INTERNATIONAL AMMUNITION TECHNICAL GUIDELINE

IATG 01.40

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Glossary of terms, definitions and abbreviations

UN SaferGuard
Securing ammunition, protecting lives

IATG 01.40:2021[E]

Warning

The International Ammunition Technical Guidelines (IATG) are subject to regular review and revision. This document is current with effect from the date shown on the cover page. To verify its status, users should consult www.un.org/disarmament/ammunition

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Contents

Foreword

Ageing, unstable and excess conventional ammunition stockpiles pose the dual risks of **accidental explosions at munition sites** and **diversion to illicit markets**.

The humanitarian impact of ammunition-storage-area explosions, particularly in populated areas, has resulted in death, injury, environmental damage, displacement and disruption of livelihoods in over 100 countries. Accidental ammunition warehouse detonations count among the heaviest explosions ever recorded.

Diversion from ammunition stockpiles has fuelled armed conflict, terrorism, organized crime and violence, and contributes to the manufacture of improvised explosive devices. Much of the ammunition circulating among armed non-State actors has been illicitly diverted from government forces.[1] In recognition of these dual threats of explosion and diversion, the General Assembly requested the United Nations to develop **guidelines for adequate ammunition management**.[2] Finalized in 2011, the International Ammunition Technical Guidelines (IATG) provide voluntary, practical, modular guidance to support national authorities (and other stakeholders) in safely and securely managing conventional ammunition stockpiles. The UN SaferGuard Programme was simultaneously established as the corresponding knowledge-management platform to oversee and disseminate the IATG.

The IATG also ensure that the United Nations entities consistently deliver high-quality advice and support – from mine action to counter-terrorism, from child protection to disarmament, from crime reduction to development.

The IATG consist of 12 volumes that provide practical guidance for 'through-life management' approach to ammunition management. The IATG can be applied at the guidelines' **basic, intermediate, or advanced levels**, making the IATG relevant for all situations by taking into account the diversity in capacities and resources available. Interested States and other stakeholders can **utilize the IATG for the development of national standards and standing operating procedures**.

The IATG are reviewed and updated at a minimum every five years, to reflect evolving ammunition stockpile-management norms and practices, and to incorporate changes due to changing international regulations and requirements. The review is undertaken by the UN SaferGuard Technical Review Board composed of national technical experts with the support of a corresponding Strategic Coordination Group comprised of expert organizations applying the IATG in practice.

The latest version of each IATG module can be found at www.un.org/disarmament/ammunition.

[1] S/2008/258.

[2] See also the urgent need to address poorly-maintained stockpiles as formulated by the United Nations Secretary-General in his Agenda for Disarmament, *Securing Our Common Future* (2018).

Glossary of terms and definitions

Scope

This module of the International Ammunition Technical Guidelines (IATG) compiles the terms and definitions used in all other IATG modules.

Informative references

A list of informative references is given at Annex A in the form of a bibliography which lists additional documents that contain other useful information on terms and definitions related to the stockpile management of conventional ammunition. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Terms and definitions

The terms and definitions used throughout the IATG have been approached from a top down approach as follows:

a) ISO terms and definitions have primacy as they have already been agreed by the 140+ participant Member States in the ISO process;

b) terms and definitions contained within relevant international treaties and agreements;

c) terms and definitions in IMAS,[3] IDDRS[4] and MOSAIC[5];

d) terms and definitions in regional standards and guidelines;

e) appropriate national level terms.

For the purposes of all modules of the IATG the following terms and definitions shall apply.

[3] International Mine Action Standards (IMAS).

[4] International Disarmament, Demobilization and Reintegration Standards (IDDRS).

[5] Modular small-arms-control implementation compendium (MOSAIC).

3.1
abandoned explosive ordnance (AXO)
explosive ordnance that has not been used during an armed conflict, that has been left behind or dumped by a party to an armed conflict, and which is no longer under control of the party that left it behind or dumped it. Abandoned explosive ordnance may or may not have been primed, fuzed, armed or otherwise prepared for use.

3.2
above ground storage
storage in **explosive storehouses**, with or without earth cover, or in open stacks, at surface level. An accidental event at such a site may result in blast, fire and projections.

3.3
access control
a system which enables an authority to control access to areas and resources in a given physical facility.

NOTE 1 An access control system, within the field of physical security, is generally seen as the second layer in the security of a physical structure.

3.4
accident
an undesired event, which results in **harm.**

3.5
accounting
information management systems and associated operating procedures that are designed to record, numerically monitor, verify, issue and receive **ammunition** in organisations and stockpiles.

3.6
Airfield
the area prepared for the accommodation (including any buildings, installations, and equipment), of landing and takeoff of aircraft.

3.7
Airport
refers to a civil or municipal airfield.

3.8
all up weight (AUW)
the AUW is the total weight of the **munition**, or munitions, including packaging and palletisation.

3.9
ammunition
a complete device, (e.g. missile, shell, mine, demolition store etc.) charged with explosives, propellants, pyrotechnics, initiating composition or nuclear, biological or chemical material for use in connection with offence, or defence, or training, or non-operational purposes, including those parts of weapons systems containing explosives. (c.f. **munition**).

3.10
ammunition accident
any incident involving ammunition or explosives that results in, or has potential to result in, death or injury to a person(s) and/or damage to equipment and/or property, military or civilian.

3.11
ammunition container
an approved box, cylinder, tin plate liner or receptacle that is designed to contain **explosive articles** or explosives substances. It normally forms part of an ammunition container assembly.

3.12
ammunition depot
an installation devoted primarily to the receipt, storage, issue and maintenance of **ammunition**.

3.13
ammunition process building (APB)
a building or area that contains or is intended to contain one or more of the following activities: maintenance, preparation, inspection, breakdown, renovation, test or repair of **ammunition** and **explosives**.

3.14
ammunition store (unit)
an authorised building containing **ammunition** on unit account.

3.15
anti-static floor
a floor, having a resistance to earth of not less than 5×10^4 ohms and not more than 2×10^6 ohms, which is sufficiently electrically conductive to disperse an accumulated static electrical charge.

3.16
arisings (also Explosive Ordnance Disposal (EOD) arisings) – those explosive items recovered when an EOD task is carried out. Examples would be; an item of ammunition (Unexploded Ordnance (UXO) or Abandoned Explosive Ordnance (AXO)) which is safe to move to a base location (usually a specific explosive storehouse (ESH) in an Ammunition Storage Area (ASA), a dedicated store at an EOD team location, or a dedicated store at a demolition site) for further action; the results of Improvised Explosive Device Disposal (IEDD) action where explosive and other remnants of the device are recovered and either, if safe, given to the authorities for use as forensic evidence, or returned to a base location for future disposal or safe keeping.

3.17
attractive to criminals and terrorist organisations (ACTO)
those ammunition items considered to be of immediate value to a terrorist or criminal.

NOTE 1 For example, SAA, **detonators**, **bulk explosive**, shoulder launched anti-tank weapons or **MANPADS**.

3.18
ban
a moratorium placed on the issue and use of **ammunition**, usually pending technical investigation.

3.19
bastion (gabion)
a cage within which can be placed various fill materials (e.g. gravel, sand, rock), and which is used for building walls, barricades and protective barriers.

3.20
barricade
a natural ground feature, artificial mound, traverse or wall which, for storage purposes, is capable of preventing direct communication of explosion from one quantity of **explosives** to another although it may be destroyed in the process.

3.21
batch
a discrete quantity of ammunition which is assembled from two or more lotted components (one of which will be the Primary Governing Component,) is as homogeneous as possible and, under similar conditions, may be expected to give uniform performance.

NOTE 1 Within the batch a number of sub-batches may be found.

3.22
batch key identity
a term used to identify a particular lot or batch of ammunition.

3.23
batch number
a number allocated to a batch which uniquely identifies that batch.

3.24 black powder
intimate mixture of sodium nitrate or potassium nitrate with charcoal or other carbon, with or without sulphur.

3.25
blast
a destructive wave of gases or air produced in the surrounding atmosphere by an **explosion**. The blast includes a shock front, high pressure behind the shock front and a rarefaction following the high pressure.

the propagation through the air of a high pressure wave, produced by the deflagration or detonation of an explosive material.

3.26
blind
a prepared **explosive** store which, though initiated, has failed to arm as intended or which has failed to explode after being armed (see **misfire**). Alternatively, an **explosive** item that fails to function correctly after initiation.

3.27
bonding
the process of connecting together metal parts so that they provide low electrical resistance contact for direct current (DC) and alternating current (AC) frequencies.

3.28
booster
explosive device used as a **donor charge** to amplify the energy to the **acceptor charge**.

3.29
breech explosion
the uncontrolled initiation of a **round** in the breech of a weapon when fired. The round may not have been chambered or only partially chambered.

3.30
breech loading (BL)
originally ‘Breech Loading’, now the symbol for a system of rear obturation in which the sealing is achieved by means of a pad in the breech mechanism which presses against the surface in the rear of the chamber of the gun.

3.31
brisance
the shattering effect of an **explosive** or **explosion**.

3.32
bulk explosives
service charges of **explosives** which are generally removed from their containers before use, such as Charges Demolition.

explosive which is not formed into a cartridge and can be loaded by pouring (under gravity), pumping or other pneumatic means.

3.33
burning
the propagation of an exothermic reaction by conduction, convection and radiation.

3.34
burning ground
an area authorised for the destruction of **ammunition** and **explosives** by burning.

3.35
cartridge
a cased quantity of **explosives** (excluding rocket motors) complete with its own means of ignition.

ammunition, ready for firing, wherein the propelling charge(s), its primer, and the projectile with its fuze are assembled in one unit for handling and firing.

3.36
cartridge case
an item which is designed to hold an ammunition primer and propellant and to which a projectile may be affixed; its profile and size conform to the chamber of the weapon in which the round is fired.

