AMMUNITION ADVANCED NCO COURSE
(CMF 55)

PLANNING AMMUNITION DISPOSAL OPERATIONS

US ARMY ORDNANCE
MISSILE AND MUNITIONS CENTER AND SCHOOL

THE ARMY INSTITUTE FOR PROFESSIONAL DEVELOPMENT
ARMY CORRESPONDENCE COURSE PROGRAM
Ammunition Advanced NCO Course (CMF 55)

PLANNING AMMUNITION DISPOSAL OPERATIONS

Subcourse MM4624

EDITION 8
2 CREDIT HOURS
NEW: 1988

US Army Ordnance Missile and Munitions Center and School
Fort Lee, Virginia
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INTRODUCTION

Disposing of ammunition is a part of the ammunition specialist's job. Because disposal operations are so dangerous, they must be carefully planned, and you, as an ammunition senior NCO in a magazine platoon, have to be able to prepare the plan. This subcourse gives you the step-by-step process to follow for planning safe, efficient disposal operation.

Objectives. When you finish this subcourse, you should be able to describe how to select a disposal site, how to determine if the site needs maintenance, and how to decide the method of disposal. You should also be able to explain how to determine what protection is necessary for personnel and what transportation assets you need. Finally, you should be able to describe how to coordinate disposal requirements with the explosive ordnance disposal (EOD) detachment and how to submit your disposal plan to your supervisor for approval.

Conditions. You will have this subcourse book and work without supervision.

Standard. You must score at least 70 on the End-of-Subcourse Examination (answer 15 of 20 questions correctly).

Credit Hours. Two credit hours will be awarded for the successful completion of this subcourse.
*** IMPORTANT NOTICE ***

THE PASSING SCORE FOR ALL ACCP MATERIAL IS NOW 70%.
PLEASE DISREGARD ALL REFERENCES TO THE 75% REQUIREMENT.
PLANNING AMMUNITION DISPOSAL OPERATIONS

There are three times ammunition is destroyed on purpose: before evacuation, to prevent use by the enemy in forward areas that are being overrun; to destroy an entire ammunition supply point (ASP) in danger of being overrun; or to carry out the authorization on a DA Form 2415 (Ammunition Condition Report) (ACR) (Figure 1). The third reason is the most common and happens several times in the careers of most ammunition specialists. Except in wartime emergencies, the senior ammunition NCO has to prepare a plan for each ACR-directed ammunition disposal operation. This subcourse deals with the general procedures necessary for planning a peacetime disposal operation. Each disposal operation is different and details for each will depend on local SOP, geographical location, weather, environment, and what must be destroyed.

GETTING AUTHENTICATING DOCUMENTATION

The decision to destroy ammunition in peacetime happens when an inspector at any echelon discovers that some ammunition has deteriorated (corrosion, damage, fuzes suspended from issue, etc.) to the point it is dangerous or is no longer repairable or serviceable. That inspector fills out and disseminates an ACR.

The planner, the ammunition senior NCO in the magazine platoon, gets a copy of the DA Form 2415 from the stock control section. While the planner proceeds, stock control is filling out a DA Form 1348-1 (DOD Single Line Item Release/Receipt Document) for each item. The DA Forms 1348-1 are sent to the surveillance section so the items can be recoded to condition code H, which they must be to be destroyed. Only then can they be released for destruction.

PLANNING FOR SAFETY

Implicit in any plan is safety. General safety considerations are in TM 9-1300-206, Ammunition and Explosives Standards. Safety factors for personnel, the site, and the munitions to be destroyed are shown in the Table below.

Table. Safety Considerations for Planning Ammunition Destruction.

<table>
<thead>
<tr>
<th>FACTOR</th>
<th>MEASURE</th>
<th>DETERMINES</th>
<th>REFERENCES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnell</td>
<td>Distance (300-ft min)</td>
<td>Hazard Classification Distances:</td>
<td>TM 9-1300-206</td>
</tr>
<tr>
<td></td>
<td>Shelters:</td>
<td>Public Traffic Route Inhabited Building</td>
<td>TM 9-1300-206</td>
</tr>
<tr>
<td></td>
<td>Permanent</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Temporary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site</td>
<td>Distance (2400-ft min)</td>
<td>Hazard Classification Distances:</td>
<td>TM 9-1300-206</td>
</tr>
<tr>
<td></td>
<td>Upwind Location</td>
<td>Public Traffic Route Inhabited Building</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Barricades for Personnel:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Natural</td>
<td>Operating Building</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Manmade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Munitions To Be Destroyed</td>
<td>Distance Temporary Storage</td>
<td>Net Explosive Weight Interline Distance</td>
<td>DOD Consolidated Ammunition Catalog</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TM 9-1300-206</td>
</tr>
</tbody>
</table>
**AMMUNITION CONDITION REPORT**

For use of this form, see TM 2B-750; the proper agency is DCSLOG.

