

1. The signal for evacuation will be activated.

2. No further entry of visitors, contractors, or trucks will be permitted. All vehicle traffic will cease in order to allow the safe exit of personnel and the movement of emergency equipment.

3. All personnel, visitors, and contractors will immediately leave through the exit gate.

4. No persons shall remain or re-enter the location unless specifically authorized by the person calling for the evacuation. In allowing this, the person in charge assumes responsibility for those persons within the perimeter. Those within the fenced area will include only the fire brigade personnel or emergency teams.

5. All persons will be accounted for by their immediate supervisors, who will ensure that personnel remain together and proceed to a safe location.

6. Re-entry into the facility will be made only after clearance is given by the OSC.

The OSC will determine the need for evacuation of additional personnel in the vicinity of the facility.

G.8 Required Reports [NMHWR-5 Part V 264.56(j)]

Any emergency event (e.g., fire, explosion, etc.) that requires implementation of the Contingency Plan will be reported in writing within 15 days to the New Mexico Environmental Improvement Division. This report must include the information items listed in Appendix G-2.

Appendix G-1

Coordination Agreements

AGREEMENT FOR MUTUAL SUPPORT DURING DISASTERS

(Curry and Roosevelt County Hospitals)

THIS AGREEMENT is made and effective 1 February 1983 between Clovis High Plains Hospital and Roosevelt General Hospital, both are organized and existing under the laws of the State of New Mexico and USAF Hospital Cannon, operating under the guidelines and regulations of the United States Air Force and the Department of Defense.

NOW, THEREFORE, IN CONSIDERATION of the mutual advantages occurring to the parties hereto, each facility hereby convenants and agrees with each other as follows:

ARTICLE I - AUTONOMY:

The Governing Bodies of the facilities shall continue to have exclusive control of the management, assets, and affairs of their respective facilities, and neither party by virtue of this agreement shall assume any liability for any debts or obligations which have been or which may be incurred by the other party to this agreement.

ARTICLE II - TRANSFER OF PATIENTS:

In the event of a major catastrophe or other events affecting major portions of the communities population which could result in the caring for large numbers of injuries, diseases or other infirmities which exceed the capacity of the aforementioned facilities, each hospital would make available to each other resources to include facilities, personnel, supplies and equipment and transportation assets in order to reduce loss of life, limb or prevent undue suffering. This support will be subject to resources available and in no way be allowed to degrade the existing health care program or circumvent the charter or directives of the parent organization. Support will be provided by all facilities without regard to race, color, creed or national origin. The requesting facility shall give notice to the other facilities as far in advance as possible of any potential or actual situation requiring assistance. In the case of the USAF Hospital Cannon, requests for assistance will be referred to the Commander, Cannon Air Force Base, who will decide whether, and to what extent, support may be provided. In the event of actual transfer of patients, every effort will be made to provide

the receiving facility with current diagnosis and medical care provided prior to transfer. The transfer of patient valuables and personal effects will not be effected until such time as the situation has stabilized.

ARTICLE III - FINANCIAL AGREEMENT

Charges for services performed by one party for patients transferred from the other party pursuant to this agreement shall be collected by the party rendering such services directly from the patient or from the sources normally billed. Neither party shall have any liability to the other for such charges, except to the extent that such liability would exist separate and apart from this agreement. Nor shall either party receiving a transferred patient be responsible for collecting any account receivable of the other party from such patient which still may be outstanding after such transfer takes place.

ARTICLE IV - TERMINATION:

This agreement may be terminated by either party at any time upon the giving of at least 60 days prior written notice. Notwithstanding any notice which may have been given, however; this agreement shall be automatically terminated whenever either party shall have its license to operate revoked, suspended or non-renewed.

ARTICLE V - ADVERTISING AND PUBLICITY:

Neither party shall use the name of the other party in any promotional or advertising material unless review and approval of the intended shall first be obtained from the party whose name is to be used. The requirements of the Privacy Act will be followed by each facility.

ARTICLE VI - NON-EXCLUSIVE CLAUSE:

Nothing in this agreement shall be construed as limiting the right of either party to affiliate or contract with any other hospital, on either a limited or general basis, while this agreement is in effect.

ARTICLE VII - MODIFICATION:

This agreement may be modified, amended, or supplemented by agreement of both parties, but no such ratification,

amendment, or supplement shall be binding on either party unless and until the same is attached hereto in writing and signed by authorized officials of each facility.

