



GICHD

AMAT - AN INITIATIVE OF THE GICHD AND UN SAFERGUARD

Issue 2 – September 2021

AMAT INSIGHTS



Version 3 of the International Ammunition Technical Guidelines (IATG)



GICHD



UN SaferGuard
Securing ammunition, protecting lives

OVERVIEW

This Issue of AMAT Insights provides an overview of the latest International Ammunition Technical Guidelines (IATG) review and update process, leading to the release of Version 3 of the Guidelines in June 2021.

The Insights highlights the changes and additions made to Version 2 of the IATG, including the rationale behind the recent upgrades and amendments.

It is intended to provide all IATG stakeholders with a practical overview of the latest guidance with a view to supporting the universal application of the highest standard of good practice in ammunition management.



INTRODUCTION OF THE INTERNATIONAL AMMUNITION TECHNICAL GUIDELINES

The past decades have witnessed an increasing number of accidental explosions in ammunition storage areas (Figure 1), resulting in grave humanitarian, social, economic and environmental consequences. Besides accidental explosions, states and regions are challenged by the diversion of ammunition from stockpiles to the illicit market, including to terrorists, criminal organisations and other unauthorised third parties.

Diverted ammunition and explosive materials that can be used in the manufacture of improvised explosive devices, represent a security threat to states and societies, fuelling crime, instability and armed conflict.

In response to these challenges and at the request of the United Nations (UN) General Assembly, the United Nations developed the International Technical Ammunition Guidelines (IATG) to support effective levels of safety and security of ammunition stockpiles, including for the development of national standards and standard operating procedures (SOPs).¹

The first version of the IATG was released in 2011 as voluntary, modular guidance on management of ammunition stockpiles. The IATG consist of 12 volumes that provide practical guidance for a 'through-life' approach to ammunition management.

The IATG can be applied at basic, intermediate, or advanced levels, making them relevant for all situations.

These increasingly complex steps are referred to as *risk reduction process levels* (RRPLs) and take into consideration capacity and resources available.²

The IATG are publicly available to assist national authorities – including armed forces, police officers and border control officials – as well as industry, private security companies and specialist non-governmental organisations to enhance the safety and security of ammunition stockpiles.

The IATG are 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 UN SaferGuard Programme, operated under the United Nations Office for Disarmament Affairs (UNODA), serves as the custodian of the IATG.

The 5-yearly IATG review process is undertaken by the UN SaferGuard Technical Review Board³ composed of national technical experts, with the support of the UN SaferGuard Strategic Coordination Group, composed of organisations applying the IATG in practice.

Two updates of the IATG have taken place since their initial release – in 2015 and 2020, respectively. Version 2, launched in 2015, included administrative revisions, updated references, revised technical information, clarification of content and inclusion of new modules. The significant revisions included the addition of new hazard subdivisions to better define hazards and determine appropriate quantity-distances. A new module dedicated to personnel competencies (IATG 01.90), temporary storage (IATG 04.10 in Version 3) and inspection of ammunition (IATG 06.80) were also introduced.

Beginning in 2018, a comprehensive technical review of the IATG was undertaken. This was the first full technical review of the guidelines since 2011.

The IATG Version 3 is a result of a detailed assessment of each module, bearing in mind the fundamental purpose and principles of the IATG – to ensure the safety and security of ammunition stockpiles by preventing accidental explosion and diversion, with a view to protecting lives and livelihoods.

The IATG Version 3 comprises 12 thematic volumes (series), subdivided into 42 individual modules. In addition to technical updates to existing modules, Version 3 includes two new modules, namely on Organisational capabilities (IATG 01.35) and on Airfields (IATG 08.20).

The IATG are the centrepiece of the UN SaferGuard Programme, upon which all its activities and initiatives are based. The IATG are fundamental to international assistance and cooperation in the field of ammunition management. In this regard, dissemination and outreach activities are critical to promoting IATG application on the ground. The UN SaferGuard Programme, in collaboration with the Ammunition Management Advisory Team, continues to encourage the wide application of the IATG, including by supporting translations of the guidance and digitising the IATG for international use. Translations of Version 3 are currently underway in French and Spanish with Arabic translation planned for 2022.



SIGNIFICANT DEVELOPMENTS

SINCE THE LAUNCH OF THE IATG

While much progress has been made since the launch of the IATG in 2011, explosions in ammunition storage areas (ASA) continue to result in devastating humanitarian consequences, leaving people killed, injured and displaced, and disrupting the livelihoods of entire communities. At the same time, diversion from poorly-maintained stockpiles remains a significant source of materiel for terrorists, criminal groups and other unauthorised entities.