3.37
categories of buildings and areas
buildings and areas containing, or likely to contain, military **explosives** are divided into electrical categories according to the likelihood of the explosives giving rise to dust or vapour:

NOTE 1 Category A. Buildings containing, or liable to contain, explosives which produce flammable vapours, but not explosives dust.

NOTE 2 Category A, Zone 0. An area in a Category A building in which a flammable gas or vapour and air mixture is continuously present or is present for long periods.

NOTE 3 Category A, Zone 1. An area in a Category A building in which a flammable gas or vapour and air mixture is likely to occur during normal working.

NOTE 4 Category A, Zone 2. An area in a Category A building in which a flammable gas or vapour and air mixture is not likely to occur in normal operation and, if it occurs, it will exist for only a short time.

NOTE 5 Category B. Buildings containing or likely to contain exposed explosives or explosives which may give rise to an atmosphere of explosives dust, but not flammable vapour.

NOTE 6 Category C. Buildings containing or likely to contain explosives which do not give rise to flammable vapours or explosives dust.

NOTE 7 Category D. These are buildings, usually small Unit Stores, containing or likely to contain packaged explosives that do not give rise to flammable vapours or explosives dust but limited to certain natures and quantities of ammunition.

NOTE 8 For buildings/areas to qualify for use within these categories, electrical equipment and installations and MHE must strictly comply with prescribed specifications.

3.38
CEN (Committee European Normalisation)
CEN is the European Committee for Standardization.

NOTE 1 A CEN standard has the same authority within the EU as an ISO standard.

3.39
charge
a bagged, wrapped or cased quantity of **explosives** without its own integral means of ignition. Secondary means of ignition may or may not be incorporated.

3.40
charge (demolition)
a charge made up from **bulk explosive** for the express purpose of destruction by **blast** or **brisance**.

3.41
charge (expelling)
a charge of generally low or deflagrating **explosive** designed to eject the payload from a parent munitions dispenser by gas pressure without damage to the **sub-munitions**.

3.42
charge (propelling)
articles consisting of a **propellant** charge in any physical form, with or without a casing, for use in artillery, mortars, rockets, or as a component of **rocket motors**.

3.43
chemical stability of propellants
resistance to deterioration by chemical reaction.

3.44
classification of explosives
the allocation of a UN **Hazard Division**, **Compatibility Group** and UN Serial Number to an **explosive**, according to its general properties and characteristics and to those of its packaging, during storage and transport.

3.45
cluster munitions
containers designed to disperse or release multiple **sub-munitions**.

3.46
combat aircraft loading area (CALA)
any area designated for aircraft loading and unloading of munitions.

3.47
combat aircraft parking area (CAPA)
any area specifically designated for parking aircraft loaded with combat configured munitions.

3.48
commercial off the shelf (CoTS)
an **equipment** that is available direct from the manufacturer and requires no further development prior to introduction into service apart from minor modifications.

3.49
compatibility
absence of reactions between explosives and other component within a munition, leading to unacceptable changes in physical properties, sensitiveness or sensitivity of explosives in the munition.

3.50
compatibility group (CG)
grouping identified by a letter which, when referenced to a compatibility table, shows those **explosives** which may be stored or transported together without significantly increasing the probability of an **accident** or, for a given quantity, the magnitude of the effects of such an accident. Codes are used to indicate which **natures** may be safely stored together.

3.51
conducting floor
a floor having a resistance to earth of not more than 5×10^4 ohms.

3.52
confinement
the characteristics of the casing of a charge, which restrict the expansion of the decomposition products when the explosive substance reacts.

3.53
constraint
the imposition of a limitation or restriction in the use, transportation, carriage, issue, storage or inspection of a **munition**.

3.54
contraband / controlled articles / prohibited articles
articles normally prohibited in an **explosives area**, store or vehicle carrying **explosives** unless in an authorised container. Items included are matches, lighters, smoking material and articles, tobacco in any form, alcoholic beverages etc. Additional items as so defined in local orders.

3.55
contractor
a person or persons, company or any other organisation entering into a business agreement for the performance of works services or the supply of goods, with the agreement being legally enforceable.

3.56
conventional ammunition
a complete device, (e.g. missile, shell, mine, demolition store etc.) charged with explosives, propellants, pyrotechnics or initiating composition for use in connection with offence, or defence, or training, or non-operational purposes, including those parts of weapons systems containing explosives. (c.f. **munition**).

3.57
cost benefit analysis (CBA)
a process that involves, whether explicitly or implicitly, weighing the total expected costs against the total expected benefits of one or more actions in order to choose the best, most cost effective or most profitable option.

a technique designed to determine the feasibility of a project or plan by quantifying its costs and benefits.

3.58
cost effectiveness
an assessment of the balance between a system's performance and its whole life costs.

3.59
danger area
(see **explosion danger area**).

3.60
dangerous goods
items classified under the United Nations (UN) system within Classes 1 to 9 in accordance with the UN Transport of Dangerous Goods Regulations (Orange Book).

3.61
debris
any portion of the natural ground or of a structure or material (not part of the functioning **explosive**) that is propelled from the site of an **explosion**. Also known as projections or secondary fragments.

3.62
debris and fragment distance (DFD)
the term 'debris and fragment distance' (DFD) refers to the distance from the point of explosion to the point which the density of the debris and fragments generated by the explosion has decreased

to where people in the open are not expected to be seriously injured. This is equivalent to the hazardous fragment distance (HFD).

NOTE 1 Blast distance (BD) is the protection from the shock front, high pressure wave produced by the deflagration or detonation of an explosive.

NOTE 2 If an Exposed Site (ES) provides sufficient protection (barricade and protected roof) against debris and fragments the BD may be used. Otherwise use the greater of the BD or the DFD (HFD).

3.63
decomposition
chemical reaction of a substance which is not a detonation or deflagration, resulting in significant change in properties.

3.64
deflagration
reaction of combustion through a substance at sub-sonic velocity in the reacting substance.

the conversion of **explosives** into gaseous products by chemical reactions at or near the surface of the explosive.

a rapid chemical reaction in which the output of heat is sufficient to enable the reaction to proceed and be accelerated without input of heat from another source.

NOTE 1 Deflagration is a surface phenomenon with the reaction products flowing away from the unreacted material normal to the surface at subsonic velocity. The effect of a deflagration under confinement is an **explosion**. Confinement of the reaction increases the pressure rate of reaction and temperature and may cause transition into a **detonation**.

3.65
deflagration to detonation transition (DDT)
the transition to detonation from an initial burning reaction.

3.66
demilitarization
the complete range of processes that render weapons, **ammunition** and **explosives** unfit for their originally intended purpose.

NOTE 1 Demilitarization not only involves the final destruction process, but also includes all transport, storage, accounting, and pre-processing operations that are equally critical to achieving the result.

3.67
demolition
the destruction of structures, facilities, or materiel by the use of fire, water, explosives, mechanical or other means.

3.68
destruction
the process of final conversion of weapons, **ammunition** and **explosives** into an inert state so that the item can no longer function as designed

3.69
destruction (in situ)
the destruction of any item of **explosive ordnance** by **explosives** without moving the item from where it was found - normally by placing an **explosive** charge alongside. Also referred to as Blow in place (BIP).

3.70
detonating cord

article consisting of a core of detonating **explosive** (usually **PETN**) surrounded by a flexible outer covering or clad by a soft metal tube.

3.71
detonation
reaction which moves through an **explosive** material at supersonic velocity in the reacting material.

the rapid conversion of **explosives** into gaseous products by means of a shock wave passing through the explosive.

an exothermic reaction wave which follows, and maintains, a supersonic shock front in an **explosive**.

decomposition reaction in which the zone of chemical reaction propagates through the initial medium at a supersonic velocity behind a shock front.

NOTE 1 Typically, the velocity of such a shock wave is more than two orders of magnitude higher than a fast **deflagration**.

3.72
detonation velocity
velocity at which the **detonation** travels through the **explosive** charge or column in m/s.

3.73
detonator
a device containing a sensitive **explosive** intended to produce a **detonation** wave.

article consisting of a small metal or plastic tube containing a **primary explosive** charge, such as lead azide, and a **secondary explosive** charge, such as **PETN**, or other combinations of explosives normally not exceeding a mass of 2g.

3.74
detonator (delay)
detonator assembly in which a time delay between initiation and detonation is included.

NOTE 1 Delay detonators can be electric, electronic or non-electric.

3.75
detonator (electric)
detonator assembly activated by means of an electric current.

NOTE 1 Electric detonators include direct current (DC) and alternating current (AC) (magnetically coupled) systems.

3.76
detonator (electronic)
detonator assembly in which the time delay is achieved by means of an electronic chip activated by an electric or non-electric stimulus.

3.77
detonator (instantaneous)
detonator with no nominal time delay.

3.78
detonator (non-electric)
detonator assembly initiated by means of shock tube, burning fuse or other means not involving electrical stimuli as the primary mode of initiation.

3.79
detonator (plain)

instantaneous non-electric detonator supplied without means of initiation.

NOTE 1 Plain detonators are usually initiated by means of , safety fuze, pyrotechnic igniter or shock tube.

3.80
diurnal cycling
the exposure of **ammunition** and **explosives** to the temperature changes induced by day, night and change of season.

3.81
disposal (logistic)
the removal of **ammunition** and **explosives** from a **stockpile** by the utilisation of a variety of methods, (that may not necessarily involve destruction). Logistic disposal may or may not require the use of **render safe procedures**.

NOTE 1 There are six traditional methods of disposal used by armed forces around the world: 1) sale; 2) gift; 3) use for training; 4) deep sea dumping; 5) land fill; and 6) destruction or demilitarization.[6] Method 6, destruction or demilitarisation, are the only generally accepted methods.