<table>
<thead>
<tr>
<th>Requirement Control Symbol</th>
<th>CBQLD-1020</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. THRU: (Include ZIP Code)</td>
<td>Commander</td>
</tr>
<tr>
<td>60th Ordnance Group</td>
<td>AP0 09052</td>
</tr>
<tr>
<td>4. TO: (Include ZIP Code)</td>
<td>Commander</td>
</tr>
<tr>
<td>U.S. Army Armament Munitions and Chemical Command</td>
<td>Rock island, IL 61299-6000</td>
</tr>
<tr>
<td>6. FROM: (Include ZIP Code)</td>
<td>Commander</td>
</tr>
<tr>
<td>184th Ordnance Company</td>
<td>APO 09127</td>
</tr>
<tr>
<td>8. Nomen: Model Item Reported</td>
<td>PART/NSN NO.</td>
</tr>
<tr>
<td>C&amp;C, 105mm, HE W/Fuze</td>
<td>1315-00-028-6043-C443</td>
</tr>
<tr>
<td>10. QTY Inspected</td>
<td>100</td>
</tr>
<tr>
<td>11. Quantity Defective</td>
<td>100</td>
</tr>
<tr>
<td>12. Present Cond Code</td>
<td>H</td>
</tr>
<tr>
<td>13. Econ Repairable</td>
<td>NO</td>
</tr>
<tr>
<td>16. Details (Description, cause, action, disposition)</td>
<td>Inspection of the above items revealed major corrosion on primer, propellant bags torn, cartridge cases major rust, projectiles major rust, fuzes wells major rust, and fuzes suspended from issue.</td>
</tr>
</tbody>
</table>

**Signatures**

John E. Doe  
DAC, Quality Assurance  
ASP #1

Mike E. Smith  
DAC, C Surveillance

**Figure 1.** DA Form 2415 (Ammunition Condition Report) Used To Authorize Destruction of Ammunition.
Training

The most important safety consideration is to be sure ammunition demolition personnel are well trained in the safety aspects of disposal operations. This way personnel doing the demolition work will be following the necessary specific accepted safety measures.

Shelters

The next most important safety measure is to make use of protective shelters. These shelters may be permanent structures or may be temporary shelters that can be moved into place. They must be used by ammunition handlers when the detonation method is used to destroy munitions or explosives and when ammunition being burned might detonate.

The planner must be sure shelters are at the appropriate inhabited building distance or public traffic route distance from the site, according to the tables in Chapter 5, TM 9-1300-206. In no case, should shelters be fewer than 300 feet from the demolition area.

Other Safety Considerations

In addition to personnel shelters, an important safety measure at the site is to include communications (telephones, two-way radios, or emergency vehicles). Another important safety measure is that as few soldiers as necessary should be used for demolition work. The final number of soldiers needed is based on the ammunition senior NCO's judgment and experience. The minimum acceptable number is two, and the two-person rule should apply. Finally, protective clothing should be available, such as flameproof coveralls, safety shoes, gloves, and face shields.

There are still other safety factors discussed in the site selection, temporary storage, and methods of disposal sections of this subcourse. These factors are also consolidated in the Table.

PLANNING FOR THE ENVIRONMENT

After safety, environmental issues must be considered. There are many federal, state, and local environmental regulations that govern all aspects of disposal operations. The ammunition NCO must be familiar with them and must pay special attention to applicable hazardous waste regulations so operations are conducted in accordance with all safety considerations. The most used guidelines are found in the local State Environmental Protection Agency Office (see local telephone book) or the local Post Safety Office. Two of the most used references are Fire Protection Guide on Hazardous Material, published by the National Fire Protection Association, Boston, MA, and Dangerous Properties of Industrial Materials, published by Reinhold Book Corporation, New York City.