AGREED:

FACILITY: Clovis High Plain's Hospital DATE 9-8-83

PHILLIP J. TODD
Hospital Administrator

FACILITY: Roosevelt General Hospital DATE 8 Sep 83

RONALD L. McARTHUR
Hospital Administrator

FACILITY: USAF Hospital Cannon DATE 1 Feb 83

RICHARD G. McGOUGH, Major, USAF, MSC
Hospital Administrator

AGREEMENT FOR MUTUAL AID IN
FIRE PROTECTION

This agreement, entered into this 15 day of August 1983, between the Secretary of the Air Force acting pursuant to the authority of 42 U.S.C. (1856(A)) and the City of Clovis, New Mexico Fire Department is for securing to each the benefits of mutual aid in fire prevention, in the protection of life and property from fire, and in fire fighting. It is agreed that:

a. On request to a representative of the Cannon Air Force Base Fire Department by a representative of the City of Clovis, NM Fire Department, fire fighting equipment and personnel of the Cannon Air Force Base Fire Department will be dispatched to any point within the area for which the City of Clovis, NM Fire Department normally provides fire protection as designated by the representatives of the City of Clovis, NM Fire Department.

b. On request to a representative of the City of Clovis, NM Fire Department by a representative of the Cannon Air Force Base Fire Department, fire fighting equipment and personnel of the City of Clovis, NM Fire Department will be dispatched to any point within the fire fighting jurisdiction of the Cannon Air Force Base Fire Department as designated by the representative of the Cannon Air Force Base Fire Department.

c. Any dispatch of equipment and personnel pursuant to this agreement is subject to the following conditions:

(1) Any request for aid hereunder shall include a statement of the amount and type of equipment and personnel requested, and shall specify the location to which the equipment and personnel are to be dispatched, but the amount and type of equipment and number of personnel to be furnished shall be determined by a representative of the responding organization.

(2) The responding organization shall report to the officer in charge of the requesting organization at the location to which the equipment is dispatched and shall be subject to the orders of that official.

(3) A responding organization shall be released by the requesting organization when the services of the responding organization are no longer required or when the responding organization is needed within the area for which it normally provides fire protection.

(4) In the event of a crash of aircraft owned or operated by the United States or military aircraft of any foreign nation within the area for which the City of Clovis, NM Fire Department normally provides fire protection, the chief of the Cannon Air Force Base Fire Department or his or her representative may assume full command on arrival at the scene of the crash.

d. The City of Clovis, NM Fire Department may claim reimbursement for the direct expenses and losses which are additional fire fighting costs above the normal operating costs incurred while fighting a fire under this agreement as provided in 44 C.F.R., Part 151.

e. Each party waives all claims against every other party for compensation for any loss, damage, personal injury or death occurring as a consequence of the performance of this agreement.

f. All equipment used by the City of Clovis, NM Fire Department in carrying out this agreement will, at the time of action hereunder, be owned by it; and all personnel acting for the City of Clovis, NM Fire Department under this agreement will, at the time of such action, be an employee or volunteer member of the City of Clovis, NM Fire Department.

For City of Clovis, New Mexico

Donald E. Clifton

DONALD E. CLIFTON
CITY MANAGER

For the Secretary of the Air Force

MARY N. TURNER, Colonel, USAF
Commander

Appendix G-2

Pollution Incident Report

- Name and address of installation and/or owner
- Name and telephone number of OSC
- Incident Report (initial, second, third, final)
- Date and time of incident
- Time of official spill notification to the National Response Center and other regional and state officials
- Location of incident and nature of the terrain at the location, to include surface and subsurface drainage characteristics and relationships to water bodies (estimate extent of area affected such as miles of stream or acres of lake)
- Weather conditions and how they affected response action
- Cause of incident
- Type and estimated amount (barrels, gallons, pounds) of pollutant and the official size classification (minor, medium, major)
- Actual damage and/or potential threat to human life, to property (private, state, or Federal) and to plant or animal life
- Corrective action taken to eliminate pollution source
- Corrective action taken to remove pollutant
- Assistance required
- Estimated completion date of remedial actions and anticipated effectiveness
- Estimated quantity and disposition of spill material and contaminated soil
- Confirmation that emergency response equipment is back in operation before resuming operation activities
- Description of any problems encountered during implementation of the SPR plan and an explanation of how the SPR plan was, or will be, modified to prevent the recurrence of the spill event
- Anticipated or actual reaction by the news media and public to the incident (specify potential for liability in the internal Air Force reports only)

Send completed report to:

Hazardous and Radioactive Waste Bureau
New Mexico Environmental Improvement Division
1190 St. Francis Drive
Santa Fe, NM 87503

SECTION H

PERSONNEL TRAINING

The information contained in this section outlines the training program for personnel associated with the thermal treatment facility in accordance with NMHWR-5 Part V 264.16 and Part IX 270.14(b)(12).

H.1 Outline of Training Program [NMHWR-5 Part IX 270.14(b)(12)]

Explosive Ordnance Disposal (EOD) is the organization tasked with disposal of outdated and unserviceable munitions. Personnel involved in ordnance disposal also receive extensive on-the-job training and periodic task evaluations. Appendix H-1 outlines the training schedule for EOD personnel.

EOD personnel also attend the Hazardous Waste Management Training class taught by Environmental Management.

