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## Central Disposal Site (CDS)

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## Central Disposal Site

### 1. Introduction

A Central Disposal Site (CDS) is established in an area authorised for the destruction of safe to move ordnance items and may be utilized by one or more user groups. The purpose of this chapter is to outline requirements necessary for the correct establishment and safe use of the CDS.

### 2. Scope

The chapter stipulates the approving body, conditions, considerations, limits, priorities and principles for the establishment and use of central disposal sites and other disposal sites.

### 3. Selection of a CDS

The selection of a site for a CDS involves a consultative process between a number of user groups including but not limited to MACCA, Government Departments including DMC, Afghan Security Forces (Police and Armed Forces), local authorities, and community officials from surrounding villages.

Considerations for the physical sighting and the properties of a CDS including their priorities and principles are detailed in Annex A to this chapter.

### 4. Approval of Disposal Sites

Formal approval and licensing of a CDS and its associated standing orders shall be the responsibility of the MACCA. A CDS shall not be used unless approval and licensing has been provided by MACCA and shall be based on the following considerations:

- a) References to publications - All standing orders are in effect the local interpretation of regulations issued by the higher authority (AMAS). Standing orders should not be a reproduction of large slabs of information that are contained in parent publications. Rather they should concentrate on detailing how the regulations should be applied under local conditions.
- b) Maps and grid references - Maps shall be sent to the MACCA Operations Department with the draft standing orders for approval. One map shall include the grid reference, name and location of the site and a second larger scale sketch map of the disposal site showing its general layout.
- c) Sentries - Sentries shall require to be utilised so that they control all access routes into the disposal site and are able to be posted outside the danger area. The requirements for the placement and briefing of sentries are detailed in Annex A to this chapter.
- d) Signage - Disposal sites shall be marked with signs or notice boards sighted so that they are visible on all possible approaches. The signage shall explain the dangers of CDS operations in English and National languages. In situations where it is impossible to place signs or notice boards, then sentries covering these areas shall be deemed sufficient.
- e) Location of the firing point – The firing point unless protected with overhead cover, shall be located outside the danger area. Where possible the firing point should also be positioned where the Team Leader is able to hear for partial detonations during CDS operations.
- f) Communications - Good communications shall be in place between all parties involved in the disposal prior to any demolitions taking place.

## 5. Site Standing Orders

The organization responsible for the control of the CDS shall develop and disseminate 'Site Standing Orders' which shall be provided to organizations using the site prior to the commencement of disposal operations. The requirements of site standing orders are detailed in Annex A to this chapter.

## 6. Authority For Disposal

The responsibility for authorizing major disposals at a CDS is vested in MACCA through the relevant AMACs. No major disposal shall take place without the prior approval of the respective AMAC.

## 7. Methods of Local Disposal

There are three methods of local destruction permitted at the CDS:

- a) Detonation – This is used with High Explosive (HE) filled munitions. Small quantities of other munitions - smoke, pyrotechnics, lachrymatory - may also be disposed of by inclusion in mixed stacks during large-scale demolitions. The quantities of such items included in a mixed stack shall be kept down to a small percentage of the overall stack.
- b) Propellant and Contents Burning - This method is generally used with propellant (bagged or loose), smoke, pyrotechnic and lachrymatory stores but is suitable for certain plastic-bodied mines. It may also be used as an alternative to detonation for certain bare explosives such as Composite Explosives (CE), Tri-Nitro-Toluene (TNT), Nitro Glycerine (NG) based explosives and Gun Powder (GP).
- c) Incineration - Is a specialised form of burning authorized for certain small mines with minimal explosive content, small arms ammunition and small, plastic bodied fuses.

## 8. Limits on Explosive Quantities

Limits on explosive quantities shall be restricted by the following:

Fragmentation Zone - The fragmentation zone is the maximum radius and height that fragmentation is expected to travel from the largest demolition authorized for the demolition site. The minimum fragmentation zone or 1,000m whichever is the greater, determines the minimum radius of the designated Danger Area. All persons and equipment shall be either outside of the Danger Area or under suitable overhead protection. No detonations shall take place at locations within the disposal site if there is a risk of fragmentation travelling outside of the fragmentation zone.

Safety Distance - The Danger Area for a disposal shall be determined from the safety distance requirement for the items to be destroyed.

Multi-item Disposal - For multi-item disposal tasks or for the disposal of items not included in AMAS Chapter 06.03 Explosive Ordnance Disposal, Annex B, the appropriate safety distance shall be determined by the supervisor in charge of the disposal task. Among the tools to assist in determining the appropriate safety distance are the AMAS Danger Area Support Tool and TN 10.20 2001, Estimation of Explosions. Both are available from the MACCA or may be downloaded at the website [www.mineactionstandards.org](http://www.mineactionstandards.org).