3.82
disposal site
an area authorised for the destruction of **ammunition** and **explosives** by **detonation** and burning.

3.83
diversion
the shifting of weapons, ammunition or explosives from the legal market or owner to an illegal market or owner as a result of losses, theft, leakage or proliferation from a stockpile or other source.

3.84
donor
all sources of funding, including by the host nation government.

3.85
donor charge
charge of explosive supplying a stimulus to another charge.

3.86
donor explosive
serviceable **explosive** used in demolitions to initiate and destroy unserviceable **ammunition** and **explosives** during Explosive Ordnance Disposal (**EOD)** operations.

3.87
drill ammunition
an inert replica of **ammunition** specifically manufactured for drill, display or instructional purposes.

3.88
electrically initiated device (EID)
any single shot component or sub-assembly initiated by electrical means and having an explosive, pyrotechnic or mechanical output resulting from an explosive, pyrotechnic, laser or electrothermal action.

3.89

[6] This is an obvious area where confusion can be caused due to the use of incorrect terminology or translation. One party may assume that when the other mentions disposal they are really talking about destruction. This may not be the case.

electrical category
the standard of electrical installations and equipment required in an **explosive** building. The electrical category is the same as the category allocated to the building or area. (See also **categories of buildings and areas)**.

3.90
electro-explosive device (EED)
a one-shot **explosive** or **pyrotechnic** device used as the initiating element in an **explosive** or mechanical train and which is activated by the application of electrical energy.

3.91
equipment
a physical, mechanical, electrical and/or electronic system which is used to enhance human activities, procedures and practices.

3.92
equivalence (TNT)
when **explosives** having a significantly more or less powerful effect than **TNT** are being considered, a TNT equivalent may be used to determine the appropriate **quantity distance**(s).

3.93
error in drill
an Error in Drill is an incident where the authorised and/or laid down drills are found to be at fault and require to be revised.

3.94
error of drill
an Error of Drill is an incident where the authorised and/or laid down drills have not been followed correctly.

3.95
EUExcert
European Union Explosives Certification project.

3.96
evaluation
the analysis of a result or a series of results to establish the quantitative and qualitative effectiveness and worth of software, a component, **equipment** or system, within the environment in which it will operate.

NOTE 1 Definition when used in context of equipment test and evaluation.

a process that attempts to determine as systematically and objectively as possible the merit or value of an intervention.

NOTE 1 The word “objectively” indicates the need to achieve a balanced analysis, recognising bias and reconciling perspectives of different stakeholders (all those interested in, and affected by programmes, including beneficiaries as primary stakeholders) through use of different sources and methods.

NOTE 2 Evaluation is considered to be a strategic exercise.

3.97
explosion
sudden release of energy producing a **blast** effect with the possible projection of **fragments**.

NOTE 1 The term explosion encompasses fast combustion, deflagration and detonation.

3.98
explosion consequence analysis (ECA)

the structured process, utilising explosives science and explosives engineering, to provide scientific evidence of the potential risk to individuals and property from the effects of an undesirable explosive event.

3.99
explosion danger area
the area surrounding an explosive facility determined by the distances any blast or fragments may be expected to travel due to the **detonation** of **ammunition**.

3.100
explosive
solid, gas or liquid substance or mixture of substances which, by intrinsic chemical reaction is capable of producing an **explosion**.

a substance or mixture of substances, which, under external influences, is capable of rapidly releasing energy in the form of gases and heat.

3.101
explosives safety site plan
a map or drawing of an explosives area which graphically demonstrates compliance with the inside quantity distance (IQD) and outside quantity distance (OQD) requirements. The plan is approved by safety authorities of the MoD prior to construction of new facilities or planned increase of the explosives limit licenses in an extant explosives area.

3.102
explosive materials
components or ancillary items which contain some **explosives** or behave in an **explosive** manner, such as **detonators** and **primers**.

3.103
explosive ordnance (EO)
all **munitions** containing **explosives**, nuclear fission or fusion materials and biological and chemical agents. This includes **bombs** and warheads; guided and ballistic **missiles;** artillery, mortar, rocket and small arms ammunition; all mines, torpedoes and depth charges; pyrotechnics; clusters and dispensers; cartridge and propellant actuated devices; **electro-explosive devices**; clandestine and **improvised explosive devices**; and all similar or related items or components explosive in nature.

3.104
explosive ordnance disposal (EOD)
the detection, identification, evaluation, render safe, recovery and final disposal of unexploded **explosive ordnance**.

NOTE 1 EOD may also include the rendering safe and/or disposal of such explosive ordnance which have become hazardous by damage or deterioration, when the disposal of such explosive ordnance is beyond the capabilities of those personnel normally assigned the responsibility for routine disposal. The level of EOD response is dictated by the condition of the ammunition, its level of deterioration and the way that the local community handles it.

3.105
explosive remnants of war (ERW)
unexploded ordnance (UXO) and **abandoned explosive ordnance** (AXO) that remain after the end of an armed conflict.

3.106
explosive safeguarding map
a map produced by the appropriate authority to define areas into which **inhabited buildings** should not be allowed to encroach.

3.107
explosive storehouse (ESH)

a building or structure designed and erected for the sole purpose of storing **explosives** or a building modified, adopted or appropriated for that purpose and approved by a competent authority.

NOTE 1 Explosives storehouses are described according to their method of construction and use:

NOTE 2 **Above Ground**: A building at natural ground level, the roof and at least one side of which are exposed to the open air.

NOTE 3 **Earth Covered Magazine (ECM)**: A storehouse normally built at ground level, earth covered and constructed in corrugated steel or reinforced concrete, provided with a strong headwall and door(s). Earth covers the roof, the sides and the rear. The storehouse and its earth cover are designed to stringent criteria for resistance to external blast loading and attack by high velocity projections. The cross-section of the ECM may be semicircular, elliptical, rectangular etc.

NOTE 4 **Underground**: A natural or excavated space underground with a ceiling not less than 600mm below the natural ground level, specially adapted for the storage of explosives. Access is by tunnel or lift-shaft.

NOTE 5 **Semi-underground**: A building constructed into a hillside with the front face exposed to the open air.

3.108
explosives area
an area used for the handling, processing and storing of **ammunition** and **explosives**. Where there is no fence, it is taken as being the area within a radius of 50m from any building or stack containing explosives.

3.109
explosives classification
the division of explosives according to the risk they present when initiated in storage and transport. See also **Hazard Division, Compatibility Group** and **Classification**.

3.110
explosives limit (licence) (ELL)
the permitted amount of explosives at a **potential explosion site**. Also known as Explosives Licence Limit.

3.111
explosives storage area (ESA)
an area used for the storage of **explosives** and within which authorised **ammunition** or **missile** preparation, inspection and rectification operations may also be carried out.

3.112
exposed site (ES)
a **magazine**, cell, stack, truck or trailer loaded with **ammunition,** explosives workshop, **inhabited building**, assembly place or **public traffic route** which is exposed to the effects of an **explosion** (or fire) at the p**otential explosion site** under consideration.

3.113
failure
an event in which any system, **equipment**, component or sub-component does not perform as previously specified.

NOTE 1 Failures may be classified as to cause, degree, relevance, dependence and responsibility.

3.114
fault
any error in the make-up, and/or marking, and/or deterioration in the physical state of the ammunition, explosives, ammunition packages or ammunition containers.

3.115
foreign object debris (FOD)

the term 'foreign object debris' (FOD) refers to any object, live or not, located in an inappropriate location in the airport environment that has the capacity to injure the airport or air carrier personnel and damage aircraft.

3.116
fragment
any solid material in contact with **explosive** or surrounding it closely that is propelled from the site of an explosion. It is mainly applied to the metal casing and packaging.

3.117
fragmentation hazard zone
the area that could be reached by **fragmentation** in the case of **detonation** for a given explosive item, **explosive** storage or **UXO** contaminated area.

NOTE 1 Several factors should be considered when determining this zone: the amount of explosive, body construction, type of material, ground conditions etc.

3.118
fuse
a device for protecting an electrical circuit against damage from an excess current by the melting of a fuse element to break the circuit. Also used for burning fuses, i.e. those fuses which do not use detonation to ignite the explosive train.

3.119
fuze
a device that initiates an **explosive** train.

3.120
gabion (bastion)
a cage within which can be placed various fill materials (e.g. gravel, sand, rock), and which is used for building walls, barricades and protective barriers.

3.121
hammerhead
the term 'hammerhead' is the area near the departure end of the runway. An operational surface with dimensions to allow an aircraft to execute 180-degree turns without using reverse operations.

3.122
hardened aircraft shelter (HAS)
a structure designed to minimize aircraft QD separation distances and yet provide a high level of aircraft protection.

3.123
grenade
munitions that are designed to be thrown by hand or to be launched from a rifle. Excludes rocket-propelled grenades. (c.f. **rocket**).

3.124
harm
physical injury or damage to the **health** of people, or damage to property or the environment.

3.125
hazard
potential source of **harm.**

3.126
hazard class
the UN recommended system of nine classes for identifying **dangerous goods**. Class 1 identifies **explosives**.

3.127
hazard classification code (HCC)
an alpha-numeric symbol which denotes the complete hazard classification for a particular nature. The code consists of two digits divided by a full stop indicating the **hazard division** followed by a letter corresponding to the **compatibility group**, e.g. 1.3G.

3.128
hazard divisions (HD)
the UN classification system that identifies hazardous substances.

NOTE 1 For example, Class 1 (Explosives) is subdivided into 6 Hazard Divisions.