H.1.a Job Titles and Duties [NMHWR-5 Part V 264.16(d)(1) and (2)]

At the present time, nine military personnel are qualified to conduct thermal treatment operations. These personnel have the duties and level of responsibility as follows:

- Position title: Explosive Ordnance Disposal Superintendent

Duties and Responsibilities:

Plans and organizes explosive ordnance disposal activities. Plans workload and schedules work assignments. Establishes performance standards and work procedures to ensure effective personnel utilization and to increase efficiency and economy of operation. Provides for and controls the proper use of supplies, tools, equipment, and space in explosive ordnance disposal activities. Develops unit organizational structure and charts to define lines of authority and assigns specific responsibilities. Coordinates explosive

ordnance and movements with related organizations.

Directs explosive ordnance disposal activities. Checks methods and techniques employed in detection, identification, rendering safe, recovering, and destruction of explosive ordnance. Evaluates work performance in terms of compliance with policies, directives, and technical publications. Ensures compliance with appropriate safety regulations and practices in performing explosive ordnance disposal activities. Controls workflow and assigns special projects to persons or groups. Analyzes productivity and work quality. Drafts and prepares correspondence and reports relating to explosive ordnance disposal administrative and operational functions. Supervises the preparation, maintenance, and disposition of records concerning explosive ordnance disposal activities.

Establishes and conducts on-the-job training for explosive ordnance disposal personnel. Directs on-the-job training of explosive ordnance disposal personnel and reviews progress charts to ensure completion of required training. Plans and conducts conferences and classes of instruction to inform personnel of new projects and work requirements. Instructs personnel in procurement of tools and material and use of technical orders pertaining to explosive ordnance disposal functions. Indoctrinates newly assigned personnel in local procedures, methods, safety requirements, responsibility, and level of supervision. Directs and performs proficiency and certification training and indoctrination programs for explosive ordnance disposal personnel.

Inspects and evaluates explosive ordnance disposal activities. Makes periodic and special inspections of explosive ordnance disposal activities to

ensure compliance with policies, regulations, and technical publications. Interprets inspection findings and recommends corrective action.

Performs technical explosive ordnance disposal functions. Resolves technical problems encountered by subordinates and interprets technical publications applicable to detection, identification, renderings safe, recovery, movement, or destruction of United States and known foreign explosive, incendiary and nuclear ordnance. Plans, organizes, directs, and assists in the safing, removal, and disposal of explosives and explosive ordnance rendered hazardous as a result of crashed or disabled aircraft and missiles to include ejection and catapult devices, squibs, explosive bolts, warheads, bombs, rockets, guided missiles, guns, and ammunition. Provides technical guidance and assistance to disaster preparedness officers in evaluation of personnel and detection, monitoring, evaluation, and decontamination of radioactive, chemical, or biological hazards. Supervises, demonstrates, and assists in the use of special tools, equipment, and techniques pertaining to explosive ordnance disposal. Directs explosive ordnance indoctrination programs for disaster preparedness personnel and other interested agencies.

Experience and Qualifications:

Knowledge of the composition and characteristics of United States and known foreign explosive, incendiary, and nuclear ordnance and basic electricity is mandatory. Qualification as an Explosive Ordnance Disposal Technician is mandatory. In addition, experience in directing functions such as detecting, identifying, rendering safe, recovering, or destroying explosive, incendiary, or nuclear ordnance is mandatory.

o Position Title: Explosive Ordnance Disposal Technician

Duties and Responsibilities:

Advises on technical problems of explosive ordnance disposal. Resolves unusual explosive ordnance disposal problems and provides other activities with advice and guidance on explosive ordnance disposal matters. Organizes and conducts explosive ordnance disposal activities. Determines procedures to be utilized in detecting, identifying, rendering safe, recovering, or destroying explosive, incendiary, and nuclear ordnance.

Performs technical explosive ordnance disposal functions. Conducts area reconnaissance for detection and identification of unexploded ordnance. Determines area from which personnel and materials must be evacuated, and ensures it is cleared before proceeding with disposal. Estimates depth of buried unexploded ordnance and removes surrounding earth and debris. Plans and conducts construction, sinking, and timbering of shafts for access to buried explosive ordnance and for protection of personnel during recovery operations. Renders unexploded ordnance safe, utilizing appropriate techniques including usage of remote controlled devices and shaped charges. Plans and conducts the neutralizing and disposition of improvised explosive devices. Calculates, fabricates, and uses explosive charges. Disposes of unserviceable explosive ordnance by burning or detonation. Plans and directs removal of safetied explosive ordnance and ensures areas adjacent to unexploded ordnance suspected of containing toxic or radioactive contamination are properly monitored. Coordinates explosive ordnance disposal activities and movements with other interested military and civilian agencies. Prepares reports concerning explosive ordnance disposal activities.

Performs as a specialized member of disaster preparedness teams. Provides technical guidance and assistance to disaster preparedness officers in detection, monitoring, evaluation, and decontamination of radioactive, chemical, or biological hazards. Plans, organizes, directs, and assists in the safing, removal, and disposal of explosives and explosive ordnance rendered hazardous as a result of crashed or of disabled aircraft and missiles, to include ejection and catapult devices, squibs, explosive bolts, warheads, bombs, rockets, guided missiles, guns, and gun ammunition. Plans, establishes, and conducts explosive ordnance indoctrination programs for disaster preparedness personnel and other interested agencies.

