Guide to the International Ammunition Technical Guidelines (IATG)
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United Nations Office for Disarmament Affairs (UNODA)
United Nations Headquarters, New York, NY 10017, USA

E-mail: conventionalarms-unoda@un.org
Tel: +1 917 367 2904
Fax: +1 917 367 1757

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Foreword

Ageing, unstable and excess ammunition stockpiles pose the dual hazards of illicit proliferation and accidental explosion, which have caused destabilization and humanitarian disaster in all regions of the world.

Crucial for adequate stockpile management is the identification of surpluses – that is, the portion of weapons and ammunition that does not constitute an operational need. When surpluses are not recognized, the entirety of the stockpile may continue to be seen as of operational value. Although not used, weapons and ammunition surpluses thus continue to fill warehouses and can thus pose a significant risk to safety and security.

Defective stockpile management has been assessed as the norm rather than the exception in many countries. Often it is not only surplus stocks that should be the focus of attention, but the lack of appropriate policy for stockpile management. Governments remain unaware of surpluses; their national stockpiles remain a risk to public safety; and diversion from warehouses feed into crime and armed violence.

In 2011, the United Nations developed the International Ammunition Technical Guidelines (IATG) to ensure that the United Nations as a whole consistently delivers high-quality advice and support in ammunition management. Many stakeholders, including international organizations, non-governmental entities and national authorities, use these guidelines.

The IATG, along with other conventional ammunition issues, are managed through the United Nations SaferGuard programme.

Taking into account the diversity in capacity of States, three levels of ascending comprehensiveness are offered in the IATG, referred to as “risk-reduction process levels” (RRPLs). These are indicated within each IATG as either LEVEL 1 (basic), LEVEL 2 (intermediate) or LEVEL 3 (advanced).

The aim of implementing partners should be to maintain stockpile management processes at RRPL 1 as a minimum. This will often reduce risk significantly. Ongoing and gradual improvements could then be made to the stockpile management infrastructure and processes as staff development improves and further resources become available. These additional actions would equate to RRPLs 2 and 3.

The RRPLs are determined by calculating a weighted score of questions about a particular ammunition stockpile. A checklist is available at: https://www.un.org/disarmament/un-saferguard/risk-reduction-process-levels/

The IATG are reviewed on a regular basis to reflect developing ammunition stockpile management norms and practices, and to incorporate changes due to changing international regulations and requirements. The IATG are also available in multiple languages.

The latest version of each guideline, together with practical IATG implementation support tools, can be found at https://www.un.org/disarmament/un-saferguard/.
Introduction

Inadequately managed conventional ammunition stockpiles threaten public safety and pose a risk to the security of States. While it is the prerogative of each State to determine the system of stockpile management that is most suited for its national defence and security purposes, the issue has been of growing concern to the international community because of: 1) the impact on social and economic development within developing nations; and 2) the cross-border consequences of poorly managed stockpiles.

The most salient risk posed by the accumulation of conventional ammunition surpluses is that of explosive events in ammunition storage areas. News of ammunition depot explosions makes headlines several times in any single year. Often these events result in a large number of casualties, widespread destruction of infrastructure, and the disruption of the livelihood of entire communities. In addition to the immediate human suffering, such explosions can have terrible effects on the environment and, in States with limited means to finance the technically challenging clean-up costs, local populations, especially children, are all too often exposed to the risk of injury or death due to explosive ordnance that tends to litter large areas for extended periods of time after the explosion.

Another serious risk that should not be overlooked is that of diversion of ammunition from unsecured and poorly managed stockpiles into the illicit trade. Ammunition diverted from national stockpiles can find its way into civil wars, insurgencies, terrorism, crime and other armed violence, thus fuelling national and regional instability and threatening the security of States.

There is recognition that the United Nations has a key role to play in providing the necessary international support, advisory and coordination mechanisms to improve the quality of conventional ammunition stockpile management.