Splinter Proof Shelters (SPS) - It shall be possible to reduce the necessary safety distance if personnel are sheltered in SPS. A SPS provides complete frontal and overhead protection to the occupants from the blast and fragmentation hazard produced by the disposal.

Ground Shock and Noise Effect - When establishing or using a disposal site maximum consideration must be given to the effects of ground shock and noise on the local population. Every effort shall be made to keep these effects to a minimum when conducting demolitions.

## **9. Layout of Disposal Sites**

Each disposal site, including demining worksites in which in-situ mine or ERW disposal are conducted, shall contain key control points established in accordance with the requirements of AMAS 07.01, Site Preparation and Setting Out. The control points to be used in CDS operations are detailed in Annex A to this AMAS.

## **10. Restriction of Access to Disposal Sites**

It is essential to ensure that people cannot inadvertently enter disposal sites. To ensure this, suitably briefed sentries shall be positioned on all likely access routes to the disposal site prior to placement of demolition charges. The placement and briefing of sentries is described in more detail in Annex A to this chapter.

## **11. Demolition Procedures**

Demolition procedures at the CDS shall conform to normal practices as described in AMAS Chapter 06.07 Demolition of Mines and ERW. Procedures for the Officer in Charge of the practice are listed in Annex A to this chapter.

## **12. Safety**

The need to reduce risk and provide a safe working environment when dealing with the destruction of munitions with explosives is fundamental to mine action. The provisions for site safety at the CDS including the procedures in the event of an accident are detailed in Annex A to this chapter.

## **13. Records and Reports**

A permanent disposal diary shall be kept by the AMAC for each licensed CDS. The demolitions diary shall be completed daily by users and signed by the Team Leader. Users are also to maintain records of both the unserviceable and serviceable munitions destroyed.

## **14. Closure of Permanent Disposal Sites**

When an area ceases to be a permanent disposal site it is to be refurbished in accordance with the requirements of the local community(s) and if necessary the land formally handed over. As a minimum, the refurbishment shall include the recovering and disposal of all large items of scrap; the filling in of any pits and craters made by the disposal operations; and the fencing of and marking of any areas where there may be residual non-explosive hazardous material left in the ground.

## Annex A General CDS Requirements

### Considerations for Physically Sighting the CDS

Careful consideration should be given to the physical sighting of the CDS, and the following points shall be adhered to:

- a) The CDS shall have a safety distance of not less than 1,000m
- b) The land on which the CDS is to be used shall not be in use by the public and shall have no grazing or agricultural value.
- c) The area shall be clear of inhabited buildings and personnel for at least 1,000m in all directions from the demolition site.
- d) Access to the area should be controllable, with the use of warning signs, observation points and sentries.
- e) A suitable protected firing point should be located a minimum of 300m from the demolition site and situated where maximum visibility to the whole area is available. A protected firing point is not necessary if a remote controlled firing device is being utilized.
- f) Suitable parking and access routes should be available for delivery of the UXO.
- g) Liaison shall be conducted with local authorities and Government, Police and surrounding villagers.
- h) The location should offer limited or restricted access by local population and situated at a safe distance from local villages, main roads and farming land.
- i) Probable noise levels, ground shock and blast damage to dwellings, security of the site, presence of nomadic tribes and any other local influences must be strongly considered.

### Properties of a CDS

Disposal grounds at a CDS require the following properties:

- a) Isolation - is the most important requirement for the safety and protection of persons, property, livestock and structures.
- b) Deep soil – reasonably free of rocks and stones.
- c) Secondary fire hazards – disposal sites shall not be located over pipelines, over power cables or near fuel storage areas.
- d) Electro-Magnetic Fields (EMF) - major demolitions are normally initiated by electrical means which are vulnerable to external EMF. Disposal sites shall not be situated near radar installations, radio transmitters or high-voltage power lines.
- e) High ground - reduces the effects of blast and ground shock and is also relatively well drained. However, high ground also tends to increase fragment range.

### Priorities and Principles to be Observed at a CDS

The destruction of munitions and explosives is a potentially hazardous task. The risks are minimised if the correct priorities and principles are followed. If they are not, the possibility of a serious accident becomes very high.

#### Priorities:

The priorities that shall always be observed at a CDS are:

- a) Safety - of both personnel and property is paramount. If a method is not safe it shall not be used.
- b) Security - of both the items being destroyed and the serviceable explosives used to destroy them.
- c) Accounting - Good accounting of explosive usage is critical. Any losses of explosives shall be promptly identified, investigated and reported.
- d) Speed of Work - shall never be achieved at the expense of any of the first three priorities.