The recent explosions at a military facility in Bata, Equatorial Guinea in March 2021, which resulted in over 100 deaths, 600 injuries and destruction of hundreds of civilian houses, is just one example. More than half of all UN Member States have experienced an explosion in an ammunition storage area over recent decades. The Small Arms Survey reports that all parts of the world, with the exception of Antarctica, were affected by unplanned explosions during the decade 2010-2019.⁴

The IATG play a crucial role in preventing such incidents, offering guidance on adequate ammunition management for national authorities, and serving as a central frame of reference in a field where international cooperation is expanding, resources are growing, and stakeholders are increasing.

Since 2011, there has been consistent, growing acknowledgement among states, international and regional organisations, and implementing partners on the ground of the value of the IATG in supporting effective stockpile management. Through adoption of the latest resolution on the topic of conventional ammunition adopted in 2019,⁵ the General Assembly noted that the IATG are used by national authorities and an expanding network of partners from international, regional and non-governmental organisations, and the private sector in an increasing number of states.

Political support for enhancing the safety and security of ammunition stockpiles has similarly accelerated in the last decade. The UN Secretary-General continues to underscore the importance of effective management of stockpiles as a means to support conflict prevention, the protection of civilians, and building and sustaining peace. In his latest report to the Security Council on small arms and light weapons, the Secretary-General called upon the Council to continue to support efforts in weapons and ammunition management, including national-level capacity-building, to reduce risks to civilians.⁶ The report further underscores that such support should always draw upon applicable guidance, including the IATG.



Weapons and ammunition management activities are playing a key role in United Nations peace operations and in activities of the Security Council to address conflict-affected situations and the activities of armed groups.

For example, mandates of recently-established UN operations, including for the UN Integrated Office in Haiti⁷ and the UN Integrated Transition Assistance Mission in Sudan,⁸ have incorporated weapons and ammunition management as a key pillar to support peace processes, good governance and the reduction of violence.

In 2018, the Secretary-General released his Agenda for Disarmament, *Securing our Common Future*, which commits the United Nations to enhancing state and regional efforts to address inadequately managed stockpiles.⁹ Pursuant to this commitment, efforts to increase dissemination and application of the IATG have continued, including through joint activities of the UN SaferGuard Programme and AMAT. The latest review of the IATG forms a critical part of these efforts as this guidance is the foundation upon which all technical advice is based.

At the international level, momentum among states to address conventional ammunition as a standalone issue of concern has increased. In 2017, through General Assembly resolution 72/55, states requested the Secretary-General to establish a Group of Governmental Experts on “problems arising from the accumulation of conventional ammunition stockpiles in surplus”, taking into account discussions held among states in open, informal consultations throughout 2018 and 2019. The Group has exchanged on the dual risks to safety and security posed by the ineffective management of ammunition, while considering how a possible comprehensive framework for conventional ammunition may be structured to provide maximum benefit to the international community.¹⁰ The Group is expected to present its report and any associated recommendations to the 76th session of the General Assembly for further consideration.

The imperative to ensure the IATG’s highest levels of technical quality and relevance has injected a clear sense of urgency around regular reviews – all against a backdrop of growing political commitment. Evolution in technical norms and practices, combined with increasing recognition of the importance of ammunition safety and security, supported the UN SaferGuard Programme’s decision to prioritise and commission the extensive review of the IATG in 2020, with Version 3 now being endorsed as current, comprehensive and of the highest standard.

THE REVIEW AND UPDATE PROCESS IN 2018-2021

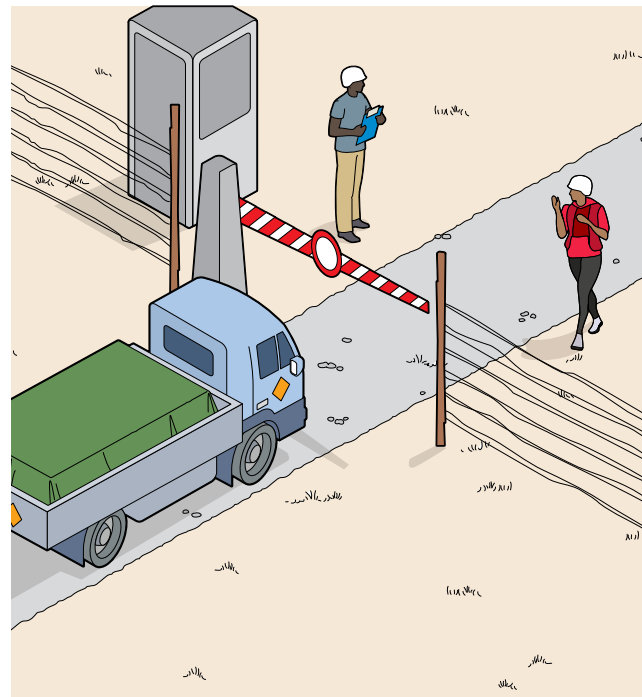
The first comprehensive technical review of the IATG commenced in 2018 with a view to completing Version 3 in 2020 in time for the 5-yearly review deadline. In part due to the COVID-19 pandemic, the review was completed by the first half of 2021.