Supervises related munitions and weapons functions. Ensures functions relating to explosive ordnance disposal in munitions, weapons, and nuclear weapons activities are coordinated and performed as directed. Ensures the availability of explosive ordnance disposal publications and administrative publications libraries pertaining to explosive ordnance functions. Establishes procedures and standards for the availability of supplies, tools, and equipment pertaining to explosive ordnance disposal. Monitors and determines the proper procedures for turn-in or disposal of unserviceable supplies, tools, and equipment.

Supervises explosive ordnance disposal personnel. Establishes work methods and performance standards. Ensures compliance with safety regulations governing handling, transportation, and destruction of unexploded ordnance. Observes work of subordinates and makes on-the-spot corrections of deficiencies. Conducts periodic inspections to determine compliance with policies and directives. Reviews inspection reports and initiates action to

correct deficiencies. Maintains followup to ensure accomplishment of corrective action. Evaluates performance of specialists in terms of compliance with policies, directives, and technical orders.

Establishes, supervises, and conducts on-the-job training of explosive ordnance disposal personnel. Plans, directs, and performs proficiency and certification training for explosive ordnance personnel. Plans, conducts, and demonstrates the use of special tools, equipment, and techniques pertaining to explosive ordnance disposal.

Experience and Qualifications:

Knowledge of the composition and characteristics of United States and known foreign explosive, incendiary, and nuclear ordnance and of basic electricity is mandatory. Possession of mandatory knowledge will be determined according to AFR 35-1.

Experience in performance or supervision of functions such as rendering safe, removing, and destroying dangerous or unserviceable foreign explosive ordnance and in decontamination activities is desirable.

Completion of prescribed 7-level management course is mandatory.

o Position Title: Explosive Ordnance Disposal Specialist

Duties and Responsibilities:

Performs explosive ordnance disposal functions. Conducts area reconnaissance for detection and identification of unexploded ordnance. Determines distance to which personnel and material must be evacuated. Photographs all unknown items for technical intelligence and reporting requirements. Removes earth and debris surrounding unexploded ordnance, using mechanical tools, handtools, and appropriate equipment. Estimates depth of

buried explosive ordnance by using probing technical or detection equipment. Performs construction, sinking, and timbering of shafts for access to buried explosive ordnance and to protect personnel during recovery operations. Performs necessary rendering safe procedures, using special techniques, including usage of remote controlled devices and shaped charges. Removes safetied explosive ordnance by using winches, pulley, cables, or cranes. Operates and interprets RADIAC and other applicable detecting instruments in monitoring areas adjacent to unexploded ordnance suspected of containing toxic or radioactive contamination. Neutralizes and disposes of chemical and biological munitions. Disposes of explosive ordnance rendered exceptionally hazardous by damage or deterioration. Disposes of unserviceable explosive ordnance by burning or detonation. Notifies authorities when areas are free of danger. Secures explosive ordnance and equipment to vehicles and plans evacuation routes. Prepares reports concerning explosive ordnance disposal activities. Fabricates and uses explosive charges. Neutralizes and disposes of improvised explosive devices.

Performs as a specialized member of disaster preparedness teams. Provides assistance to disaster preparedness officers in detection, monitoring, evaluation, and decontamination of radioactive, chemical, or biological hazards. Safes, removes, and disposes of explosive ordnance rendered hazardous as the result of crashed or disabled aircraft and missiles, to include ejection and catapult devices, squibs, explosive bolts, warheads, bombs, rockets, guided missiles, guns, and gun ammunition. Conducts explosive ordnance indoctrination programs for disaster preparedness teams and other interested agencies.

Performs related munitions and weapons functions. Performs functions relating to explosive ordnance disposal in munitions, weapons, or nuclear weapons activities as directed. Maintains explosive ordnance publications and administrative publications libraries pertaining to supplies, tools, and equipment relative to explosive ordnance disposal.

Supervises explosive ordnance disposal personnel. Assigns work and monitors progress of explosive ordnance disposal activities to ensure compliance with local directives and applicable technical publications. Conducts on-the-job training. Instructs subordinates in techniques and procedures for rendering safe or destroying unexploded ordnance. Conducts and performs proficiency and certification training for explosive ordnance disposal personnel. Demonstrates the use of special tools, equipment, and techniques pertaining to explosive ordnance disposal.

Experience and Qualifications:

Knowledge of the composition and characteristics of United States and known foreign explosive, incendiary, and nuclear munitions, and basic electricity is mandatory. Possession of mandatory knowledge will be determined according to AFR 35-1.

Completion of high school or GED equivalency is mandatory. Completion of high school courses in mechanics, physics, or basic electricity is desirable. Experience in performing functions such as rendering safe, removing, or destroying hazardous or unserviceable United States explosive ordnance is mandatory. Experience in performing functions such as rendering safe, removing and destroying hazardous or unserviceable foreign munitions; and in decontamination activities is desirable.