### Principles:

There are many different detailed disposal procedures but certain principles apply to all disposal tasks:

- a) Know the ammunition - Know in detail both the item being destroyed and the explosives being used to destroy it. Unless the design characteristics of both are known, it will not be possible to determine a safe and effective means of disposal.
- b) Plan the task carefully - Do not leave the planning until arrival at the disposal site, work out the programme and procedures in detail well in advance.
- c) Create a safe working environment - Create and maintain a working environment that is safe for everyone; the disposal party, other personnel, local population, property, livestock, vehicles and equipment.
- d) Give and obey directions precisely - The disposal site is no place for ambiguity or misunderstanding. Directives must be clearly understood by all personnel.
- e) Observe all the safety precautions and use only the approved methods. Do not take short cuts.
- f) Clear the disposal area prior to departure - No disposal task is complete until the demolition danger area has been cleared of all hazards and contamination. Included in this is also the clearance of all rubbish and litter.

### **CDS 'Site Standing Orders'**

The CDS 'Site Standing Orders' shall include information on the following requirements:

- a) The types of disposal operations that may be conducted and the limitations on these operations.
- b) The layout of the site; including all Control Points and, where necessary, the location of separate areas for conventional demolitions, burning and other specialized disposal operations.
- c) The command and control arrangements; including the location and manning of sentry points.
- d) The safety requirements; including authorized access routes, the route(s) to the nearest suitable medical facility, the position of warning signs or symbols and the provision of fire-fighting equipment.
- e) Where applicable, any requirements and procedures to be followed for the issue of 'Notice to Airmen (NOTAM)'.
- f) Communications.
- g) Environment.
- h) Liaison; both with local authorities and the community before and after disposal activities are conducted.
- i) Post-disposal clearance of scrap and physical maintenance of the site.
- j) All requirements for the keeping of records of the items having been disposed off.

### **Demolition Pits**

### Demolition Pit Requirements

The requirements of a demolition pit at the CDS are as follows:

- a) When possible site the pit in a natural depression and in soft ground.
- b) The pit should as much as possible be free from stones and any other material that could create flying fragments and debris during demolitions.
- c) The pit should initially be dug approximately 1.0m x 1.0m x 1.0m. It will get progressively larger with each demolition.
- d) The soil excavated from the pit should be mounded around the top outer edges and compacted in order to deflect blast and improve fragment containment.

### Rules for the Use of Demolition Pits

Users should utilize existing demolition pits when it is practical to do so. The following rules shall be adhered to when using a demolition pit within a CDS:

- a) Before and after each use, the pit shall be checked for any unexploded ordnance.
- b) Maximum effort shall be made to avoid the risk of items being thrown out of the demolition pit during demolitions.
- c) Any intended destruction of White Phosphorus (WP) shall be detailed to the AMAC on the booking request form.
- d) WP may be destroyed in a dedicated and well-ventilated pit which should be located 50m downwind of the central pit.
- e) No pit shall be used for at least 24 hours following a detonation, unless the ground is thoroughly soaked with water.
- f) Safe routes into the pits shall be established and all working areas in pits shall be safe and stable.
- g) Measures shall be taken to ensure that personnel do not walk or stand over undercuts into the sides of pits.

### Loading the Demolition Pit

To ensure complete destruction of all items set up in the pit for demolition and to minimize blast and fragmentation affect from the demolition, the following points shall be adhered to when loading the demolition pit:

- a) When forming stacks items shall be placed in the pit in four layers, the bottom layer should contain low quantity of explosives e.g. fuses grenades and SSA. The second layer should contain thick cased munitions. Thin cased high explosive items shall then be placed in third layer and then fourth layer should contain donor charge items.
- b) To establish and maintain an effective propagation wave and ensure a successful demolition, air voids must be minimized. Munitions shall therefore be placed directly in contact with a donor charge or directly in contact with each other.
- c) Stacks and their explosive chains shall be stable enough and sufficiently shielded so as not to be affected by detonations in other pits.
- d) Once the donor charges have been placed, the stack may be covered with a plastic sheet and the pit backfilled and tamped with soil.
- e) All munitions awaiting destruction shall be stored outside the fragmentation distance, if they are not to be used for the serial being loaded.
- f) A minimum number of personnel should be used when loading the demolition pit.
- g) The pit shall never be more than half filled with UXO.
- h) Detonators or initiation sets shall not be buried under any circumstances.



## **CDS Control Points**

There are a number of control points required at a CDS and these shall include:

- a) Vehicle parking area.
- b) Command Post (CP).
- c) Stores/administration area.
- d) First aid post.
- e) Helicopter Landing Site (HLS), if appropriate.
- f) Rest areas.
- g) Safety areas.
- h) Field explosive store.
- i) Toilets.
- j) Firing point.
- k) Sentry points.
- l) Locations for warning signs.