Through the regular meetings of the UN SaferGuard Technical Review Board and the Strategic Co-ordination Group, all modules were reviewed in batches with each module undergoing a thorough technical assessment. Ongoing exchanges on technical updates were conducted through an online, participatory platform wherein experts regularly interacted through virtual postings. Real-time, working sessions were convened with experts from AMAT and the Technical Review Board to ensure adequate time for taking decisions on more substantive amendments, and to approve new IATG modules 01.35 and 08.20. The expert from Switzerland spearheaded the development of the module on Organisational capabilities, while the module dedicated to ammunition safety and security in Airfields was drafted under the leadership of the expert from the United States.

The approval of all the Version 3 modules was secured from the Technical Review Board at its annual meeting in November 2020.

The review process was overseen and managed by the UN SaferGuard Programme with technical support from AMAT, culminating in the virtual release of Version 3 in June 2021.

Following the release, a virtual launch event was held in July 2021, providing an overview of the updates in Version 3 and reflections from diverse regions on the application of the IATG in practice, in particular West Africa and South Asia. With more than 100 participants from governments, implementing partners and the United Nations, the launch demonstrated the universal value of the IATG and the critical importance of maintaining high quality, common guidance in this field.



IATG VERSION 3 CHANGES AND AMENDMENTS

The IATG's evolution since 2011 has been driven by the objective of ensuring the guidance is fit-for-purpose and of maximum technical quality. Version 3 includes a broad range of updates and amendments, including the addition of two new modules and removal of three existing ones.¹¹

The basis for assigning a risk reduction process level (to a procedure, physical requirement or a function) has moved from perceived degree of complexity

and cost, to perceived increment of safety and security. The language has been simplified throughout the volumes and modules, making the IATG easier to navigate and follow.

The Version 3 volumes and modules are enclosed as **Annex A** with a detailed overview of the amendments, the rationale for changes and their expected impact in **Annex B**.



NEXT STEPS

With Version 3 of the IATG now complete, attention will be directed towards dissemination and promotion of the updated guidelines, including through translations. Nevertheless, the IATG remain a living set of good practice guidance that must respond to the latest norms and practices. Therefore, necessary updates will continue on a rolling basis.

Following the release of Version 3, to ensure gender mainstreaming and sensitivity, gender-related edits will be integrated into applicable modules in the coming months. The edits derive from a gender review of the IATG, which was completed as part of a larger project on gender mainstreaming ammunition management policy and practice launched by the UNODA in 2019.¹²

The revisions, including making all references to personnel gender-neutral, will be integrated by the end of the year.

The next formal review will be concluded in 2025 in line with the 5-year commitment. In addition to this formal review, requisite amendments and changes to the IATG will be made on an ongoing basis with a view to ensuring the most up-to-date guidance is available to all stakeholders.

In the interim, there are scheduled technical amendments pending the release of the latest Allied Ammunition Storage and Transport Publication of NATO (AASTP).

These requisite changes and scheduled amendments are elaborated below.

- ◇ Proposal for 'flow chart' system to be created for RRPLs, clarifying the order of tasks to be carried out.
- ◇ 01.90 Ammunition management personnel competences module to be revisited to generalise job titles and descriptions, ensuring common applicability
- ◇ 02.20 Quantity distances (QD) module changes to be considered in conjunction with the forthcoming release of the AASTP QD system; possibly adapted for use in the IATG.
- ◇ A simplified system of QDs to be considered for use by states currently not licensing ammunition storage areas. The existing tables in the IATG for QDs were simplified for ease of use.
- ◇ A comprehensive ammunition accounting tool in support of the IATG to be considered to assist states in accounting by batch, lot, serial number, hazard classification code (HCC) and condition of ammunition.

CONCLUSION

Since Versions 1 and 2, the IATG have continued to evolve into a coherent set of guidance on ammunition through-life management for broad applicability by a diverse range of stakeholders. Version 3 of the Guidelines is the result of a thorough review by the UN SaferGuard Technical Review Board with support from AMAT. The guidance is suitable for use anywhere in the world for the establishment, or improvement, of safe and secure procedures and organisation for ammunition management.