The term ‘stockpile management’ refers to those procedures and activities regarding the safe and secure accounting, storage, transportation, handling and disposal of conventional ammunition. These are complex technical areas that require specialist management to ensure safety and security. Although explosive science is well established, there are a range of options and procedures to ensure effective stockpile management, which can be an expensive process. The unavailability of resources in some States means that it is not possible, nor is it desirable, to establish a unique set of criteria which alone dictate conventional ammunition stockpile management standards. Instead, it is necessary to identify a framework of guidelines that provide the options for a graduated improvement in safety and security within an integrated risk management process. The International Guidelines for the Stockpile Management of Conventional Ammunition (IATG) provide this framework of technical guides.
Guide to the International Ammunition Technical Guidelines

1 Scope

This guide defines the role of IATG, their structure, and establishes the guiding principles for their proper use, if appropriate, by national authorities, international organisations and organisations involved with the planning and implementation of conventional ammunition stockpile management processes.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

A list of normative references is given in Annex A. Normative references are important documents to which reference is made in this guide and which form part of the provisions of this guide.

A further list of informative references is given at Annex B in the form of a bibliography, which lists additional documents that contain other useful information on the stockpile management of conventional ammunition.

3 Terms and definitions

IATG mainly follow\(^1\) the ISO layout and process and can be defined as: ‘a documented agreement containing technical specifications or other criteria to be used consistently as guidelines, or definitions of characteristics to ensure that conventional ammunition stockpile management processes are safe, effective efficient and fit for their purpose’.

For the purposes of this guide the terms and definitions given in IATG 01.40:2015(E) Terms, definitions and abbreviations shall apply.

In all modules of the International Ammunition Technical Guidelines, the words 'shall', 'should', 'may' and 'can' are used to express provisions in accordance with their usage in ISO standards.

a) ‘shall’ indicates a requirement: It is used to indicate requirements strictly to be followed in order to conform to the document and from which no deviation is permitted.

b) ‘should’ indicates a recommendation: It is used to indicate that among several possibilities one is recommended as particularly suitable, without mentioning or excluding others, or that a certain course of action is preferred but not necessarily required, or that (in the negative form, 'should not') a certain possibility or course of action is deprecated but not prohibited.

c) ‘may’ indicates permission: It is used to indicate a course of action permissible within the limits of the document.

d) ‘can’ indicates possibility and capability: It is used for statements of possibility and capability, whether material, physical or casual.

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\(^1\) The main variation from the ISO required contents is that terms, definitions and abbreviations are not included in the Annexes of each individual IATG as this would make them unwieldy and unnecessarily repetitive for field use. All terms, definitions and abbreviations are contained within a separate IATG 01.40:2010(E) Terms, definitions and abbreviations.
4 Conventional ammunition stockpile management

The term ‘stockpile management’ refers to those procedures and activities regarding the safe and secure accounting, storage, transportation, handling and disposal of conventional ammunition. The objective of conventional ammunition stockpile management is to reduce the hazard to local communities from unplanned explosive events and to negate the risks to wider communities posed by the uncontrolled proliferation of ammunition.

Conventional ammunition stockpile management comprises six complementary groups of activities:

a) ammunition storage;
b) ammunition processing,2 maintenance and repair;
c) ammunition accounting;
d) ammunition demilitarization or destruction;
e) security of ammunition stockpiles; and
f) transport of ammunition.

A number of other enabling activities are required to support these six components of stockpile management, including: risk assessment and planning, allocation of resources, information management, human skills development and management training, quality management, and the selection and use of effective, appropriate and safe equipment.

5 Purpose of ammunition technical guidelines

The IATG are designed to assist States to establish national standards and national standing operating procedures (SOPs) by establishing a frame of reference, which can be used, or adapted for use, as a national standard.

In certain situations and at certain times it may be necessary and appropriate for the UN, or some other recognised international body,3 to assume some or all of the responsibilities, and fulfil some or all of the functions, of a national authority. In such cases, the UN will work towards IATG as the de-facto national standard.

IATG are not themselves SOPs. They do not define the detailed way in which conventional stockpile management requirements are to be achieved by States - that should be covered in national and local SOPs, rules, instructions and codes of practice.

IATG have been developed to improve safety, security and efficiency in conventional ammunition stockpile management by providing guidance, by establishing principles and, in some cases, by referring to other related international requirements and specifications.4 They provide a frame of reference, which encourages national authorities responsible for conventional ammunition stockpile management to achieve and demonstrate effective levels of safety and security. They provide a common language, are based on sound and accepted explosive science, recommend an integrated risk and quality management system, and allow for a progressive, integrated improvement in safety and security in line with available resources.