3.129
hazards of electromagnetic radiation to ordnance (HERO)
the danger of accidental actuation of electro-explosive devices or otherwise electrically activating ordnance because of radio frequency electromagnetic fields. Situations in which transmitting equipment (e.g., radios, radar, electronic countermeasures, electronic counter-countermeasures, ground penetrating radar, etc.) or other electromagnetic emitting devices can generate radiation of sufficient magnitude to induce or otherwise couple electromagnetic energy sufficient to exceed specified safety and/or reliability margins in EIDs

3.130
hazardous fragment distance (HFD)
the term hazardous fragment distance (HFD) refers to the point of explosion to the point at which the density of hazardous fragments generated by the explosion has decreased has decreased to where people in the open are not expected to be seriously injured. This is equivalent to DFD.

NOTE 1 HFD is an impact density of less than one hazardous fragment per 55.7m^2.

3.131
health
in relation to work, indicated not merely by the absence of disease or infirmity, it also includes the physical and mental elements affecting health which are directly related to safety and hygiene at work.

3.132
heavy walled building
a building of non-combustible construction used for **explosive** storage with walls of at least 450 mm reinforced concrete (RC), or 700 mm brick, or equivalent penetration resistance of other materials, with or without a **protective roof**. The door is normally strengthened if it faces another **potential explosion site**.

3.133
high explosive (HE)
substance or mixture of substances that can undergo a fast internal **decomposition** reaction leading to a **detonation** in its normal use.

A substance or mixture of substances which, in their application as primary, booster or main charge in **ammunition** is required to detonate.

3.134
high velocity projections
debris or fragments at high velocity as the result of a **detonation / explosion** and that may have sufficient remaining energy to propagate an detonation/explosion to another stack.

3.135
humidity indicator
a device used to show, by change of colour spots or markings, that moisture has invaded a store or container.

3.136
hypergolic reaction
the spontaneous ignition of two components – particularly relevant in the case of **liquid bipropellants.**

3.137
ignition
the initial heating of a deflagrating **explosive** or **pyrotechnic** composition, by flame or other source of heat, up to its point of inflammation. Means of ignition may include **propellant**, **primers**, igniters, squibs, fuze lighters, etc.

3.138
illuminating munition
ammunition designed to produce a single source of intense light for lighting-up an area. The term includes illuminating cartridges, grenades and projectiles; and illuminating and target identification bombs.

3.139
improvised explosive device (IED)
a device placed or fabricated in an improvised manner incorporating **explosive** material, destructive, lethal, noxious, incendiary, **pyrotechnic** materials or chemicals designed to destroy, disfigure, distract or harass. They may incorporate military stores but are normally devised from non-military components.

3.140
incendiary munition
ammunition, containing an incendiary substance, and designed to give a primary incendiary effect which may be a solid, liquid or gel including **white phosphorus**.

3.141
incident
a generic term that includes all accidents, performance failures and faults involving ammunition or where ammunition is present.

3.142
incident involving explosives
a generic term that includes all **accidents**, faults and **performance failures** involving explosives, or where **explosives** are present.

3.143
inert munition
an item of **ammunition** that contains no **explosive, pyrotechnic, lachrymatory**, radioactive, chemical, biological or other toxic components or substances.

NOTE 1 An inert munition differs from a drill munition in that it has not necessarily been specifically manufactured for instructional purposes. The inert state of the munition may have resulted from a render safe procedure or other process to remove all dangerous components and substances. It also refers to the state of the munition during manufacture prior to the filling or fitting of explosive or hazardous components and substances. (c.f. **drill**; c.f. **lachrymatory ammunition**; c.f. **pyrotechnic**).

3.144
inhabited building
a building or structure occupied in whole or in part by people (usually civilian). Used synonymously with **occupied building**.

3.145
inhabited building distance (IBD)
the minimum permissible distance between **potential explosive sites** (PES) and non-associated **exposed sites** (ES) that requires a high degree of protection from an explosion.

NOTE 1 The IBD is a form of Outside Quantity Distance (OQD).

3.146
inhabited building distance (IBD)
the term 'inhabited building' refers to a building or structure occupied in whole or in part by people (usually civilian). The term is used synonymously with occupied building.

The term inhabited building distance (IBD) refers to 'the minimum permissible distance between a potential explosion site (PES) and a non-associated exposed site (ES) that requires a high degree of protection from an explosion.

NOTE 2 The IBD is a form of Outside Quantity Distance (OQD).

The term 'inside quantity distance' (IQD) refers to the minimum permissible distance between a potential explosion site (PES) and an exposed site (ES) inside the explosives area.

3.147
inside quantity distance (IQD)
the minimum permissible distance between a **potential explosion site (PES)** and an **exposed site (ES)** inside the **explosives area**.

3.148
inter-magazine distance (IMD)
the distance between a building or stack containing explosives to other such buildings or stacks which will prevent the direct propagation of explosions or fire from one to the other by missile, flame or blast.

NOTE 1 The IMD is a form of Inside Quantity Distance (IQD).

NOTE 2 Subsequent reactions (fire or detonation) may still occur at adjacent explosive locations that meet IMD, as a result of burning debris, high angle fragment impacts, building collapse, etc.

3.149
International Organization for Standardization (ISO)

NOTE 1 A worldwide federation of national bodies from over 130 countries. Its work results in international agreements which are published as ISO **standards** and **guides**. ISO is a NGO and the standards it develops are voluntary, although some (mainly those concerned with **health**, **safety** and environmental aspects) have been adopted by many countries as part of their regulatory framework. ISO deals with the full spectrum of human activities and many of the tasks and processes which contribute to **conventional ammunition stockpile management** have a relevant standard. A list of ISO standards and guides is given in the ISO Catalogue [www.iso.ch/infoe/catinfo/html].

NOTE 2 The International Ammunition Technical Guidelines have been developed to be compatible with ISO standards and guides. Adopting the ISO format and language provides some significant advantages including consistency of layout, use of internationally recognised terminology, and a greater acceptance by international, national and regional organisations that are accustomed to the ISO series of standards and guides.

3.150
intrusion detection system (IDS)
a security alarm system consisting of various types of alarms to detect the unauthorised intrusion into a room, structure, facility or area.

3.151
inventory management
the systems and processes that identify stockpile requirements, the condition of the stockpile, provide replenishment techniques and report actual and projected inventory status.

3.152
isolated storage

a licensed storage facility for **explosives** which are in an unsafe, or possibly unsafe, condition, away from all other explosives.

3.153
joint use airfield
(i.e., utilized by commercial and military aircraft); Civilian airfields where written agreements exist between the military and the host nation or national authority that allow military use of airfields, or portions of airfields, for which both parties have executed a joint-use agreement granting equal privileges. This area is generally limited to runways and taxiways. All other facilities (parking ramps, hangars, terminals, etc.) are the sole property of the host nation or national authority.

3.154
lachrymatory ammunition
ammunition containing chemical compounds that are designed to incapacitate by causing short-term tears or inflammation of the eyes.

3.155
level 1, 2 or 3
see risk reduction process level (RRPL).

3.156
life-cycle management of ammunition (LCMA)
a comprehensive set of integrated processes and activities that ensure sustainable and cost-effective management of ammunition, delivering a safe and secure stockpile that meets national strategic and operational needs. Referred to as Through Life Management (TLM) in IATG.

3.157
light weapon
any man-portable lethal weapon designed for use by two or three persons serving as a crew (although some may be carried and used by a single person) that expels or launches, is designed to expel or launch, or may be readily converted to expel or launch, a shot, bullet or projectile by the action of an explosive.

NOTE 1 Includes, inter alia, heavy machine guns, hand-held under-barrel and mounted grenade launchers, portable anti-aircraft guns, portable anti-tank guns, recoilless rifles, portable launchers of anti- tank missile and rocket systems, portable launchers of anti-aircraft missile systems, and mortars of a calibre of less than 100 millimetres, as well as their parts, components and ammunition.

3.158
lightning protection system (LPS)
a system designed to protect against the effects of lightning discharges by providing a conductive path between the atmosphere above a structure and the general mass of earth so that the discharge can pass to earth with the minimum risk to the structure, its contents and occupants.

3.159
liquid propellant
any liquid that can be used for the chemical generation of gas at controlled rates and used for propulsion purposes.

3.160
lobbed munition
unexploded **ammunition** projected from an exploding building or stack. It may explode on impact.

3.161
logistic disposal
the removal of **ammunition** and **explosives** from a **stockpile** utilising a variety of methods (that may not necessarily involve **destruction**).

NOTE 1 Logistic disposal may or may not require the use of **render safe procedure**s.

3.162
lot
a lot is a predetermined quantity of ammunition or components which is as homogeneous as possible and, under similar conditions, may be expected to give uniform performance.

NOTE 1 A lot would normally be manufactured from the same raw materials, using the same production technique and in the same production run.

3.163
lot number
a number allocated to a lot which uniquely identifies that lot, together with where and when it was manufactured.

3.164
low order detonation
an incomplete and relatively slow **detonation**, being more nearly a combustion than an **explosion**.

3.165
magazine
any building, structure, or container approved for the storage of **explosive** materials. (c.f. **explosives storehouse (ESH)**).

3.166
making safe
(c.f. **render safe procedure (RSP)**).

3.167
marking
the application of marks - including colours, descriptive text and symbols - to **munitions**, parts and components thereof, and associated packaging, for the purposes of identifying, among other things, their role, operational features, and age; and the potential **hazards** posed by those munitions.

3.168
marshalling yard
groups of railway sidings in which freight trains are formed/reformed, or areas where road convoys are assembled.

3.169
mass explosion
an **explosion** which affects, practically instantaneously, virtually the entire quantity of explosives under consideration. The term usually relates to **detonation** but also applies to **deflagration** when the practical effects are similar (e.g. the mass deflagration of **propellant** under strong confinement to produce a bursting effect and a serious **hazard** from **debris**).

3.170
mass fire
a **deflagration** of the entire quantity of **explosives** under consideration under circumstances that avoid a bursting effect and a serious **hazard** from **debris**. A typical mass fire occurs in a few seconds at most, and produces extensive flame, intense radiant heat and minor projection effects.