Completion of Phases I and II, US Naval School, Explosive Ordnance Disposal, Indian Head, Maryland, is mandatory before award of the semiskilled AFSC.

This training program is divided into eighteen elements. The elements in which personnel receive training depend upon the type of hazardous waste management activities they perform. Job descriptions will be modified to include the duties and responsibilities of the employee with respect to hazardous waste management.

In addition, personnel involved in explosive ordnance disposal at Melrose Range receive extensive on-the-job training in each task performed. These employees are also subject to a task evaluation at any unspecified time. This task evaluation can provide two results:

(1) Certification and retention of task

(2) Decertification with remedial training and reevaluation for recertification.

All operations will be conducted under the supervision of a SSgt 46470 or higher.

H.1.b Training Director [NMHWR-5 Part V 264.16(a)(2)]

The Commander, 27th Combat Support Group, is responsible for ensuring that personnel on Cannon AFB receive training. This responsibility is delegated to 27 CSG/DEV.

H.1.c Relevance of Training to Job Position [NMHWR-5 Part V 264.16(a)(2)]

Department of Defense personnel trained for explosive ordnance disposal are the recognized national experts for matters relating to the safe handling and disposition of military munitions and ordnance. Attendance at

the Hazardous Waste Management class provides instruction on the regulatory aspects of handling munitions.

H.1.d Training for Emergency Response [NMHWR-5 Part V 264.16(a)(3)]

The Hazardous Waste Management class provides instruction in hazardous waste identification, emergency response, spill clean-up, and the line of personnel to be contacted.

H.1.d.(1) Procedures for Using, Inspecting, Repairing, and Replacing Facility Emergency and Monitoring Equipment [NMHWR-5 Part V 264.16(a)(3)(i)]

Due to the nature of the operation, there is little emergency equipment on hand during the OB/OD process. The Fire Department will be on hand during treatment.

H.1.d.(2) Key Parameters for Automatic Waste Feed Cut-Off Systems [NMHMR-5 Part V 264.16(a)(3)(ii)]

This section is not applicable to the thermal treatment facility.

H.1.d.(3) Communications or Alarm System [NMHWR-5 Part V 264.16(a)(3)(iii)]

EOD personnel are trained in radio communications as described in Section H.1.a.

H.1.d.(4) Response to Fires or Explosions [NMHWR-5 Part V 264.16(a)(3)(iv)]

Cannon's Fire Department personnel working on Melrose AFR are continuously prepared to respond to all fires involving explosives or hazardous wastes. Specific procedures that will be followed in the event of a fire or explosion are outlined in the Contingency Plan, Section G.

H.1.d.(5) Response to Groundwater Contamination Incidents [NMHWR-5 Part V 264.16(a)(3)(v)]

Any groundwater contamination incident will be reported to the Combat Support Group Commander. Response will include a team of personnel from Civil Engineering, Medical Group, Staff Judge Advocate, Public Affairs and other offices as needed to effectively deal with the incident. A private consultant may be contracted to investigate and recommend remediation actions commensurate with the incident.

H.1.d.(6) Shutdown of Operations [NMHWR-5 Part V 264.16(a)(3)(vi)]

When operations must shut down, no special actions are required; therefore, no specific training is required.

Appendix H-1

EOD Training Program

A. Knowledge	
1. AFOSH 127 Series	a. Ground safety standards which pertain to the EOD Branch. Areas to be covered pertain to use of common hand tools and associated hazards of eletrical power tools.
	b. Safety standards of hazardous items used during day to day operations.
2. Explosive Safety	Individual trained in proper Explosive Safety to include but not limited to transportation, storage, and handling. All safety standards associated with the OB/OD process are covered.
3. Technical Order 11A-1-42	a. Requirement for preparation of area and operational procedures as defined by CAFBR 136-18.
	b. Research and verification of disposal procedures for each item which has been designated on Air Munitions Disposal Report (ADR).
4. Technical Order 11A-1-60	Familiarization of requirements of processing, inspecting, and turn in of munitions residue to DRMO.
5. NM EID	Familiarization of OB/OD treatment process which pertains to environmental regulations.
B. Task/Practical	
1. Processing ADR	Individual shall work with Supply and Equipment personnel in the break out and packaging of ADRs. This shall include verification of ADR number to item and assuring that nomenclature, quantity and proper documentation are maintained.
2. Notification of Operation	Obtain initials of all agencies requiring notification of operation IAW CAFBR 136-18. As a minimum the following agencies will be notified: Security Police, Hospital Emergency room, Base Operations, Command Post, Explosive Safety and Base Fire Department.
3. Transportation	Preparation of hazardous waste manifest and transportation procedures, to include loading of vehicle, securing explosive to bed of vehicle,

	placarding of vehicle when required, notification for transport and transporting via authorized explosive routes.
4. OB/OD process	a. Clean and inspect area.
	b. Placement of munitions, detonator and initiator
	c. Obtaining permission to initiate OB/OD
	d. Withdrawal to safe distance and area security
5. Post Action	a. Inspect area for kickouts
	b. Recover or perform procedures for item in place
	c. Clean OB/OD area and collect casings.