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2 Including Inspection, Surveillance and Proof.
3 During, for example, peacekeeping operations in areas of conflict where there is no effective governance.
4 In this case, international requirements and specifications refer to those treaties, international laws and conventions, international agreements, international ISO standards etc that have already been agreed to by participating nations.
6 Guiding principles

The preparation and application of IATG are shaped by four guiding principles:

a) the right of national governments to apply national standards to their national stockpile;

b) the need to protect those most at risk from undesirable explosive events, (e.g. local civilian communities and explosives workers);

c) the requirement to build a national capacity to develop, maintain and apply appropriate standards for stockpile management; and

d) the need to maintain consistency and compliance with other international norms, conventions and agreements.

6.1 National responsibilities and obligations

The primary responsibility for conventional ammunition stockpile management shall rest with the Government of the state holding the ammunition. This responsibility should normally be vested in an authority, which is charged with the regulation, management and coordination of conventional ammunition stockpile management. The national authority shall be responsible for establishing the national and local conditions that enable the effective management of conventional ammunition. It is ultimately responsible for all phases and all facets of the stockpile management processes within its national boundaries, including the development of national standards, SOPs and instructions.

The governments of States which are contributing troops to UN peacekeeping operations should develop SOPs alongside their national stockpile management SOPs for the sound management of the ammunition stockpile available within their national contingents deployed around the globe. These SOPs necessitate harnessing within the national SOPs, the UN safety requirements and local conditions of the host countries.

6.2 Explosive safety

The accumulation of conventional ammunition presents inherent hazards to local communities in the form of a risk of explosive events in ammunition storage areas. News of ammunition depot explosions makes the headlines several times in any single year, and evidence over the last ten years (2004 – 2013) suggests an average of at least 27 such incidents per annum. Often these events result in a large number of casualties, widespread destruction of infrastructure, and the disruption of the livelihood of entire communities. In addition to the immediate human suffering, such explosions can have terrible effects on the environment. In those States with limited means to finance the technically challenging clean-up costs, local populations, especially children, are all too often exposed to the risk of injury or death due to the explosive ordnance that tends to litter large areas for extended periods of time after the explosion. The IATG will therefore contain an integrated risk management process designed to progressively reduce risk as more resources become available.

\[\text{The Threat from Explosive Events in Ammunition Storage Areas. Explosive Capabilities Limited. UK. 26 September 2009. Now part of the Small Arms Survey Unexpected Explosions at Munition Sites (UES) project. The UEMS data may then be used to update this risk model on a regular basis.}\]

\[\text{2,760 fatalities during 2004 – 2013. Source Ibid.}\]

\[\text{9,457 casualties during 2004 – 2013, Source Ibid. (One explosion excluded from results as unconfirmed number of casualties). The rate is likely to be higher.}\]
6.3 Capacity building

In countries with limited national capacity to effectively and safely manage conventional ammunition stockpiles, the development of an indigenous capacity should be key to long-term stockpile safety and security. Capacity development is the process by which individuals, institutions and societies (individually and collectively) perform functions, solve problems and set and achieve objectives.⁸

At the national level an indigenous capacity is characterised by a state’s ability and willingness to develop and articulate stockpile management policy and direction. It also about a state’s ability to plan, coordinate, manage and sustain a safe, secure and effective conventional ammunition stockpile management programme. This includes the technical capability to develop, maintain and apply appropriate national standards for conventional ammunition stockpile management.

Developing States, that may have limited financial and technical resources, may not be able to initially achieve a minimum standard⁹ of safe, efficient and effective ammunition stockpile management. The UN may take initiatives to mobilize resources to support such States.

6.4 Other international guidelines, regulations and guides

IATG are written to be consistent with other international guidelines, and to comply with international regulations, conventions and treaties. Precedent and norms for workplace and site safety, as well as environmental protection, already exist at the international level. The main ‘top level’ ones are:

a) through the International Labour Organization (ILO) for safety in the workplace;

b) the International Organization for Standardization (ISO) provides guidance on risk management (ISO Guide 51);

c) the application of quality management systems (ISO 9001:2008 series); and

d) environmental management systems (ISO 14001:2004).