## **Sentries**

### Placement of Sentries

The placement of sentries shall conform to the following requirements:

- a) Sentries shall be placed to control all likely access routes to the disposal site.
- b) Sentries shall be placed outside the danger area. Where sentries cannot be placed outside of the danger area, they shall be provided with suitable protection from the danger of fragmentation and blast. This protection shall not to affect the sentry's ability to effectively fulfil their duties.
- c) Sentries shall be able to observe the whole danger area including gullies and dead ground.
- d) Sentries shall be allocated individual areas of responsibility and these areas shall overlap to ensure complete coverage.
- e) Sentries shall have radio communications with the firing point as the primary means of communication and have an alternate means of communication.
- f) The supervisor of the disposal task shall regularly test communications with the sentries. If communications are lost, preparation for the demolition shall be suspended until communications are re-established.

### Briefing of Sentries

Prior to placing sentries, the supervisor of the disposal task shall thoroughly brief the sentries on their responsibilities and duties. As a minimum, the points to be covered during the briefing shall be:

- a) The precise location of their sentry post and their individual area of responsibility.
- b) The location of other sentries.
- c) The requirement to remain alert at all times.
- d) The procedure for communications checks and the call signs and signals to be used.
- e) The alternate means of communications to be used if radio communications fail.
- f) The action the sentry shall take in the event of misfires, accidents, loss of communications and unauthorised entry into the disposal area.

## **Procedures for the OIC**

The following procedures shall be followed by the Officer in Charge (OIC) of the demolition being conducted at the CDS;

### Pre-Firing Procedures

Pre-firing procedures shall include:

- a) The danger area shall be cleared of all non-essential personnel, vehicles, equipment and livestock.
- b) Sentries shall be warned that firing is about to be begin.
- c) If electrical initiation systems are used, the complete firing circuit shall be tested for continuity.
- d) Immediately before firing occurs the disposal supervisor shall radio the sentries to confirm the danger area is still clear and to warn them the firing of the charges is about to occur.

### Misfire Procedures

In the event of a misfire, the supervisor shall observe the following wait time before moving from the firing point and approaching the demolition charge:

- a) Electrical initiation: 10 minutes.
- b) Non-electrical initiation: 30 minutes.

During the wait time, no person shall leave the safety area nor shall any unauthorised person be allowed access to the disposal area.

### Post-Firing Procedures

Post-firing procedures shall include:

- a) Any mandatory 'wait time' for the type of disposal operation being conducted shall elapse before any movement into the danger area is to occur.
- b) The supervisor of the task shall personally check that all charges have fired as intended and there is no residual hazard in the area.
- c) Any necessary post-demolition activities shall occur for the type of ordnance being disposed, i.e. raking of the ground to ensure no WP munitions are present.
- d) Once the supervisor has determined that the area does not contain any ordnance hazard, the 'all clear' shall be announced. No person shall leave the safety area or be allowed access to the disposal area until the supervisor has given this 'all clear'. Once the team reaches the pit, they may rake it for any residual WP.

## **General Safety Requirements**

The following general safety requirements are applicable to all disposal operations:

- a) No disposal tasks shall be undertaken if there are electrical storms in the immediate area.
- b) The supervisor shall ensure that required safety distances can be achieved for the particular disposal task.
- c) There shall be no smoking or naked flames within 30m of explosives.
- d) All work shall cease if communications cease to function. Upon restoration of communications, work shall be started again.

- e) If a qualified medic, dedicated ambulance driver and appropriate medical equipment are not on site, then no work shall be done until all three conditions are satisfied.

### Accident Prevention and Procedures

The mandatory requirements in the case of an accident shall be:

- a) The disposals party shall include at least one person trained and equipped to provide first aid and treat traumatic injuries (designated medic).
- b) Unless they are provided with appropriate protection, the designated medic and their equipment shall stay readily available but outside of the danger area and ready to deal with casualties.
- c) There shall be an established casualty evacuation procedure and standby medical cover shall be available.
- d) There shall be a serviceable ambulance or vehicle fitted out to allow a medic to treat at least one stretcher borne casualty and transport the casualty safely to a hospital or medical facility.

### Procedures in the Event of an Accident

The procedures to be followed in the case of an accident shall be:

- a) Stop disposals, make safe the prepared demolitions, carry out first aid and CASEVAC and call on back up medical aid.
- b) Inform the MACCA.
- c) Note all details pertinent to the eventual investigation.
- d) Mark and protect the accident scene.
- e) Render safe and repack all munitions and explosives that have been unpacked and prepared for disposals - segregate awaiting investigation.
- f) Note the name of the casualty, time of the accident and details of injuries shall be obtained from the medic prior to the departure of the evacuation vehicle.
- g) Note the time of evacuation of the casualty.
- h) Notify MACCA of the destination for the evacuation vehicle and the estimated time of arrival at the destination.