Training Schedule

Month 1	A. 1, 2, 3, 5 B. 2, 4.d
Month 2	B. 3, 4.b
Month 3	A. 4 B. 1, 4.a
Month 4	4.c
Month 5	B. 5
Month 6	B. 4.d, 5

SECTION I

CLOSURE PLAN, POST CLOSURE PLAN AND FINANCIAL REQUIREMENTS

This section is submitted in accordance with the requirements of NMHWR-5 Part IX 270.14(b)(13), 270.14(b)(15-18), Part V 264.110-264.115, 264.351, 264.178 and 264.197.

I.1 Closure Plans [NMHWR-5 Part IX 270.14(b)(13)]

This plan identifies all steps that will be necessary to partially close the thermal treatment area at any point during the intended operating life and to completely close the facility at the end of its intended operating life.

I.1.a Closure Performance Standard [NMHWR-5 Part V 264.111 and 264.112]

This closure plan is designed to: ensure that the facility will not require further maintenance and controls; minimize and eliminate threats to human health and environment; and prevent escape of hazardous wastes, hazardous waste constituents, or waste decomposition products to the ground or surface waters or to the atmosphere. If there is evidence of a spill, samples will be taken and analyzed to determine the extent of contamination in the soil and if necessary in the groundwater. Any contaminated soil will be excavated, removed, and disposed of at a proper disposal facility. Any contaminated ground water attributable to the handling practices of hazardous wastes at these facilities will be remediated so that contamination levels fall below local, state, and federal limits.

I.1.b Partial and Final Closure Activities [NMHWR-5 Part V 264.112(a)(1)-264.112(a)(4)]

Partial closure of the thermal treatment operation is not planned. However, in the event that future circumstances or decisions force this facility to discontinue activity, the procedures for final closure will be followed.

Upon formal notification to proceed with the closure of the thermal treatment area on Melrose AFR all existing explosive material and range clearance items will be detonated. The maximum inventory of explosive material allowed on site is 100 pounds.

Following the final disposition process, soil samples will be taken to determine whether contamination of the area exists. If necessary, soil will be removed until the contaminant concentrations are below the regulatory limits. Any soil removed will be containerized and transported to either the DRMO storage facility or to a state/EPA approved disposal site.

Verification of all analyses will be supplied by an independent laboratory.

I.1.c Schedule of Closure [NMHWR-5 Part V 264.112(b)(6),(7)]

The Melrose Range Thermal Treatment Facility is expected to close in 2034. The schedule for closure is:

Action	Time Required (Days)
Detonate and/or remove waste explosives.	X
Collect soil samples.	X + 5
Submit soil samples.	X + 6
Analyze results.	X + 66
Excavation and disposal of soil as necessary.	X + 150
Submit closure certificate to NMEID.	X + 179

I-2. Post Closure Plan [NMHWR-5 Part IX 270.14(b)(13), Part V 264.117, 188]

Post closure plans will not be needed because all wastes will be removed and the facilities will be decontaminated at closure.

I-3. Notices Required for Disposal Facilities

I-3a. Notice to Local Land Authority [NMHWR-5 Part V 264.119]

Refer to Section I-3b.

I-3b. Notice in Deed to Property [NMHWR-5 Part IX 270.14(b)(14)]

The thermal treatment area on Melrose Range will be analyzed and decontaminated as described in Section I-1.b. Therefore, a notation is not necessary in the deed to inform potential purchasers of restrictions associated with a disposal site, as required by 40 CFR Sections 264.120 and 270.14(b)(14); NM HWMR 206.D.2.j. and 302.A.4.b.(1)(n).

I-4. Closure Cost Estimate [NMHWR-5 Part IX 270.14(b)(15), Part V 264.142(a) and (b)]

Melrose Range is exempt from the closure cost estimate requirement because it is owned and operated by the Federal government.

Section J

OTHER FEDERAL LAWS

[40 CFR 270.14(b)(20) and 270.3]

Information will be provided in accordance with the requirements of 40 CFR Part 270.14(b)(20) at the request of the U.S. EPA Regional Administrator or the New Mexico Environmental Improvement Division. At this time, however, we believe that Cannon AFB is in compliance with the following Federal laws: The Wild and Scenic Rivers Act, 16 U.S.C. 1273 et seq; The National Historic Preservation Act of 1966, 16 U.S.C. 470 et seq.; The Endangered Species Act, 16 U.S.C. 1531 et seq.; and the Fish and Wildlife Coordination Act, 16 U.S.C. 661 et seq.

Date:
Revision No.: 0
Section: K
Melrose AFR

SECTION K

CERTIFICATION

[NMHWR-5 Part IX 270.11]

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, 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.