Besides enabling the development of high-quality national standards and procedures for ammunition stockpile management, with the IATG states can plan the required infrastructure, organisation, regulations and directives for through-life management of ammunition.

The IATG Version 3 and the Implementation Support Toolkit are available at unsafeguard.org

ANNEX A

THE IATG VERSION 3: 12 VOLUMES (SERIES) AND 42 MODULES

Volume	Modules
01 Introduction and Principles of Ammunition Management	01.10 Guide to the International Ammunition Technical Guidelines (IATG) 01.20 Index of risk reduction process levels (RRPL) within IATG 01.30 Policy development and advice 01.35 Organisational Capabilities 01.40 Glossary of terms, definitions and abbreviations 01.50 UN explosive hazard classification system and codes 01.60 Ammunition faults and performance failures 01.70 Bans and constraints 01.80 Formulae for ammunition management 01.90 Ammunition management personnel competences (new module)
02 Risk Management	02.10 Introduction to risk management principles and processes 02.20 Quantity and separation distances 02.30 Licensing of explosive facilities 02.40 Safeguarding of explosive facilities 02.50 Fire safety
03 Ammunition Accounting	03.10 Inventory management 03.20 Lotting and batching
04 Explosive Facilities (Storage) (Field and Temporary Conditions)	04.10 Temporary storage
05 Explosives Facilities (Storage) (Infrastructure and Equipment)	05.10 Planning and siting of explosives facilities 05.20 Types of buildings for explosives facilities 05.30 Barricades 05.40 Safety standards for electrical installations 05.50 Vehicles and mechanical handling equipment (MHE) in explosives facilities 05.60 Hazards of Electromagnetic Radiation

Volume	Modules
06 Explosive Facilities (Storage) (Operations)	06.10 Control of explosives facilities 06.20 Storage space requirements 06.30 Storage and handling 06.40 Ammunition packaging and marking 06.50 Special safety precautions (storage and operations) 06.60 Works services (construction and repair) 06.70 Inspection of explosives facilities
07 Ammunition Processing	07.10 Surveillance and Proof 07.20 Inspection of ammunition 07.30 Ammunition processing operations – Safety, risk reduction and mitigation
08 Transport of Ammunition	08.10 Transport of ammunition 08.20 Storage and handling of ammunition and explosives at airfields
09 Security of Ammunition	09.10 Security principles and systems
10 Ammunition Demilitarisation and Destruction	10.10 Demilitarisation and destruction and logistic disposal of conventional ammunition
11 Ammunition Accidents, Reporting and Investigation	11.10 Ammunition accidents: reporting and investigation 11.20 Clearance of ammunition storage area explosions – EOD clearance
12 Ammunition Operational Support	12.10 Ammunition on multi-national operations 12.20 Small unit ammunition storage

ANNEX B

MAIN CHANGES IN THE IATG VERSION 3 AS PER MODULE

IATG module	Changes	Reason	Impact
<p>01.10 Guide to the International Ammunition Technical Guidelines (IATG)</p>	<ul style="list-style-type: none"> ◇ References to new 01.35 added. ◇ ASA explosion information updated. ◇ RRPL system changed to what a task achieves in safety and security rather than complexity. ◇ References, footnotes, tools list updated. 	<ul style="list-style-type: none"> ◇ The emphasis of the RRPL system, and therefore IATG, has changed from ease of implementation towards measures which enhance safety and security amongst the population. 	<ul style="list-style-type: none"> ◇ ASA becomes safer and more secure as a priority.
<p>01.20 Index of Risk Reduction Process Levels within IATG</p>	<ul style="list-style-type: none"> ◇ RRPL system changed to what a task achieves in safety and security rather than complexity, with many tasks moved between RRPLs. ◇ QDs, Radio-frequency (RF) hazards, acceptable vehicles in ASA, action in thunderstorms, Hazard Division (HD) and Compatibility Groups (CG) moved to RRPL1. ◇ Basic safety (fire, contraband, packing etc) and security (access control, locks etc) to RRPL1. ◇ Proposal for 'flow chart' system to be created with RRPLs falling from this. 	<ul style="list-style-type: none"> ◇ Those risk reduction and risk mitigation measures which save lives and prevent ammunition and explosives proliferation prioritised. 	<ul style="list-style-type: none"> ◇ Emphasis changed from ease of implementation towards measures which enhance safety and security amongst the population.