PLANNING THE DISPOSAL SITE

Selecting the Site

The disposal site must be carefully selected. Using a map of the ASP, available from the operations section, safety distances, prevailing winds, and terrain must be considered. The site must be the maximum practical distance from all magazines, inhabited buildings, public traffic routes, and operating buildings. More guidance is in TM 9-1300-206.

Sites must also be located upwind of the prevailing winds, so that sparks are not blown
toward the storage site. Where possible, natural barricades should be used between the sites and operating buildings and magazines. However, the site must not ever be closer than 2,400 feet, unless pits or similar barricades are used to limit the range of fragments and debris.

When destroying explosives by burning, the possibility of mass detonation must be considered. Personnel and property should be protected by distance separations or appropriate protective barriers. Further guidance is in TM 9-1300-206.

There are several geographic characteristics desired in a destruction site. The terrain should be as clear of scrub and trees as possible. A slightly rolling site is good because the unevenness creates natural barriers. Finally, the site should be as well-drained and dry as possible.

Checking Site Maintenance

After the site is determined, the planner must make sure it passes the following inspection criteria:

All dry grass, leaves, and other flammable materials within a radius of 200 feet from the point of destruction should have been removed.
Firefighting equipment should be readily available and operational.
There should be the means to wet down the destruction site at the close of each day's operation.
Burning should not be scheduled on previously burned-over plots within 24 hours unless the plots are soaked down with water and reinspected.
There are no concrete mats that could be used for burning or detonation.

DETERMINING TRANSPORTATION

Once the site is known, transportation to evacuate the items to the disposal site can be planned for and requested. The type and number of vehicles depend on several things: the type and quantity of ammunition to be destroyed, the explosive limits of the destruction site, and the amount of temporary storage available. It is up to the experienced ammunition senior NCO to determine vehicle requirements. Usually vehicles already assigned to the magazine platoon will be used. If, however, there is too much ammunition to be transported this way, other vehicles are requested from the transportation movement office following local SOP.

DETERMINING TEMPORARY STORAGE NEEDS

Temporary storage at the destruction site is necessary for the defective ammunition and must be included in the plan. Sample acceptable temporary storage is shown in Figure 2. The ammunition must be stored at interline distances. If the net explosive weight (NEW) allowable for destruction at the site is exceeded (as determined by the SOP for the local range), the items will have to be further moved or separated. The interline distance is computed by using the DOD Consolidated Ammunition Catalog and the tables in Chapter 5 of TM 9-1300-206 and is based on the NEW of the quantity and type of ammunition to be stored and the hazard class.

For example, there are 100 rounds of 1315-00-028-4860 C445, cartridge, 105mm HE without fuze, to be destroyed. The NEW stated in the range SOP allows destruction of 10 rounds at a
time. This means there will be 90 rounds to store temporarily before the beginning of destruction.

To determine the total NEW for the 90 rounds, refer to the DOD Consolidated Ammunition Catalog, Volume 3, Part IV. Look up the DODIC, C445, in the index (Figure 3). Go to the index number in Part VII; the DODIC is in the left column (Figure 4). The NEW per round is 7.45 pounds (see the top number in the ITEM NEW column). To compute the total NEW, multiply 7.45 times 90, which is the total NEW. In this example, it is 6,705 pounds.
Next, determine the quantity-distance (QD) hazard classification of the item by referring to the tables in Chapter 5 of TM 9-1300-206. The ammunition in the example, cartridge, 105mm, HE without fuze, is hazard classification 1 and is in division 1 in that classification. It falls under "cartridge-heavy mortar, over 81mm (including 81mm M56), except chemical loaded." See Figure 5. Then Table 5-5 from TM 9-1300-206 is used (Figure 6). The total NEW is 6,705 pounds, so the quantity distance on the line showing over 6,000 but not over 7,000 is used. It is under the second "pounds of explosives" column. The temporary storage needs in this example are as follows: If there are barricades, there must be 170 feet between the temporary storage location and the demolition site. If there are no barricades, there must be 340 feet.

Figure 4. Extract from DOD Consolidated Ammunition Catalog, Volume 7, Part VII, A-07, Showing the NEW for a Particular Item When the Index Number Is Known.