Date: 12 Mar 91 Signature: Thom N. Chapman

Thomas N. Chapman
Colonel, U. S. Air Force
Commander, Cannon AFB

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 27TH COMBAT SUPPORT GROUP (TAC)
CANNON AIR FORCE BASE NM 88103

26 MAR 1991

Mr. Bill Gallagher, Chief
ALONM Section
RCRA Permits Branch
EPA Region VI
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202

APR 1991
RECEIVED
HAZARDOUS WASTE
PROGRAM

Re: Permit #NM 5572124456, Melrose Air Force Range (AFR), NM

Dear Mr. Gallagher

As discussed in Cannon's letter dated 12 Mar 91 the attached photographs are being provided for your review. The sizes and quantities of waste munitions shown in the photographs are typical of the monthly treatment process. The intention of providing these photographs and the corresponding narratives is to help you better understand the magnitude of operations at the Melrose AFR thermal treatment facility. These photographs may be inserted at the back of our permit application.

Any questions concerning this submittal may be directed towards Mr. Jim Richards at (505) 784-4639.

Sincerely

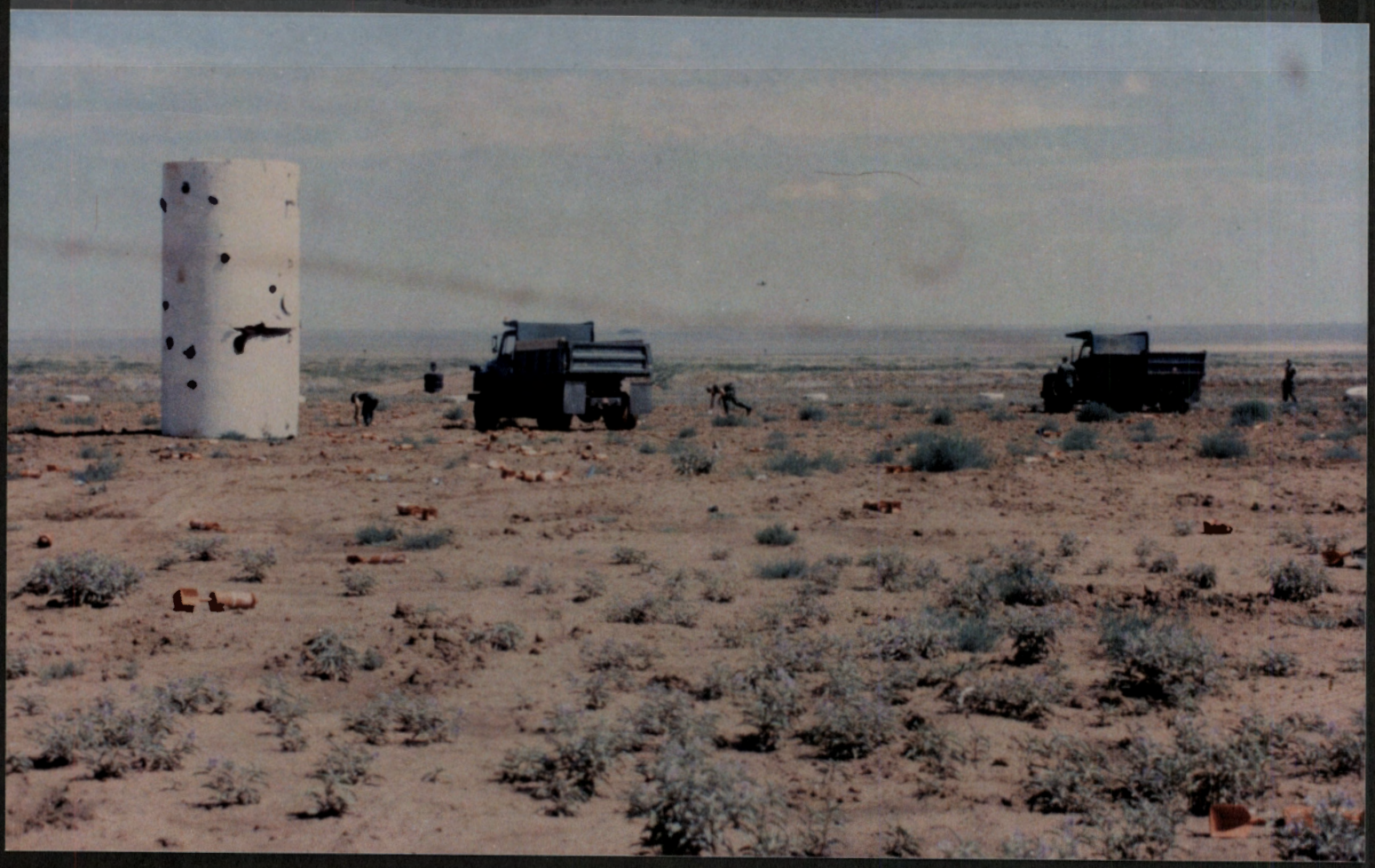
THOMAS N. CHAPMAN, Colonel, USAF
Commander