IATG module	Changes	Reason	Impact
<p>01.30 Policy Development and Advice</p>	<ul style="list-style-type: none"> ◇ Added references to Arms Trade Treaty (ATT). ◇ More info on United Nations (UN) operations. ◇ Updated and improved information on risks of inadequate ammunition management. 	<ul style="list-style-type: none"> ◇ Instructions to UN Troop/police Contributing Countries (TCC) that ammunition management is their responsibility. 	<ul style="list-style-type: none"> ◇ Leads to better ammunition management in UN operations.
<p>01.35 Organisational Capabilities</p>	<ul style="list-style-type: none"> ◇ New module produced by Switzerland and approved by the TRB. 	<ul style="list-style-type: none"> ◇ Guides to States on the organisation for ammunition management including descriptions of minimum requirements for the management and regulatory functions, roles, structure, and policy development. 	<ul style="list-style-type: none"> ◇ States able to develop appropriate organisations for ammunition through-life management.
<p>01.40 Glossary and Definitions</p>	<ul style="list-style-type: none"> ◇ Irrelevant definitions (i.e. not related to ammunition management or used in IATG) removed. ◇ Other definitions changed for added clarity, e.g. ammunition stockpile rather than just stockpile. ◇ Added definitions as per proposals from the SCG and in connection with new or amended modules. 	<ul style="list-style-type: none"> ◇ To provide clearer definitions of words and terms used in the IATG. ◇ The glossary is shorter due to the deletion of words and terms which are from other ammunition publications, not used in the IATG. 	<ul style="list-style-type: none"> ◇ Better understanding amongst readers of specific ammunition related words, phrases and acronyms.

IATG module	Changes	Reason	Impact
<p>01.50 UN Explosive Hazard Classification System and Codes</p>	<ul style="list-style-type: none"> ◇ Explanation of storage sub-division system (SSD). SSD added to Hazard Classification Code (HCC) tables. ◇ Difference between 1.2.1 and 1.2.2 clarified (new system). Note, however, the difficulty of assessing this, if HCC not known. ◇ Descriptions of compatibility groups (CG) now match orange book. ◇ Fuller descriptions of differences in CGs added. ◇ Generally made easier to follow for users. 	<ul style="list-style-type: none"> ◇ The storage sub-division can considerably affect both the IQDs and the OQDs: not differentiating between the two can result in safety distances from a Potential Explosion Site (PES) being too short. ◇ Previous descriptions of CGs were not complete, resulting in wrong ammunition categorisation. 	<ul style="list-style-type: none"> ◇ ASAs become safer and more secure. ◇ All HCCs can now be accurately applied to ammunition, allowing safer storage and hence safer population.
<p>01.60 Ammunition Faults and Performance Failures</p>	<ul style="list-style-type: none"> ◇ Several amendments for added clarity to user. ◇ Fuller definition of what a fault or performance failure entails. 	<ul style="list-style-type: none"> ◇ Enabled ability for earlier detection of problems with ammunition. 	<ul style="list-style-type: none"> ◇ Safer storage, transport, handling and use of ammunition.
<p>01.70 Bans and Constraints</p>	<ul style="list-style-type: none"> ◇ Clarification and grammar amendments. 	<ul style="list-style-type: none"> ◇ No change in procedures. 	<ul style="list-style-type: none"> ◇ Added clarity.
<p>01.80 Formulae for Ammunition Management</p>	<ul style="list-style-type: none"> ◇ Updated and re-written by Austria, approved by the TRB. 	<ul style="list-style-type: none"> ◇ More recent, relevant formulae. 	<ul style="list-style-type: none"> ◇ Accurate calculations of safety distances.
<p>01.90 Ammunition Management Personnel Competences</p>	<ul style="list-style-type: none"> ◇ No changes made yet: the module needs a re-write i.e. the number of job functions should be reduced and the references to UK standards deleted. ◇ Suggested changes have been submitted for job function and roles, awaiting TRB approval. 	<ul style="list-style-type: none"> ◇ The current 01.90 imitates the UK's ammunition personnel competences and functions which is inappropriate for use by most other States. 	<ul style="list-style-type: none"> ◇ Added relevance of required competences, functions and roles for States.