Other international protocols and norms describe procedures for the classification and transport of conventional ammunition; these also have application to conventional ammunition stockpile management and are referred to as normative references in the appropriate IATG.

The IATG have been developed from a wide range of source material by other international organisations, regional organisations, national governments and individuals. This material has been key to the development of IATG and acknowledgement for direct use has been attributed within the IATG series. Other information has been used as the basis for content within the IATG series. A bibliography of the most used sources is at Annex C, and these organisations are thanked for their contributions through the public availability of their documentation.

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⁸ Taken from UNDP Definition at http://www.magent.undp.org/cdrb/techpap2.htm.

⁹ Level 1. See IATG 01.20:2015[E] Index of risk reduction process levels.
6.5 Risk reduction process levels (RRPL)

Within the IATG series of guidelines the different tasks and activities necessary for safe, efficient and effective stockpile management are considered to equate to one of three Risk Reduction Process Levels (RRPL) (IATG 01.20:2015[E] Index of risk reduction process levels). These are indicated within each IATG as either LEVEL 1, LEVEL 2 or LEVEL 3 dependent on the degree of complexity of each task or activity. The basic aim of a conventional ammunition stockpile management organisation should be to make sure that stockpile management processes are maintained at Risk Reduction Process Level 1 as a minimum, which will reduce risk significantly. Ongoing and gradual improvements should then be made to the stockpile management infrastructure and processes as staff development improves and further resources become available.

7 Framework of IATG

The guidelines are divided into generic areas of conventional ammunition stockpile management, which are then further divided into individual guidelines that address specific activities within that area:

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Table 1: Generic areas of IATG

The detailed framework of the IATG is shown at Annex D.

Individual guides will, where appropriate, be divided into levels of ascending comprehensiveness. The first level will include guidelines that present the most expedient ways to apply the basic principles of safe and secure ammunition management. Subsequent levels will detail progressive measures that can be taken to improve stockpile management in the area in question and thereby progressively reduce risk.

Each level will feature, where appropriate, statistics that indicate the degree of risk reduction likely to be achieved by following the guidelines. Technical drawings and diagrams will be used to support the guidelines, where applicable. A qualitative or quantitative risk assessment (QRA) methodology will be integrated into the guidelines, wherever possible, to estimate the level of risk reduction that might be achieved through adherence to the guidelines.
8 International Organization for Standardization

ISO is a worldwide federation of national bodies from over 140 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 some of the tasks and processes that contribute to the stockpile management of conventional ammunition have a relevant standard. A list of ISO standards and guides is given in the ISO Catalogue; see www.iso.ch/infoe/catinfo/html.

ISO has an international reputation for integrity and neutrality, and it enjoys a special working relationship with international organisations including the United Nations, and with regional organisations including the European Union. IATG 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 who are accustomed to the ISO series of standards and guides.

The adoption of the ISO format and language also brings the IATG in line with other complementary standards and guidelines, including:

a) International Disarmament, Demobilisation and Reintegration Standards (IDDRS), (www.unddr.org/iddrs);

b) International Mine Action Standards (IMAS), (www.mineactionstandards.org); and

c) International Small Arms Control Standards (ISACS).

9 The application of ammunition technical guidelines

These guidelines have been developed to assist national authorities in the development of national conventional ammunition stockpile management processes and procedures. They have no legal standing except where they have been adopted by a national authority as national standards, or where one or more of the specific IATG is specified in a contract or some other legal instrument, (such as a Memorandum of Understanding or a Letter of Agreement). For issues such as safety and basic human rights, there should be absolute agreement on the need to adopt appropriate standards and professional codes of conduct.

In the immediate aftermath of conflict, the conditions for a stable and long lasting peace are unlikely to be present. The civil infrastructure may have collapsed and there may be large numbers of refugees and internally displaced persons (IDPs). Initially, emphasis will be given to ensuring that conventional ammunition stockpiles are secure and do not impact on humanitarian activities and peacekeeping tasks, rather than building an effective indigenous capacity. UN peacekeeping operations shall ensure that they have an integral capacity to effectively secure and manage host nation stockpiles of conventional ammunition under these circumstances. This shall require that troop contributing nations also have the capability to effectively comply with IATG and have appropriate standing operating procedures prior to deployment.

