AMMUNITION AND EXPLOSIVES ACCIDENT INVESTIGATIONS

1. REFERENCES.

a. AR 75-1, Malfunctions Involving Ammunition and Explosives, 4 November 2008.
b. AR 195-2, Criminal Investigations Activities, 6 September 2011.
c. DA PAM 385-40, Army Accident Investigation and Reporting, 25 February 2010.
d. AR 385-64, U.S. Army Explosives Safety Standards, 24 May 2011.

2. GENERAL. Investigations of accidents, which involve ammunition or explosives (A&E), are essentially like all other Army accident investigations, except that they can involve an additional investigation team. (Explosive accidents are described in Chapter 5, par 5-3, DA PAM 385-40

3. COMMAND AND CONTROL. As with any accident in which criminal activity is suspected, primary jurisdiction over the accident site rests with CID, IAW chapter 3 of AR 195-2. Following release by the CID, the CAI/IAI Board conducts the primary accident investigation for DA/ACOM. All other investigations assume a subordinate role. The CAI/IAI Board President controls the coordination and investigative actions of all technical teams supporting the board, access to the accident site, and is responsible for releasing the site after all legitimate investigative actions are complete.

a. The U.S. Army Technical Center for Explosives Safety (USATCES) provides technical assistance upon request (IAW AR 385-64) to CAI/IAI investigations if A&E are involved. When the assistance of USATCES is not requested, technical ammunition assistance may be requested locally from supporting Quality Assurance Specialist (Ammunition Surveillance) (QASAS) personnel.

b. The DA Investigation Team for Malfunctions (DAITM) is authorized to perform an on-site inspection to establish the probable cause of an ammunition malfunction IAW AR 75-1, Chapter 3 and will conduct its investigation as part of the CAI/IAI.

c. Common factual information may be shared between the CAI/IAI, CID and the DAITM. However the contents of interview statements will not be released between the teams or with any other investigative bodies, except when the DAITM is part of the CAI/IAI. Each legitimate investigative body may, however, conduct separate inter views with the witnesses.

d. The DoD Explosives Safety Board (DDESB) has a legitimate interest in Army accidents, which involve A&E. However, the DDESB has no authority at an Army accident site and it should not correspond directly with the CAI/IAI Board concerning specific accidents. AR 385-64 establishes USATCES as the intermediary between the Army and the DDESB on requests for information, reports and requests for assistance. The CAI/IAI Board should refer requests for information from the DDESB to USATCES.

4. The supplementary technical data indicated below (as applicable) will be included in the appropriate blocks of DA Form 285 or DA Form 285-AB-R, per the form's instructions. Required data that is not entered on the DA Form 285 or DA Form 285-AB-R will be included as attachments. If a malfunction investigation was conducted as part of the investigation, much of this information should be available in the ammunition malfunction reports, prepared by the DAITM or local QASAS. If an ammunition malfunction investigation was not conducted, questions and assistance concerning the collection of this data may be obtained from local QASAS personnel or by calling the USATCES Hotline, DSN 956-6140, or commercial (918) 420-6140. All data must be addressed; if not applicable, so state—

a. Type of operation or transportation mode engaged in at the time of the accident (include reference to applicable standing operating procedure (SOP) or regulatory document).

b. The following information, if not previously reported: quantity, type, lot number, configuration, and packaging of ammunition/explosives involved in the accident.

c. Type of reaction or reactions—

(1) Single reaction such as detonation, deflagration, fire, release, or activation.

(2) Multiple reaction such as detonation and fire.

(3) Communications of reactions such as detonations caused by fire, fire caused by detonation, detonation propagates to detonation, detonation to deflagration, etc., and the time sequences between such events, if applicable.

d. Possible or known causes.

e. Aerial and ground photographs, color whenever possible, of the accident taken as soon as possible after the accident.

f. Maps, charts, and overlays of the accident area showing or listing the following data:

(1) Location of personnel killed or injured with respect to the accident origin.

(2) Area containing property with complete destruction (more than 75 percent).

(3) Area containing property damage beyond economical repair (50 to 75 percent).

(4) Area containing repairable property (1 to 49 percent).

(5) Radii of uniform or irregular glass breakage. When possible, include type and dimensions of glass broken at the farthest point.

(6) Locations and dimensions of craters.

(7) Distances from the accident origin at which direct propagation occurred, and whether from blast, fragments, firebrands, or fire.

(8) Approximate number, size, and location of hazardous fragments and debris.

g. Describe any influence of the following factors on the accident:

(1) Environmental and meteorological, such as cloud cover, wind direction and velocity, temperatures, relative humidity, electromagnetic radiation (EMR), and electrostatic conditions.

(2) Topographical features such as hills, forests, lakes.

(3) Structural features at the accident origin such as exterior and interior walls, substantial dividing walls, bulkheads, roofs, and overheads, doors and windows, cells or magazines, earth cover, barricades.

(4) Safety features other than structural at the accident origin such as remote controls, sprinkler systems, deluge systems, detectors, alarms, blast traps, suppressive shielding, protective clothing and equipment (PCE).

(5) Position, orientation, and type of construction of all structures, damaged or not, located within the maximum radius of damage. When the applicable intermagazine distance (IMD), intraline distance (ILD); or inhabited building distances (IBD) are greater than the radius of actual damage, show the location, orientation, and type construction of all structures situated within quantity distance (QD) radii.

(6) Vessels, vehicles, and mobile equipment locations within maximum radius of damage. If QD requirements are greater than the actual area of damage, indicate the actual distance and damage sustained to all equipment located within all the QD arcs.

(7) Personnel locations within maximum radius of damage. If QD requirements are greater than the actual area of injury, indicate the actual distance to all personnel located within all the QD arcs and extent of injuries received.

(8) Explosives, ammunition, and chemical agent location, type of configuration, amounts, and protection provided within maximum radius of damage, or if QD requirements are greater, the location within the applicable magazine and intraline arcs.

(9) Identify buildings, exposures, and other locations that are under special consideration or waiver. The completed waiver package will be submitted as an appendix to the report. Describe interim safety measures that prevented injury or damage.

h. The report will include an analysis of the accident sequence, the conclusions reached from the investigation, and recommendations to prevent reoccurrence.