1 Atch
Photographs

cc: NMEID, Dr. Elizabeth Gordon w/Atch
HQ TAC/DEV w/o Atch

APR 1991
RECEIVED
HAZARDOUS WASTE
PROGRAM

photographs put with permit application
04/10/91 AGS

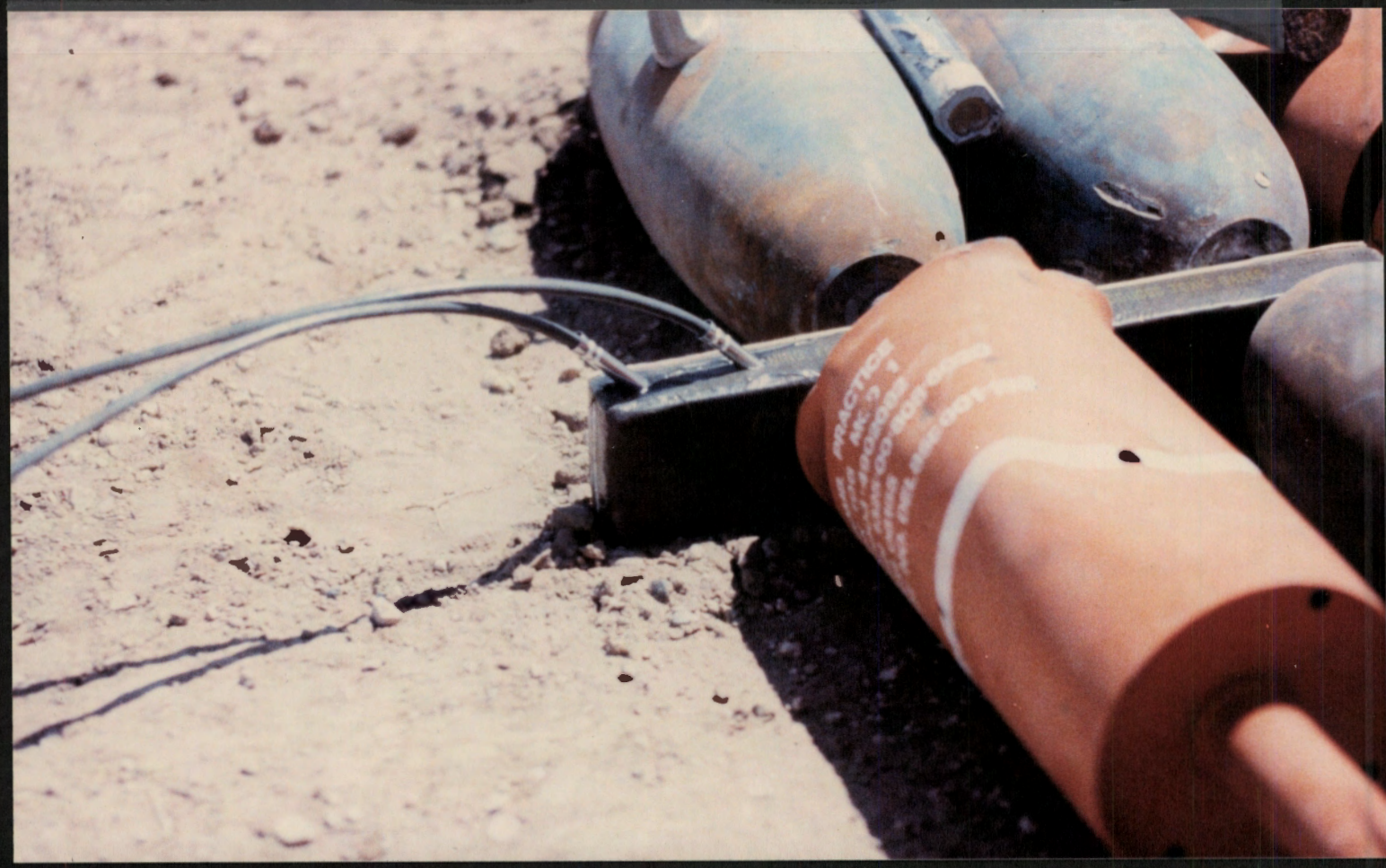


1. The practice bombs around a target are being inspected to determine which ones did not properly detonate.

2. Each practice bomb is inspected by personnel from Cannon's Explosive Ordnance Disposal (EOD) branch. The dud fired practice bombs are then transported to the thermal treatment facility.

3. The dud bombs are lined up nose to nose at the treatment facility. Detonation charge (C-4) is placed between the noses of the bombs.

4. Waste munitions from the base are placed in a pile near the line of dud bombs. Typical items include small arms ammunition, cartridges and flares.



5. Detonation cord is used to connect the line of dud bombs to the pile of waste munitions.

6. During detonation enough charge is used to insure that all items are completely treated.

7. After detonation the cloud and debris quickly settle.