The end of the humanitarian emergency phase will normally be marked by the emergence of a recognised governing body demonstrating effective governance. The structures will be in place to ensure that funding for longer term development programmes can be applied judiciously. Emphasis should then be placed on building an indigenous capacity for the safe, secure and effective stockpile management of conventional ammunition stockpiles.

10 Website still to be promulgated as ISACS are still under final development. (As at 01 January 2015). Limited access is available through https://un-casa-isacs.basecamphq.com/login.
The responsibility for conventional ammunition stockpile management will be vested in the host nation, although some assistance may still be required from the international community. This may include assistance in the provision of appropriate equipment, training, support to emergency stockpile destruction, and storage infrastructure development. Advice may also continue to be sought from the United Nations, regional organisations and bi-lateral agencies in the appropriate application of IATG and the development of national standards.

10 Quality and risk management

IATG have been developed in line with the recommendations and processes contained within the ISO quality management systems (ISO 9001:2008) and the ISO risk management system (ISO Guide 51). Elements of these systems are contained within the majority of IATG, thereby making the IATG themselves an integrated risk and quality management system. There is still a requirement, however, for national authorities to develop their own specific individual risk and quality management systems for the stockpile management of conventional ammunition.

A guide to the use of risk management in IATG is contained at IATG 02.10:2015[E] Introduction to risk management principles.

11 Legal requirements

IATG have no legal standing except where they have been adopted by a national authority as national standards, or where one or more of the specific IATG is specified in a contract or some other legal instrument, (such as a Memorandum of Understanding or a Letter of Agreement). The wording of each contract or agreement should clarify the application of IATG to each proposed project, and should reflect the national and local circumstances discussed in Clause 9 above; i.e. the local situation, the authority of government, political will, and the resources available. Contracts for the support of conventional ammunition stockpile management should be consistent with the laws of the host nation.

12 Continual review of IATG

ISO undertakes a formal review of all of its standards on a five-yearly basis. This is to ensure that the standards are still relevant, accurate, achievable, and appropriate. IATG is also subject to this review process. This does not preclude essential amendments being made within that period for reasons of operational safety or efficiency.

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Annex A
(normative)
References

The following normative documents contain provisions, which, through reference in this text, constitute provisions of this part of the guide. 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 guide 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) IATG 01.40:2015[E] Terms, glossary and definitions. UNODA. 2015;
c) ISO 9001:2008(E) Quality management systems – Requirements. ISO. 2008;\footnote{To shortly be replaced by ISO 9001:2015.} and
d) ISO 14001:2004(E) Environmental management systems – Guidelines. ISO. 2004.\footnote{To shortly be replaced by ISO 14001:2015.}

The latest version/edition of these references should be used. The UN Office for Disarmament Affairs (UN ODA) holds copies of all references\footnote{Where copyright permits.} used in this guide. A register of the latest version/edition of the International Ammunition Technical Guidelines is maintained by UN ODA, and can be read on the IATG website: \url{www.un.org/disarmament/un-saferguard/}. National authorities, employers and other interested bodies and organisations should obtain copies before commencing conventional ammunition stockpile management programmes.
Annex B
(informative)
References

The following informative documents contain provisions, which should also be consulted to provide further background information to the contents of this guide:

a) UN General Assembly (UNGA) Resolution A/RES/61/72, Problems arising from the accumulation of conventional ammunition stockpiles in surplus. 06 December 2006;

b) UN General Assembly (UNGA) A/63/182, Report of the Group of Government Experts established pursuant to General Assembly resolution 61/72 to consider further steps to enhance cooperation with regard to the issue of conventional ammunition stockpiles in surplus. UN. 28 July 2008; and

c) UN General Assembly (UNGA) Resolution A/RES/63/61, Problems arising from the accumulation of conventional ammunition stockpiles in surplus. 12 January 2009.