3.171
maximum credible event (MCE)
in hazards evaluation, the MCE from a hypothesized accidental explosion, fire, or toxic chemical agent release (with explosives contribution) is the worst single event that is likely to occur from a given quantity and disposition of AE. The event must be realistic with a reasonable probability of occurrence considering the explosion propagation, burning rate characteristics, and physical protection given to the items involved. The MCE evaluated on this basis may then be used as a basis for effects calculations and casualty predictions.

3.172
military airfield
(i.e., utilised only by military aircraft); are an area prepared for the accommodation (including any buildings, installations and equipment) of landing and takeoff of military aircrafts.

3.173
maximum credible event / effective risk
in each situation the greatest quantity of **explosives** which can function virtually at once to provide an explosion effect.

3.174
mine
an **item of ammunition** designed to be placed under, on or near the ground or other surface area and to be actuated by the presence, proximity or contact of a person, land vehicle, aircraft, or boat, including landing craft.[7]

3.175
misfire
ammunition that, when initiated, fails to fire or launch as intended.

3.176
missile
Ammunition which consists of propellant type motors fitted with a payload and equipped with guidance devices.

3.177
munition
a complete device charged with **explosives**, **propellants**, **pyrotechnics**, initiating composition, or nuclear, biological or chemical material for use in military operations, including **demolitions**. (c.f. **ammunition**).

3.178
munitions
ammunition, weapons and materials for use in military operations.

3.179
munition life assessment (MLA)
a systems approach to optimising the useful life of ammunition.

3.180
national authority
the government department(s), organisation(s) or institution(s) charged with the regulation, management, co-ordination and operation of conventional ammunition stockpile management activities.

3.181
national stockpile
the full range of **ammunition stockpiles** in a country under the control of separate organisations such as the police, military forces (both active and reserve), border guards, ammunition producing companies, etc. (c.f. **stockpile**).

NOTE 1 It includes all ammunition types, irrespective of classification (i.e. operational, training or awaiting disposal).

3.182

[7] NATO (2007).

nature
the specific types of **ammunition**.

a means of categorising **ammunition** or **munitions** by their function (e.g. anti-tank ammunition, or riot control ammunition).

3.183
near miss
an occurrence, or potential occurrence, involving an **explosive**, or an occurrence potentially involving an explosive, which could have caused: 1) damage to the explosives; 2) damage to, or contamination of, military or civilian equipment, property or the environment; 3) injury to, or illness of, military personnel, Ministry of Defence (MoD) civilian personnel or members of the public; or 4) threat to the structural integrity of, or to cause damage to, military or civilian equipment, property or the environment.

3.184
net explosive quantity (NEQ)
the total **explosive** content present in a container, **ammunition**, building etc, unless it has been determined that the effective quantity is significantly different from the actual quantity. It does not include such substances as **white phosphorous**, smoke or incendiary compositions unless these substances contribute significantly to the dominant **hazard** of the **hazard division** concerned.

NOTE 1 Sometimes referred to as Net Explosive Content (NEC), Net Explosive Mass (NEM) or Net Explosive Weight (NEW).

3.185
neutralize
to alter the state of a piece of **ammunition** or **munition** so that it cannot explode, for example by replacing safety devices such as pins or rods into an **explosive** item to prevent the **fuze** or **igniter** from functioning.

NOTE 1 Neutralization does not make an item completely safe as removal of the safety devices will immediately make the item active again.

3.186
non-sparking material
material that will not produce a spark when struck with other tools, rocks, or hard surfaces.

NOTE 1 In ammunition depots, hand tools are usually made of non-ferrous, wood or brass materials.

3.187
open burning (OB) and open detonation (OD) or (OBOD) when described together
ammunition destruction methods using burning, **deflagration** and **detonation** techniques.

3.188
outside quantity distance (OQD)
the minimum permissible distance between a **potential explosion site (PES)** and an **exposed site (ES)** outside the **explosives area**.

3.189
over-pressure
the pressure resulting from the **blast** wave of an **explosion**. It is referred to as ‘positive’ when it exceeds atmospheric pressure and ‘negative’ when during the passage of the wave the resulting pressures are less than the atmospheric pressure.

3.190
oxidant / oxidiser / oxidising agent
a substance that is combined with a fuel to produce an energetic material.

3.191

pallet
a portable item of equipment affording a platform upon which goods may be placed to form a unit load for lifting by means of rigid forks or blades.

3.192
performance failure
a performance failure is the failure of the **ammunition** or any of its constituent parts, including the **explosives**, to function as designed.

3.193
perimeter intrusion detection system (PIDS)
a security alarm system consisting of various types of alarms to detect the unauthorised intrusion into a facility or area.

3.194
personal protective equipment (PPE)
all **equipment** and clothing designed to provide protection, which is intended to be worn or held by an employee at work and which protects him/her against one or more **risks** to his/her **safety** or **health**.

3.195
phosphorous munition
a flare / smoke producing incendiary weapon, or smoke-screening agent, made from a common allotrope of the chemical element phosphorus.

3.196
potential explosion site (PES)
the location of a quantity of **explosives** that will create a **blast**, **fragment**, thermal or **debris** hazard in the event of an **explosion** of its content.

3.197
primary explosive
an **explosive** substance which is sensitive to spark, friction, impact or flame and is capable of promoting initiation in an unconfined state.

an **explosive** that is extremely sensitive to stimuli such as heat, friction and/or shock and requires special care in handling. Generally, primary explosives are synonymous with initiating explosives.

3.198
primary governing component
(c.f. batching component)
the component in a batch which is considered to be of major importance to the correct functioning of the round.

NOTE 1 This component governs the size, homogeneity and identity of a batch. An ammunition batch contains only one lot of the primary governing component.

3.199
primer
a self-contained **munition** which is fitted into a cartridge case or firing mechanism and provides the means of igniting the **propellant** charge.

3.200
process building distance (PBD)
the minimum permissible distance from a building (e.g. an explosives workshop) or stack containing explosives to an Ammunition Process Building (APB), or from an APB to another APB, which will provide a reasonable degree of immunity for the operatives within the APB(s), and a high degree of protection against immediate or subsequent propagation of explosions. Can also be referred to as an explosive workshop distance (EWD).

NOTE 1 The PBD is a form of Inside Quantity Distance (IQD).

3.201
processing
the activities undertaken in an ammunition process building that involve building, repair, refurbishment, breakdown, test and inspection of **explosives articles** and their components.

3.202
procurement
the process of research, development and production or purchase which leads to **ammunition** or an **equipment** being accepted as suitable for use, and continues with the provision of spares and post design services throughout the life of the ammunition or equipment.

3.203
projectile
An object capable of being propelled by a force normally from a gun, which continues in motion by virtue of its kinetic energy.

3.204
proliferation
the increase or spread of weapons and ammunition to users.

3.205
proof
the functional testing or firing of **ammunition** and **explosives** to ensure **safety** and **stability** in storage and intended use.

3.206
propagation of detonation
ability to maintain a **detonation** front throughout the whole mass of an **explosive**.

3.207
propellant
deflagrating **explosive** used for propulsion.

NOTE 1 Propellants can also be used as components of gas generators or other items.

3.208
propellant stabiliser
a substance added to single, double or triple base propellants to retard decomposition.

3.209
propellant surveillance
the periodical testing of propellants, e.g. by determination of stabiliser content, in order to monitor deterioration.

3.210
protective measures
means used to reduce, or mitigate, **risk.**

3.211
protective roof
a roof of a nominal minimum of 150 mm reinforced concrete (RC), or its equivalent, designed to protect the contents of a **storehouse** from projections and **lobbed** items. The roof should not collapse if the walls are damaged.

3.212
public traffic route (PTR)

a road used for public traffic; a railway outside the **explosives area** which is used for public passenger traffic; a waterway, such as a river having tidal water and a canal, used by passenger vessels.

3.213
public traffic route distance (PTRD)
the minimum permissible distance between a potential explosion site (PES) and public traffic routes which is such that the ignition or explosion of explosives at the PES will not cause intolerable danger to the occupants of vehicles at an exposed site (ES).

NOTE 1 The PTRD is a form of Outside Quantity Distance (OQD).

3.214
purple line
a continuous line drawn on a map or plan of an **explosives** storage location which encompasses the **explosives area** and defines the minimum permissible distance between a **potential explosion site** and **inhabited buildings** which are by definition of vulnerable construction. It is usually at twice the yellow line or normal **inhabited building distance** determined by **blast** considerations. Additionally, the construction of new inhabited buildings of curtain-wall construction or high rise buildings is restricted. The area within the Purple Line is known as the Purple Zone.

3.215
pyrophoric
a substance capable of spontaneous ignition when exposed to air, such as **white phosphorous**.

3.216
pyrotechnic
a device or material that can be ignited to produce light, smoke, or noise.

3.217
qualitative risk assessment
qualitative risk assessments are descriptive versus measurable.

NOTE 1 This is by far the most widely used approach to risk analysis. Probability data is not required and only estimated potential loss is used.

3.218
quality
degree to which a set of inherent characteristics fulfils requirements.

3.219
quality assurance (QA)
part of **quality management** focused on providing confidence that **quality** requirements will be met.

3.220
quality control (QC)
part of **quality management** focused on fulfilling **quality** requirements.

3.221
quality management
coordinated activities to direct and control an organisation with regard to **quality**.

3.222
quantitative risk assessment

a method of estimating and compounding the approximate probability of an accidental **explosion** with that of fatalities and other losses. This enables professional judgement to be applied as to whether or not the risk meets the ALARP[8] principal.

3.223
quantity distance
the minimum permissible distance required between a **potential explosion site** (PES) and an **exposed site** (ES).