![Figure 4](image)

Figure 5. Extract from TM 9-1300-206, Table 5-3, Page 5-19, Showing Classification of Cartridge, 105mm, HE, Without Fuze.

![Figure 5](image)
CHOOSING THE METHOD OF DISPOSAL

Methods

Unserviceable ammunition is destroyed by detonation or burning. Burying ammunition or explosives or dumping ammunition into wells, marshes, waterways, pits, or waste places is absolutely prohibited.

Whether the ammunition is to be destroyed by detonation or burning is determined by the type of ammunition to be destroyed. Ammunition items most often destroyed by detonation are ammunition with HE filler, photoflash cartridges, and initiating explosives. Ammunition items most often destroyed by burning are black powder, dynamite, solid propellants, and pyrotechnics, except photoflash bombs and cartridges.

There are materials necessary to be added to munitions to be destroyed. The materials most often used for destruction by detonation are TNT (trinitrotoluene); composition C-2, C-3, or C-4; or tetrytol. Antitank mines and demolition material are also good to use. Commercial dynamite is NOT to be used. The materials most often used for destruction by burning are sulphur shavings, laid in a train to the items to be destroyed, and smokeless powder sprinkled over the sulphur.
Ignition

Ignition is either electric or non electric and is necessary for either method of disposal. Plans must be made for providing the necessary materials for either igniting method. For an electric system, a blasting machine, an electric blasting cap, and firing wires are necessary. For a nonelectric system, a blasting fuse (safety fuse), a nonelectric blasting cap, a fuse lighter, and crimpers (to cut the safety fuse and crimp the blasting cap to the safety fuse) are necessary.

COORDINATING WITH EOD

It is important that provision is made in the plan to contact the supporting EOD detachment before a disposal operation. This is because EOD technicians are trained to identify, recover, detect, evaluate, and dispose of all explosive ordnance, including chemical, biological, and nuclear weapons. The supporting EOD element is thus available mostly to provide technical assistance but also to carry out safety requirements. It can also cope with the hazardous condition of the ammunition or explosives being destroyed.

EOD personnel must destroy hazardous material that is beyond the capability of the unit or the personnel normally assigned to this task. This is material called excessively or very hazardous on the DA Form 2415. EOD also destroys duds and helps destroy ammunition that cannot be shipped to the depot. In wartime, EOD destroys munitions to prevent enemy capture.

PREPARING AND SUBMITTING THE PLAN

The final step in preparing the plan is assembling all the information gathered into a plan. Most plans include a map of the area to be used, a copy of the authorizing DA Form 2415, and a copy of the SOP to be followed during destruction. This SOP is almost always on hand since most units have had to destroy ammunition. If in the rare instance that this is the first time for the unit, the planner consults the local administrative SOP for instructions on preparing an SOP. The disposal operation plan must be prepared according to local SOP, TM 9-1300-206, the DOD Consolidated Ammunition Catalog, and FM 9-13, Ammunition Handbook. The plan is then submitted to the ammunition senior NCO’s supervisor for comments; revisions, if any; and final approval.

REVIEW EXERCISES

Circle the letter of the correct answer to each question.

1. Which form is the authority for disposal of ammunition?
   a. DA Form 581.
   b. DA Form 2000-3.
   c. DA Form 3151-R.
   d. DA Form 2415.
2. What is the minimum distance required between a personnel shelter and the disposal area?
   a. 100 ft.
   b. 200 ft.
   c. 300 ft.
   d. 450 ft.

3. Which is the method for destroying high explosive projectiles?
   a. Burning.
   b. Detonation.
   c. Sea dump.
   d. Burial.

4. Which reference shows hazard classifications?
   a. FM 9-38.
   b. TM 9-1300-200.
   c. TM 9-1300-206.
   d. TM 43-001-28.

5. Whom would you contact for technical assistance in the destruction of ammunition?
   a. Commander.
   b. Service platoon leader.
   c. Chemical officer.
   d. EOD detachment.

Recheck your answers to the review exercises. When you are satisfied that you have answered every question to the best of your ability, check your answers against the exercise solutions. If you missed one or more questions, you should retake the entire lesson, paying particular attention to the areas in which your answers were incorrect.
EXERCISE SOLUTIONS

1.  d (page 6)
2.  c (page 8)
3.  b (page 12)
4.  c (page 11)
5.  d (page 13)