IATG module	Changes	Reason	Impact
<p>02.10 Introduction to Risk Management Principles and Processes</p>	<ul style="list-style-type: none"> ◇ Info on qualitative risk assessment (RA) added with a table (for an example). ◇ Qualitative risk index added with an example. ◇ Calculation of probability of ASA explosion changed. ◇ Additional risk reduction and mitigation measures added. 	<ul style="list-style-type: none"> ◇ Definitions of risk reduction and risk mitigation added. ◇ Unmanaged ASA chances of explosion now reflected in probability example. ◇ Additional measures increase safety and security of ASA and the local population. 	<ul style="list-style-type: none"> ◇ ASAs become safer and more secure.
<p>02.20 Quantity and Separation Distances</p>	<ul style="list-style-type: none"> ◇ On hold until new AASTP QD system is released and studied. ◇ Establishment of a simplified QD system proposed in the TRB. ◇ Definition of High/Medium/Low for Public Traffic Road Distance (PTRD) added. ◇ Directional effects from Earth Covered Magazines (ECM) added. ◇ Correction of all clause numbers in tables so that correct criteria can be applied. 	<ul style="list-style-type: none"> ◇ New AASTP-1 is expected to reduce QDs and cover Net Explosive Quantities (NEQ) below 50kg. ◇ Simplified system would make it easier for States without a history of ammunition management to independently work out safe distances. 	<ul style="list-style-type: none"> ◇ Enables safe storage of smaller amounts of explosive with appropriate safety distances. ◇ States become more independent and competent in planning of ammunition management.
<p>02.30 Licensing of Explosive Facilities</p>	<ul style="list-style-type: none"> ◇ New details on 25kg licences for ready-use ammunition added. ◇ Annex E removed (disposal site ELL). 	<ul style="list-style-type: none"> ◇ Clarification to national authorities of what can and cannot be stored in police stations etc. which are not designed as ammunition storage buildings. 	<ul style="list-style-type: none"> ◇ Keep local populations safe.
<p>02.40 Safeguarding of Explosive Facilities</p>	<ul style="list-style-type: none"> ◇ Clarification as to which distances are applicable for safeguarding and guidance on explosive safety maps. ◇ Standardisation of terms i.e. IBD and VBD: not danger area. 	<ul style="list-style-type: none"> ◇ Enables ammunition management organisations to accurately produce safeguarding maps using the correct measurements and markings. 	<ul style="list-style-type: none"> ◇ Vital for preventing encroachment into areas which would affect the ability to store the desired type and amount of ammunition.

IATG module	Changes	Reason	Impact
02.50 Fire Safety	<ul style="list-style-type: none"> ◇ Incorrect philosophy removed. ◇ Clarification of when cut vegetation is to be removed from an ASA. ◇ PES Fire sign usage clarified. ◇ Fire practice errors and new measures added. 	<ul style="list-style-type: none"> ◇ Saves lives of firefighters. ◇ Reduced risk of vegetation fire. ◇ Advance warning of risk when approaching a PES. ◇ Safer evacuation procedures. 	<ul style="list-style-type: none"> ◇ Chance of fire affecting ammunition reduced. ◇ Staff escape more efficient. ◇ Firefighters safer.
03.10 Inventory Management	<ul style="list-style-type: none"> ◇ Added safety and security advantages for maintaining proper inventory management. ◇ Clarification on lot and batch. ◇ Modification on how long to keep records. ◇ New stack tally card included. ◇ New Unit of Space (UoS) calculation table. ◇ Requirement calculations, Daily Ammunition Expenditure Rates (DAER) and financial requirements moved to Organisational Capabilities 01.35. 	<ul style="list-style-type: none"> ◇ Inventory management is both a safety and security measure. ◇ Enables tracing of found explosives and ammunition. ◇ More accurate examples for organisations to follow for ease of understanding and application. ◇ Not ASA focus but organisational level (accounting tools to be developed) 	<ul style="list-style-type: none"> ◇ Safer and more secure ammunition and population. ◇ More control over ammunition stocks. ◇ Less out-of-date, potentially unsafe ammunition held equals money saving.
03.20 Lotting and Batching	<ul style="list-style-type: none"> ◇ Added expanded, clearer definitions and descriptions of lotting and batching systems. ◇ Examples of lotting, batching and logistic batching rewritten to best reflect reality. 	<ul style="list-style-type: none"> ◇ Now more comprehensive and understandable. 	<ul style="list-style-type: none"> ◇ Easier to identify ammunition. ◇ Surveillance more effective. ◇ Dangerous ammunition items more easily identified and dealt with.
03.30 International transfer of ammunition	<ul style="list-style-type: none"> ◇ Removed. To be reviewed. 	<ul style="list-style-type: none"> ◇ Used to consider weapons, not ammunition. 	<ul style="list-style-type: none"> ◇ Can be revisited after conclusion of the GGE (circa Oct 2021).