3.224
render safe procedure (RSP)
the application of special **explosive ordnance disposal** methods and tools to provide for the interruption of functions or separation of essential components to prevent an unacceptable **detonation**.

3.225
restricted area
an area under jurisdiction in which special **security** measures are employed to prevent unauthorised entry or to safeguard property or material.

3.226
residual risk
the remaining potential for **harm** to persons, property or the environment following all possible efforts to reduce predictable **hazard**s.

3.227
risk
combination of the probability of occurrence of **harm** and the severity of that harm.

3.228
risk analysis
systematic use of available information to identify **hazards** and to estimate the **risk**.

3.229
risk assessment
the overall process comprising a **risk analysis** and a **risk evaluation**.

the objective evaluation of **risk** in a manner in which assumptions and uncertainties are clearly considered and presented.

the determination of the quantitative or qualitative value of **risk** related to a concrete situation and a recognised threat.

3.230
risk evaluation
the process based on **risk analysis** to determine whether the **tolerable risk** has been achieved.

3.231
risk management
the complete risk-based decision-making process.

risk mitigation In relation to ammunition management, is the term used to describe the measures taken to reduce the effects should an explosion or deflagration occur. Examples would be following compatibility mixing

[8] As Low As Reasonably Practicable.

rules to prevent an item in an incompatible group exacerbating the effects of an explosion, and keeping inhabited buildings outside the yellow line (inhabited building distance).

3.232
risk reduction
actions taken to lessen the probability, negative consequences or both, associated with a particular **risk**. In relation to ammunition management, Risk Reduction is the term used to describe those measures to be taken to reduce the risk of ammunition exploding or deflagrating. It also refers to the methods used to make the ammunition more secure. Examples would be continuous surveillance of ammunition to ensure any safety problems are detected at an early stage and storing ammunition in optimum conditions in secure areas and buildings.

3.233
risk reduction process level 1 (RRPL 1)
basic safety precautions are in place to reduce the risk of undesirable explosive events during ammunition storage, but fatalities and injuries to individuals in local civilian communities may still occur.

3.234
risk reduction process level 2 (RRPL 2)
safety precautions, in the form of appropriate Separation and Quantity Distances, have been implemented to reduce the risk of fatalities and injuries to individuals within local communities to a tolerable level.

3.235
risk reduction process level 3 (RRPL 3)
a safe, secure, effective and efficient conventional ammunition stockpile management system is in place that is fully in line with international best practices.

3.236
rocket
ammunition consisting of a **rocket motor** and a payload. , without an on-board guidance system.

NOTE 1 The term often includes both guided and unguided missiles, although it traditionally referred to unguided missiles.

3.237
rocket motor
articles consisting of a solid, liquid or **hypergolic** fuel contained in a cylinder fitted with one or more nozzles. They are designed to propel a **rocket** or a **guided missile**.

3.238
round
a complete assembly of a projectile (with or without **fuze**), the propelling charge in a **cartridge case**, and the means of igniting the propelling charge. The word is also used in the expression ‘supply by complete rounds’ meaning that all the components necessary for the **ammunition** to be fired are issued together. For instance, with breech loading (BL) ammunition, the complete round consists of a shell, charge, fuze and **primer**.

3.239
runway
a defined rectangular area of an airfield or heliport, with no curves or tangents, prepared for the landing and takeoff run of aircraft along its length.

3.240
sabotage
destructive or obstructive action designed to hinder capability.

3.241

safe
the absence of **risk**. Normally the term **tolerable risk** is more appropriate and accurate.

3.242
'safe to move'
a technical assessment, by an appropriately qualified technician or technical officer, of the physical condition and stability of **ammunition** and **explosives** prior to any proposed move.

NOTE 1 Should the ammunition and explosives fail a 'Safe to Move' inspection, then they must be destroyed in situ, or as close as is practically possible, by a qualified EOD team acting under the advice and control of the qualified technician or technical officer who conducted the initial Safe to Move inspection.

3.243
safeguarding
a consultative procedure with the appropriate local authority whereby safeguarded areas outside boundary fences are established for each explosives establishment.

NOTE 1 Explosives Safeguarding maps for each establishment are produced depicting a Yellow Line based on inhabited building distance (IBD) and a Purple Line, usually but not always, based on 2 x IBD.

NOTE 2 Copies are provided to the appropriate local authority. It is the aim to restrict the construction of any inhabited building, caravan site, or public traffic routes within the yellow line and the construction of curtain-wall and high rise buildings with large glazed areas, between the yellow and purple lines.

NOTE 3 All new applications for development within safeguarded areas should be notified to the MoD by the appropriate local authority in order that any necessary objections may be lodged.

3.244
safety
the reduction of **risk** to a tolerable level.

degree of freedom from unacceptable **risk**.

3.245
security
the result of measures taken to prevent the theft of **explosive ordnance**, entry by unauthorised persons into **explosive storage areas**, and acts of malfeasance, such as sabotage.

3.246
segregated storage
segregated storage is the storage of **explosives** whose **compatibility groups**, whilst not requiring separate storage, do not permit mixed storage.

NOTE 1 The requirement for segregated storage may be met by any means which is effective in the prevention of propagation between the different groups, e.g. a separate compartment, or an internal traverse or barrier, or by physical distance.

3.247
sensitiveness
a measure of the relative probability of an **explosive** being ignited or initiated by a prescribed stimulus. It is used in the context of accidental ignition or initiation.

3.248
sensitiser
substance used to increase susceptibility to ignition (initiation).

3.249
sensitivity
a measure of the stimulus required to cause reliable design mode function of an **explosive**.

3.250
separation distance
a generic term for the minimum permissible distance between a potential explosion site (PES) and an exposed site (ES).

NOTE 1 Separation distances may or may not involve the use of the quantity distance system. They can be developed through the use of explosion consequence analysis.

3.251
shelf life / service life
time period for which an **explosive** or device can be stored or maintained under specific conditions before use or disposal without becoming unsafe or failing to meet specified performance criteria.

the length of time an item of **ammunition** may be stored before the performance of that ammunition may degrade.

Shelf life (service life) expiry date (SLED)
date on which the shelf life (or service life) of an ammunition item expires.

3.252
shell
a type of projectile, often filled with high explosive.

3.253
shock tube
tube usually consisting of a dusting of **explosive** charge on the inner wall capable on activation of transmitting a shock wave from one end of the tube to another at constant velocity and having no external explosive effect.

NOTE 1 A shock tube is commonly used as a component of detonator assemblies.

3.254
single base propellant
propellant composition containing nitrocellulose as the sole **explosive** ingredient.

3.255
small arms ammunition (SAA)
small arms ammunition (less than 20mm calibre) consists of **cartridges** used in rifles, carbines, revolvers, pistols, submachine guns, and machine guns and shells/cartridges used in shotguns.

3.256
small unit
any government organization, at the tactical level, where individuals are involved in the storage, handling and use of ammunition and explosives but are not directly managed by ammunition qualified personnel.

NOTE 1 Examples of small units would include police stations, isolated small military units, border guard posts etc.

small unit ammunition storage
storage that allows ‘ready use’ ammunition of HD 1.22, HD 1.32 and HD 1.4 to be kept within buildings that are not specifically designed for ammunition storage (e.g. a police station, unit guardroom or training store).

3.257
stability
the physical and chemical characteristics of **ammunition** and **explosives** that impact on their **safety** in storage, transport and use.

3.258
stabiliser
a substance which stops or reduces auto-catalytic decomposition of explosives.

3.259
standard
a standard is a documented agreement containing technical specifications or other precise criteria to be used consistently as rules, guidelines, or definitions of characteristics to ensure that materials, products, processes and services are fit for their purpose.

3.260
standing operating procedures (SOPs)
instructions that define the preferred or currently established method of conducting an operational task or activity.

NOTE 1 Their purpose is to promote recognisable and measurable degrees of discipline, uniformity, consistency and commonality within an organisation, with the aim of improving operational effectiveness and safety. SOPs should reflect local requirements and circumstances.

3.261
(ammunition) stock
a given quantity of **explosive ordnance**. (c.f. **Stockpile**).

3.262
(ammunition) stockpile
a large, accumulated stock of **explosive ordnance**. Often used interchangeably with **stock** or to denote the **ammunition** retained in a specific ammunition storage facility or depot. (c.f. **stock**; c.f. **national stockpile**).

3.263
stock check
the process of counting the physical balance of stock at a particular time as part of a system of inventory control.

3.264
stockpile destruction
the physical activities and destructive procedures leading to a reduction of the national stockpile. (c.f. d**estruction**; c.f. d**emilitarization**; c.f. **disposal (logistic)**; c.f. **stockpile**).

3.265
stockpile management
procedures and activities regarding safe and secure accounting, storage, transportation and handling of **ammunition** and **explosives**.

3.266
stockpile safety
the result of measures taken to ensure minimal risk of **accidents** and **hazards** deriving from **explosive ordnance** to personnel working with arms and munitions as well as adjacent populations.

3.267
stockpile security
the result of measures taken to prevent the theft of **explosive ordnance**, entry by unauthorized persons into **explosive storage areas**, and acts of malfeasance, such as sabotage.

3.268
storage
the deposit of **munitions** in a covered or uncovered enclosure, awaiting transportation to or from operational theatres or direct use.

NOTE 1 Normally, the munition is stacked, in its logistic package, and ideally in a controlled environment.

3.269
storage environment
the total set of all external natural and induced conditions to which a materiel is exposed during its storage life.

3.270
storage life
the time for which an **explosive** item in specified storage may be expected to remain safe and serviceable within the envelope of its **service life**.

3.271
storage sub-divisions (SsD)
a numeric code distinguishing the degree of hazard within a hazard division.

NOTE 2 The SsD comprises three digits separated by periods and is used only in storage situations.

3.272
storage temperature limits
the temperature limits to which the **munition** is restricted if it is not to suffer permanent damage or shorten the service life of the **munition** affecting its performance and serviceability.