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

16 Where copyright permits.
Annex C
(informative)
Source bibliography

The following informative documents contain primary and secondary source material that was used in the development of the IATG series of guides:

a) A Destruction Handbook – small arms, light weapons, ammunition and explosives. UN Department for Disarmament Affairs (UNDDA). 2001;
b) AAP-6 (2012), Version 2 NATO Glossary of Terms and Definitions. NATO Standardization Office (NSO). 03 October 2012;
d) AOP 48. Explosives - Nitrocellulose Based Propellants, Stability Test Procedures and Requirements Using Stabilizer Depletion; NATO Standardization Office (NSO);
c) AASPT-4, Edition 1, Change 2, Explosives Safety Risk Analysis.NATO. October 2011. (Note: Part 2 has restricted distribution);
d) AASPT-5, Edition 1, Version 2, NATO Guidelines for the Storage, Maintenance and Transport of Ammunition on Deployed Missions or Operations. NATO. October 2012. ; http://nso.nato.int/nso/nsdd/listpromulg.html;
f) Assessing people against the Explosive Substances and Articles National Occupational Standards. Denise Clarke, HSQ Ltd, in SAFEX Newsletter 50, 3rd Quarter, 2014;
g) Best Practice Guidelines for the Implementation of the Nairobi Declaration and the Nairobi Protocol on Small Arms and Light Weapons. RECSA. Approved 20 – 21 June 2005;
h) BS 1722-10:2006, Fences. Specification for anti-intruder fences in chain link and welded mesh. BSI. UK. November 2006;
i) BS 4449:2005 + Amendment 2 2009 Specification for carbon steel bars for the reinforcement of concrete. BSI. UK;


q) *Convention for the Protection of the Marine Environment of the North-East Atlantic,* 1998;


s) *Convention on Small Arms and Light Weapons, their Ammunition and other Related Materials.* ECOWAS. 2006;


u) EN 12320:2001 Building hardware – Padlocks and padlock fittings – Requirements and test methods. BSI. UK;

v) ESA NOS KR1 Research, Design and Development (Key Role 1). UK Standards Setting Body (SSB) for Explosives, Munitions and Search Occupations. February 2006;

w) *European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), ECE/TRANS/225 (Vol 1 and II),* New York and Geneva. 01 January 2013;


ee) *ICAO Technical Instructions for the Safe Movement of Dangerous Goods by Air.* (Doc 9284). (Available through www.icao.int);


gg) Inter-American Convention Against the Illicit Manufacturing of and Trafficking in Firearms, Ammunition, Explosives and Other Related Materials (CIFTA). OAS. 1997;

hh) *International Convention for the Safety of Life at Sea,* (SOLAS), Chapter VII – Carriage of Dangerous Goods. IMO. 1974;

17 Also known as the OSPAR Convention.
jj) *International Mine Action Standards (IMAS).* UNMAS. 2009;
kk) *International Small Arms Control Standards (ISACS).* CASA. 2010;
ll) *Introduction to Explosive Substances and Articles National Occupational Standards.* Denise Clarke, HSQ Ltd, in SAFEX Newsletter 44, 1st Quarter, 2013;
nn) ISO 2859 Series[E] *Sampling procedures for inspection by attributes.* ISO;
pp) ISO 3951 Series[E] *Sampling procedures for inspection by variables.* ISO;
ss) ISO 8423:2008[E] *Sequential sampling plans for inspection by variables for percent nonconforming (known standard deviation).* ISO. 2008;
tt) ISO/TR 8550 Series[E] *Guide for the selection of an acceptance sampling system, scheme or plan for inspection of discrete items in lots.* ISO;
uu) ISO 9001:2008(E) *Quality management systems – requirements.* ISO. 2008;¹⁸
 yy) ISO 13448 Series[E] *Acceptance sampling procedures based on the allocation-of-priorities principle (APP).* ISO;
aaa) ISO 14560:2004[E] *Assessment and acceptance sampling procedures for inspection by attributes in number of nonconforming items per million items.* ISO. 2004;
bbb) ISO 15630-1[E] *Steel rod test methods.* ISO;