IATG module	Changes	Reason	Impact
03.40 End use	<ul style="list-style-type: none"> ◇ Removed. To be reviewed. 	<ul style="list-style-type: none"> ◇ Used to consider weapons, not ammunition. 	<ul style="list-style-type: none"> ◇ Can be revisited after conclusion of the GGE (circa Oct 2021).
03.50 Tracing	<ul style="list-style-type: none"> ◇ Removed. To be reviewed. 	<ul style="list-style-type: none"> ◇ Used to consider weapons, not ammunition. 	<ul style="list-style-type: none"> ◇ Can be revisited after conclusion of the GGE (circa Oct 2021).
04.10 Field Storage	<ul style="list-style-type: none"> ◇ Removed. To be reviewed. 	<ul style="list-style-type: none"> ◇ Dealt with operational storage. 	<ul style="list-style-type: none"> ◇ Not an area the IATG is designed to deal with.
04.20 Temporary Storage – re-numbered as 04.10	<ul style="list-style-type: none"> ◇ Removed for re-writing. To be re-included with information from new AASTP-5, re-numbered as 04.10. 	<ul style="list-style-type: none"> ◇ Dealt with operational storage. ◇ Unclear with several contradictions: strive for consistency with NATO AASTP. 	<ul style="list-style-type: none"> ◇ Coherent and compatible with NATO standards.
05.10 Planning and Siting of Explosives Facilities	<ul style="list-style-type: none"> ◇ Added information on transit areas and transport hubs. 	<ul style="list-style-type: none"> ◇ Guides on safety and security in areas dedicated as stopping points for ammunition vehicles in transit. 	<ul style="list-style-type: none"> ◇ Makes ASAs safer and more secure and unloading/loading of vehicles safer for surrounding population.
05.20 Types of Buildings for Explosives Facilities	<ul style="list-style-type: none"> ◇ Igloo changed to Earth Covered Magazine (ECM); definition changed. ◇ Debris instead of secondary fragments. ◇ Vegetation distance corrected. ◇ New definitions for Hazard Divisions (HD) 1.2.1 and 1.2.2, and 1.3.1 and 1.3.2 added. ◇ Clarifications of text including simple explanation of building terminology. 	<ul style="list-style-type: none"> ◇ Brings the IATG in line with AASTP. ◇ Clarifies difference between fragments and debris. ◇ Prevents fires spreading to PES. ◇ Storage sub-divisions are correctly defined enabling more accurate calculations of QDs. ◇ Non-ammunition terms explained. 	<ul style="list-style-type: none"> ◇ Allows better internal location of ammunition in different HDs and Storage Sub-divisions (SSD) to minimise OQD.

IATG module	Changes	Reason	Impact
05.30 Barricades (Traverses removed)	<ul style="list-style-type: none"> ◇ Electrically Initiated Device (EID) added. ◇ Warning sign added at annex E. 	<ul style="list-style-type: none"> ◇ Terms clarified, sign available for all users to copy. 	<ul style="list-style-type: none"> ◇ Guidance improved.
05.50 Vehicles and Mechanical Handling Equipment (MHE) in Explosives Facilities	<ul style="list-style-type: none"> ◇ Paragraph added on exhaust system modifications. 	<ul style="list-style-type: none"> ◇ Adds to safety measures where MHE are used. 	<ul style="list-style-type: none"> ◇ Safer use of vehicles within ASA.
05.60 Radio Frequency Hazards change to Hazards of Electromagnetic Radiation	<ul style="list-style-type: none"> ◇ Title changed from RFH to HEMR. ◇ Clarification of the scope of the module. ◇ EID from EED. ◇ New background paragraph. ◇ Additions throughout to simplify and clarify description. ◇ Paragraph added on emergency situations and a safety statement. ◇ New annex D, RF report. 	<ul style="list-style-type: none"> ◇ To better introduce and give background as to why RF generated energy (EM radiation) is a problem with ammunition. ◇ To inform on emergency situations and on safety measures from various sources. 	<ul style="list-style-type: none"> ◇ Clarity on dangers of electromagnetic radiation and the safety measures to be taken to protect ammunition.
06.10 Control of Explosive Facilities	<ul style="list-style-type: none"> ◇ Clarifications of contraband rules. ◇ Paragraphs on security, vetting, potential RF hazards (HEMR), excess buildings, ammunition marking and segregated storage amended for increased clarity. ◇ Clarification to entry control system and accounting for personnel in emergency. 	<ul style="list-style-type: none"> ◇ Safer and more secure ASA. ◇ Less possibility of theft or sabotage. ◇ Safer personnel in event of incident within an ASA. ◇ Easier identification of ammunition. 	<ul style="list-style-type: none"> ◇ Ammunition is safer and more secure. ◇ Personnel working within ASA are safer.