3.273
sub-munitions
any **munition** that, to perform its tasks, separates from a parent munition. (c.f. **cluster munitions**).

3.274
surplus
the quantity of **explosive ordnance** exceeding the requirements of the **national stockpile**.

3.275
surveillance
a systematic method of evaluating the properties, characteristics and performance capabilities of **ammunition** throughout its life cycle in order to assess the reliability, **safety** and operational effectiveness of stocks and to provide data in support of life reassessment.

the constant review of accumulating test results to ensure that the overall quality remains acceptable. The term is also applied to the continuing examination of the stores themselves.

3.276
tampering
an incident caused by altering the makeup of or attempted dismantling of an item of ammunition.

NOTE 1 Tampering may be malicious, as a prank or through curiosity and be carried out by either military or civilian personnel.

3.277
taxiway
a specially prepared or designated path, on an airfield or heliport other than apron areas, on which aircraft move under their own power to and from landing, service and parking areas.

3.278
through life management (TLM)
an integrated approach to the processing, planning and costing activities across the whole service life of a specific ammunition type until it is used or disposed of.

3.279
tolerable risk
risk, which is accepted in a given context based on the current values of society.

3.280
tracer ammunition
ammunition containing **pyrotechnic** substances designed to reveal the trajectory of a projectile.

3.281
tracing
the systematic tracking of illicit **ammunition** from the point of its manufacture or import, through the lines of supply, to the point at which it became illicit.

3.282
transit area
areas where consignments of explosives undergoing movements are assembled/dismantled for transhipment between modes of transport which operate within an explosives facility, and those which operate outside the area.

3.283
underground storage
storage in chambers that are below surface level. In the case of an accidental **explosion** at such a site, the hazard of low angle, high velocity projections is reduced significantly. The other **hazardous** effects are similar to those in above ground storage, but are gradually reduced as the cover is increased.

3.284
unexploded ordnance (UXO)
explosive ordnance which has been primed, fused, armed or otherwise prepared for action, and which has been dropped, fired, launched, projected, or placed in such a manner as to constitute a **hazard** to operations, installations, personnel or material and remains unexploded either by malfunction or design or for any other cause.

3.285
unit load
the unit formed when packages or unpacked articles are assembled on or in a device that enables them to be mechanically handled as one unit, but which is not a freight container. (Usually **pallets**).

3.286
unit of space (UOS)
for planning purposes, storage space for palletized stores is calculated in units of space (UoS).

NOTE 1 In NATO, each UoS equates to a standard Unit Load of a maximum size of 1080 x 1300 x 1372 mm (i.e. 1.93m^3), subject to a maximum floor loading of 16,000 lbs. (7257 kg) for a single stack pallet base area.

NOTE 2 For non-NATO countries it is recommended that a UOS equates to 1m^3, with an All Up Weight (AUW) of 1 tonne.

3.287
user
the individual or organisation that will operate the equipment or facility.

3.288
vulnerable building
exposed site deemed to be vulnerable by nature of its construction or function and therefore sited at greater than other **OQDs**.

3.289
vulnerable building

the term ‘vulnerable building’ refers to an exposed site (ES) deemed to be vulnerable by nature of its construction or function and therefore sited at greater than IBD.

NOTE 1 Examples are multi-story buildings with lots of exposed glass facing the PES, hospitals, places of high concentrations of people such as schools and churches, and warehouse type structures that use curtain-wall construction techniques.

3.290
vulnerable building distance (VBD)
the minimum permissible distance between a **potential explosion site** (PES) and a **vulnerable building**.

NOTE 1 The VBD is a form of Outside Quantity Distance (OQD).

3.291
warhead
munitions containing detonating **explosives**. They are designed to be fitted to a rocket, missile or torpedo.

the portion of a weapon system which contains the payload which the projectile, rocket, missile or torpedo is to deliver.

NOTE 1 Generally, the payload is explosive, or it may contain telemetric or other components.

3.292
weapon
anything used, designed or intended for use in causing death or injury, or for the purposes of threatening or intimidating any person.

3.293
workplace
all places where employees need to be or to go by reason of their work and which are under the direct or indirect control of the employer.

3.294
works services
the construction, repair or maintenance work done by organisations or staff, usually civilian, who are not integral parts of the ammunition storage unit.

3.295
yellow line
a continuous line drawn on the map or plan of an **explosives area** which encompasses the explosives area and defines the minimum permissible distance between a **potential explosion site** and **inhabited buildings**, caravan sites or assembly places.

a line at **IBD** within which the construction of new inhabited buildings, caravan sights and public traffic routes are restricted. The area within the Yellow Line is known as the Yellow Zone.

Abbreviations

For the purposes of all IATG modules the following abbreviations shall apply.

√2E	Gurney Constant for a given explosive (m/s) *(In Formula)*
θ	Launch Angle (Radians) *(In Formula)*
AAP	Allied Administration Publication (NATO)
AASTP	Allied Ammunition Storage and Transport Publications (NATO)
AC	Alternating Current or Ammunition Container
ACA	Ammunition Container Assembly
ACTO	Attractive to Criminals and Terrorist Organisations
ADAC	Ammunition Descriptive Asset Code
ADF	Ammunition Demilitarization Facility
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ALARP	As Low As Reasonably Practicable
ALM	Air Launched Munitions
AMPS	Ammunition Management Policy Statements
AOP	Allied Ordnance Publication
AP	Armour Piercing
APB	Ammunition Process Building
APE	Ammunition Peculiar Equipment
ASA	Ammunition Storage Area
ASO	Ammunition Storage Officer
AT	Ammunition technician
ATA	Ammunition Technical Assessment
ATN	Air Termination Network
ATO	Ammunition Technical Officer
AUW	All Up Weight (kg)
BI	Batch Identity
BL	Breech Loading
BKI	Batch Key Identity
BS	British Standards
c	Speed of Sound (m/s) (*In Formula)*
C_{exp}	Charge Mass of Explosive (kg) (*In Formula)*
C_r	Reflection Coefficient, Pressure (*In Formula)*
CBA	Cost Benefit Analysis
CCM	Convention on Cluster Munitions
CCTV	Close-Circuit Television
CEN	Comité Européen de Normalisation
CFFE	Certified Free Form Explosives
CG	Compatibility Group
CG/HCCS	Coordinating Group for the Harmonization of Chemical Classification Systems (IOMC)
CID	Chamber Interval Distance (Underground Storage)
CMD	Conventional Munition Disposal
COSHH	Control of Substances Hazardous to Health
COTIF	Convention concerning International Carriage by Rail

CoTS	Commercial off The Shelf
CTA	Chief Technical Advisor
CW	Continuous Wave
CWA	CEN Workshop Agreement
D	Density (g/cm^3) (*In Formula)*
D_{air}	Density of Air (kg/m^3) (*In Formula)*
D_{cd}	Chamber Interval Distance (underground storage)
D_{sf}	Density of Air behind Shock Front (kg/m^3) (*In Formula)*
DAC	Dangerous Air Cargo
DAER	Daily Ammunition Expenditure Rate
DC	Direct Current
DDESB	Department of Defense Explosives Safety Board
DDR	Disarmament, Demobilization and Reintegration
DG	Dangerous Goods
DGR	Dangerous Goods Regulations
DU	Depleted Uranium
E^d_{exp}	Detonation Energy, Specific of Explosive (J/kg) (*In Formula)*
E^d_{TNT}	Detonation Energy, Specific of TNT (J/kg) (*In Formula)*
EBP	Equipotential Bonding
EBW	Exploding Bridge Wire
EC	European Commission
ECM	Earth Covered Magazine
ECA	Explosion Consequence Analysis
ECM	Earth-Covered Magazine
ECVET	European Credit system for Vocational Education and Training
EED	Electro-Explosive Device
EFI	Exploding Foil Initiator
EID	Electrically Initiated Device
EIDS	Extremely Insensitive Detonating Substance
ELL	Explosive Limit License
EM	Electro-Magnetic
EMC	Electro-Magnetic Compatibility
EMR	Electro-Magnetic Radiation
EMV	Expected Monetary Value
EN	European Normalization (CEN Standard)
ENEQ	Effective Net Explosive Quantity
EO	Explosive Ordnance
EOD	Explosive Ordnance Disposal
EPA	Electrostatic Discharge Protected Area
EPB	Equipotential Bonding
ERP	Effective Radiated Power
ES	Exposed Site
ESA	Explosive Storage Area
ESC	Explosive Safety Case
ESD	Electrostatic Discharge

ESH	Explosive Storehouse
ESM	Explosives Safeguarding Map
ESMRM	Explosives Safety and Munitions Risk Management
ESO	Explosives Safety Officer
EU	European Union
EUExcert	European Union Explosive Certification
EUExImp	European Union Explosives sector Implementation of occupational standards
EWD	Explosives Workshop Distance
EWI	Explosive Waste Incinerator
EWS	Emergency Water Supply
f_d	Decoupling Factor
FB	Film Bridge (detonator)
FESO	Force Explosives Safety Officer
FFE	Free From Explosives
FSA	Field Storage Area
FSM	Field Stack Module
FSP	Fire Safety Plan
FSSM	Field Storage Site Module
g	Gravity (m/s^2) (*In Formula)*
GAAP	Generally Accepted Accounting Principles
GHS	Globally Harmonized System
GM	Guided Missile
GRP	Glass Reinforced Plastic
GW	Guided Weapon
HATPM	Hazardous Area Personal Test Meter
HCC	Hazard Classification Code (UN)
H_D	Hydraulic Diameter
HD	Hazard Division (UN)
HE	High Explosive
HEI	High Explosive Incendiary
HERO	Hazards of Electromagnetic Radiation to Ordnance
HESH	High Explosive Squash Head
HPLC	High Performance Liquid Chromatography
HRHY	Hot-Rolled High-Yield
HV	High Velocity *(Ballistics)* or High Voltage *(Electrical)*
I_s	Impulse, Side On (kg.m/s) (*In Formula)*
I_{si}	Impulse, Scaled (kg.m/s) (*In Formula)*
I&RI	Inspection and Repair Instruction (Ammunition Processing)
IACG (CA)	Inter Agency Coordination Group (Conventional Ammunition)
IATA	International Air Transport Association
IATG	International Ammunition Technical Guidelines
IBD	Inhabited Building Distance
IBIN	INTERPOL Ballistic Identification Network
ICAO	International Civil Aviation Organisation
IDDRS	International Disarmament, Demobilization and Reintegration Standards