¹⁸ To shortly be replaced by ISO 9001:2015.
¹⁹ To shortly be replaced by ISO 14001:2015.
ggg) ISO 22965:2007 Series Concrete. ISO. 2007;


mmm) National Occupational Standards for Explosives. UK Commission for Employment and Skills (UK CES);

nnn) Protocol against the Illicit Manufacturing and Trafficking in Firearms, Their Parts and Components and Ammunition, supplementing the United Nations Convention against Transnational Organized Crime (UN Firearms Protocol). (Entered into Force 03 June 2005);

ooo) Regional Micro-Disarmament Standards and Guidelines (RMDS/G). SEESAC. 2006;


qqq) STANAG 4117 (Edition 3). Stability test procedures and requirements for propellants stabilised with Diphenylamine, Ethyl Centralite or mixtures of both. NATO Standardization Office (NSO);

rrr) STANAG 4315, The Scientific Basis for the Whole Life Assessment of Munitions. NATO Standardization Office (NSO);

sss) STANAG 4527 (Edition 1). Explosives - Chemical, Stability, Nitrocellulose based propellants, procedure for assessment of chemical life and temperature dependence of stabiliser consumption rates. NATO Standardization Office (NSO);

ttt) STANAG 4541 (Edition 1). Explosives - Nitrocellulose Based Propellants Containing Nitroglycerine and Stabilized with Diphenylamine, Stability Test Procedures and Requirements. NATO Standardization Office (NSO);

uuu) STANAG 4581. Explosives - Assessment of Ageing of Composite Propellants Containing an Inert Binder. NATO Standardization Office (NSO);

vvv) STANAG 4582. Explosives - NC Based Propellants Stabilised with DPA - Stability Test Procedure and Requirements using HF – Calorimetry. NATO Standardization Office (NSO);

www) STANAG 4620. Explosives - Nitrocellulose based Propellants - Stability Test Procedures and Requirements Using Stabilizer Depletion. NATO Standardization Office (NSO);

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20 Enter the search term ‘Explosives’ in this website nos.ukces.org.uk/Pages/Search.aspx to obtain all relevant NOS on the explosives sector. The full list is at Annex K.


aaaa) UK Defence Standard 05-101, Part 1, Proof of Ordnance, Munitions, Armour and Explosives: Requirements. UK Defence Standardization. 24 November 2006;


dddd) UN General Assembly (UNGA) Resolution A/RES/61/72, Problems arising from the accumulation of conventional ammunition stockpiles in surplus. 06 December 2006;

eeee) UN General Assembly (UNGA) A/63/182, Report of the Group of Government Experts established pursuant to General Assembly resolution 61/72 to consider further steps to enhance cooperation with regard to the issue of conventional ammunition stockpiles in surplus. UN. 28 July 2008; and

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jjjj) US UFC-3-340-02, Structures to Resist the Effects of Accidental Explosions. US Department of Defense. 05 December 2008; Change 2, 01 September 2014. www.ddesb.pentagon.mil;


nnnn) Usage Manual for Missile and Artillery Armaments, Part 1, Use of Missile and Artillery Armaments by Troops. 21 Chapter 4. USSR22 MOD. 1989;

21 Appendix 1 to Order of the Chief Commander of the Ground Forces No 5 1988.
22 Now Russian Federation.
oooo) Use of Explosive Substances and Articles National Occupational Standards. HSQ UK. 15 July 2010;

pppp) Wassenaar Arrangement on Exports Controls for Conventional Arms and Dual-Use Goods and Technologies Best Practices for Effective Enforcement of Export Controls. 2000; and


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

23 Where copyright permits.
Annex D  
(normative)  
Framework of IATG

The guidelines are divided into thematic volumes using the ISO layout system. Each volume will address a broad area of stockpile management activity, which will be further divided into sub-sections that address specific activities within that field.

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- Refer to European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR).
- Refer to International Ordinance on the Transport of Dangerous Goods by Rail (RID), (Appendix I to the International Agreement on Rail Freight Transport).
- Refer to IATA Dangerous Goods Regulations (DGR) (51st Edition).
- Refer to IACO Technical Instructions for the Safe Movement of Dangerous Goods by Air. (Doc 9284).
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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 SaferGuard IATG website at www.un.org/disarmament/un-saferguard/.

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