IDP	Internally Displaced Persons
IDS	Intrusion Detection System
IED	Improvised Explosive Device
IEDD	Improvised Explosive Device Disposal
IFFA	Immediate Fire-Fighting Appliances
IFRT	INTERPOL Firearms Reference Table
IFTR	INTERPOL Firearms Tracing Request
ILO	International Labour Organization
IM	Insensitive Munition(s)
IMAS	International Mine Action Standards
IMD	Inter Magazine Distance
IMDG	International Maritime Dangerous Goods (Code)
IMO	International Maritime Organization
IOMC	Inter-organization Programme for the Sound Management of Chemicals
IQD	Inside Quantity Distance
IR	Individual Risk of Fatality (Annual)
ISO	International Standards Organisation
IT	Information Technology
KE	Kinetic Energy
kPa	Kilo- Pascal
KR	Key Role
LPG	Liquid Petroleum Gas
LPS	Lightning Protection System
LSF	Low Smoke and Fume (Cable)
LV	Low Voltage
m	Mass (kg) (*In Formula)*
M_{exp}	Mass, Explosive TNT (kg) (*In Formula)*
M_{TNTe}	Mass, Equivalent TNT (kg) (*In Formula)*
MΩ	Mega Ohm
MANPADS	Man Portable Air Defence Systems
MCE	Maximum Credible Explosive Event
MFA	Ministry of Foreign Affairs
MHE	Mechanical Handling Equipment
MHz	Mega-Hertz
MIA	Ministry of Internal Affairs
MIMC	Mineral Insulated Metal Covered
MJ	Mega Joule
MLA	Munition Life Assessment
MLAD	Munition Life Assessment Database
MN	Multi-National
MOD	Ministry of Defence
MOI	Ministry of Interior
MOU	Memorandum of Understanding
MPa	Mega-Pascal
MSER	Manufacture and Storage of Explosive Regulations 2005 (UK)

NAMSA	NATO Maintenance and Supply Agency (has been renamed NSPA)
NATO	North Atlantic Treaty Organisation
NC	Nitrocellulose
NEC	Net Explosive Content
NEQ	Net Explosive Quantity (alternatively NEC (Net Explosive Content))
NFT	No-Fire Threshold
NG	Nitroglycerine
NGO	Non-Governmental Organisation
NOS	National Occupational Standards
NSO	NATO Standardization Organization
NSPA	NATO Support and Procurement Agency
OB	Open Burning
OBOD	Open Burning and Open Detonation
OD	Open Detonation
OECD	Organization for Economic Cooperation and Development
OEL	Occupational Exposure Limit
OIC	Officer in Charge
OQD	Outside Quantity Distance
OSCE	Organisation for Security and Cooperation in Europe
P_0	Pressure, Ambient (kPa) (*In Formula)*
P_d	Pressure, Peak Dynamic (kPa) (*In Formula)*
P_{det}	Pressure, Detonation (GPa) (*In Formula)*
P_r	Pressure, Peak Reflected (kPa) (*In Formula)*
P_s	Pressure, Peak Side On (kPa) (*In Formula)*
PAT	Portable Appliance Test
PB	Process Building
PBD	Process Building Distance
PCP	Polychloroprence
PCS	Pollution Control System
PE	Plastic Explosive
PED	Personal Electronic Devices
PES	Potential Explosion Site
PETN	Pentaerythrite-Tetranitrate
PIDS	Perimeter Intrusion Detection Sysytem
PME	Protected Multiple Earths
POL	Petroleum, Oils and Lubricants
PPE	Personal Protective Equipment
PPEC	Personal Protective Equipment and Clothing
PPR	Post Project Review
PTR	Public Traffic Route
PTRD	Public Traffic Route Distance
PTW	Permit to Work
PVC	Poly Vinyl Chloride
QA	Quality Assurance
QD	Quantity Distance

QRA	Quantitative Risk Assessment
R	Range (m) (*In Formula)*
RADHAZ	Radiation Hazard
RAG	Returned Ammunition Group
RC	Reinforced Concrete
RCD	Residual Current Device
RDX	Research Department Explosive (Cyclonite)
RES	Remaining Effective Stabiliser
RF	Radio Frequency
RFID	Radio Frequency Identification Device
RH	Relative Humidity
RID	International Ordinance on the Transport of Dangerous Goods by Rail
RMS	Root Mean Square
RP	Red Phosphorus
RRPL	Risk Reduction Process Level
RSP	Render Safe Procedure
SAA	Small Arms Ammunition
SAADS	Small Arms Ammunition Disposal System (Commercial)
SAQA	South Africa Qualifications Agency
SAU	Safety and Arming Unit
SCBA	Self Contained Breathing Apparatus
SELV	Separated Extra Low Voltage
SFO	Senior Fire Officer
SHA	Small Holding Area
SMS	Safety Management System
SOLAS	International Convention for the Safety of Life at Sea
SON	Statement of Operational Need
SOP	Standing (Standard) Operating Procedure
SPS	Splinter Proof Shelter
SsD	Storage sub-Division
SSOW	Safe Systems of Work
STANAG	Standardisation Agreement (NATO)
STO	Statement of Tasks and Output
SWL	Safe Working Load
τ	Thermal Time Constant
t	Time (s) (*In Formula)*
t	Tonnes
T/PCC	Troop/Police Contributing Countries
TD	Temporary Distance
TEH	Test Equipment House
TLM	Through Life Management
TNT	Trinitrotoluene (Trotyl)
TOIC	Technical Officer in Charge
TOR	Terms of Reference
TRADS	Transportable Ammunition Demilitarization System

TRB	Technical Review Board
UAV	Un-crewed Aerial Vehicle
ULC	Unit Load Container (Pallets)
ULS	Unit Load Specification
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNCETDG/GHS	Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals
UNDP	United Nations Development Programme
UNGA	United Nations General Assembly
UNODA	UN Office for Disarmament Affairs
UNSC	UN Security Council
UNSCETDG	United Nations Economic and Social Council's Sub-Committee of Experts on the Transport of Dangerous Goods
UOS	Unit of Space
UPS	Uninterruptible Power Supply
UXO	Unexploded Ordnance
V_0	Velocity, Initial Fragment (m/s) (*In Formula)*
V_d	Velocity of Detonation (m/s) (*In Formula)*
V_p	Velocity of Particle (m/s) (*In Formula)*
V_{sf}	Velocity of Shock Front (m/s) (*In Formula)*
VBD	Vulnerable Building Distance
W	Weight of Explosive (kg) (*In Formula)*
WACR	Weapon Assembly and Check Rooms
WLL	Working Load Limit
WP	White Phosphorus
XLPE	Cross Linked Polyethylene

Annex A
(informative)
References

The following normative documents contain provisions, which, through reference in this text, constitute provisions of this part of the guideline. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of the guideline are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO maintain registers of currently valid ISO or EN:

a) AAP-6 (Edition 2016), *NATO Glossary of Terms and Definitions*. NATO Standardization Office (NSO). http://nso.nato.int/nso/nsdd/listpromulg.html.

b) AOP-38 *Glossary of Terms and Definitions concerning the Safety and Suitability for Service of Munitions, Explosives and Related Products*. (5th Edition). NATO Standardization Office (NSO). June 2009.

c) CEN 13857-1:2003(E) *Explosives for civil uses – Part 1: Terminology*. CEN. 2003;

d) ISO Guide 51:2014 *Safety aspects – Guidelines for their inclusion in standards*. ISO. 2014;

e) ISO 9001:2015(E) *Quality management systems – Requirements.* ISO. 2015; and

f) ISO 14001:2015(E) *Environmental management systems – Guidelines*. ISO. 2015.

The latest version/edition of these references should be used. The UN Office for Disarmament Affairs (UNODA) holds copies of all references[9] used in this guideline and can be found at: www.un.org/disarmament/un-saferguard/references. A register of the latest version/edition of the International Ammunition Technical Guidelines is maintained by UNODA, and can be read on the IATG website: www.un.org/disarmament/ammunition . National authorities, employers and other interested bodies and organisations should obtain copies before commencing conventional ammunition stockpile management programmes.

[9] Where copyright permits.

Amendment record

Management of IATG amendments

The IATG guidelines are subject to formal review on a five-yearly basis, however this does not preclude amendments being made within these five-year periods for reasons of operational safety and efficiency or for editorial purposes.

As amendments are made to this IATG they will be given a number, and the date and general details of the amendment shown in the table below. The amendment will also be shown on the cover page of the IATG by the inclusion under the edition date of the phrase *'incorporating amendment number(s) 1 etc.'*

As the formal reviews of each IATG are completed new editions may be issued. Amendments up to the date of the new edition will be incorporated into the new edition and the amendment record table cleared. Recording of amendments will then start again until a further review is carried out.

The most recently amended, and thus extant, IATG will be the versions that are posted on the UN *Safer*Guard IATG website at www.un.org/disarmament/convarms/ammunition/ .

Number	Date	Amendment Details
0	01 Feb 15	Release of Edition 2 of IATG.
1	Xx xx 17	Release of Edition 3 of IATG.