IATG module	Changes	Reason	Impact
06.20 Storage Space Requirements	<ul style="list-style-type: none"> ◇ Minor changes for clarity. 	<ul style="list-style-type: none"> ◇ Easier to plan storage. 	<ul style="list-style-type: none"> ◇ Guidance improved.
06.30 Storage and Handling	<ul style="list-style-type: none"> ◇ Added Guided Missile (GM) stacking. ◇ Clarifications and grammar changes. 	<ul style="list-style-type: none"> ◇ Adds measures to prevent GM and rockets travelling outside Explosive Store House (ESH), if initiated. 	<ul style="list-style-type: none"> ◇ Safer storage for population and ASA workers.
06.40 Explosives Packaging and Marking	<ul style="list-style-type: none"> ◇ Added how change in packaging also changes the HCC. ◇ Information on colour code differences from different countries of manufacturers. 	<ul style="list-style-type: none"> ◇ Improved clarity. 	<ul style="list-style-type: none"> ◇ Safer storage.
06.50 Specific changed to Special Safety Precautions (storage and operations)	<ul style="list-style-type: none"> ◇ Change of title. ◇ More on White Phosphorus (WP) stacking. ◇ WP equipment, first aid included in Annex C. ◇ Health hazards of Nitroglycerine (NG) included in annex D. ◇ Incidents and accidents included with reasons for their investigation. ◇ Low temperature warning details updated. 	<ul style="list-style-type: none"> ◇ Better details on dealing with chemical incidents. ◇ Better long-term health prospects for those working in ASA. 	<ul style="list-style-type: none"> ◇ Improved accident and health measures.
06.60 Works Services (Construction and Repair)	<ul style="list-style-type: none"> ◇ Moved paragraph on working within ASA. 	<ul style="list-style-type: none"> ◇ No change in content. 	<ul style="list-style-type: none"> ◇ Covers safety of all, including ASA workers, contractors, and local population.
06.70 Inspection of Explosives Facilities	<ul style="list-style-type: none"> ◇ Extra details on follow-up inspections. ◇ Annex F will be revised after V3 release. 	<ul style="list-style-type: none"> ◇ Ensures faults are remedied in accordance with recommendations. 	<ul style="list-style-type: none"> ◇ Safety and security issues with inspections are resolved.

IATG module	Changes	Reason	Impact
06.80 Inspection of Ammunition	<ul style="list-style-type: none"> ◇ Minor modifications to electric categories. ◇ To be re-numbered as 07.20. 	<ul style="list-style-type: none"> ◇ As a vital part of the surveillance regime, moved to Volume 7. 	<ul style="list-style-type: none"> ◇ Re-arranged order of modules to a logical progression.
07.10 Safety and Risk Reduction	<ul style="list-style-type: none"> ◇ Change of title to 'Ammunition processing operations - Safety and risk reduction'. ◇ Explosive hazard zones corrected. ◇ Removal of potentially dangerous instructions. ◇ New I&RI template and guide added. ◇ To be re-numbered as 07.30. 	<ul style="list-style-type: none"> ◇ Change from electrical category C to category B for possibility of explosive dust, category A added for explosive vapour. ◇ Unsafe, unplanned practice deleted. ◇ I&RI instructions now clear. 	<ul style="list-style-type: none"> ◇ Safer ammunition processing operations, potentially saving lives both within and outside the ASA.
07.20 Surveillance and Proof	<ul style="list-style-type: none"> ◇ Clarifications on shelf/service life, what surveillance is, who can do it. ◇ Ways to use ammunition instead of disposing. ◇ Added details on environmental monitoring. ◇ Added information on chemical degradation. ◇ Added information on tests on propellant. ◇ New annex C4 for I&RI. ◇ To be renumbered as 07.10. 	<ul style="list-style-type: none"> ◇ Users know that surveillance covers all aspects of ammunition inspection, testing and monitoring. ◇ Increased awareness of chemical testing. ◇ Clearer, more comprehensive information on propellant degradation. 	<ul style="list-style-type: none"> ◇ Better knowledge of ammunition stocks. ◇ Detection of potentially unsafe ammunition and components. ◇ Fewer ammunition items to destroy due to better stock control and maintenance.

IATG module	Changes	Reason	Impact
<p>08.10 Transport of Ammunition</p>	<ul style="list-style-type: none"> ◇ Removal of authority to pack ammunition in unauthorised method of packaging. ◇ Clarification on packaging and HCC. ◇ New section on transit hubs (harbour areas). ◇ New annex D on transport by road, cross referenced to ADR and Orange book. 	<ul style="list-style-type: none"> ◇ Instructions counter to UN regulations removed. ◇ To guide where it is safe and secure for ammunition carrying transport to stop. ◇ To reduce the need for road transport to seek for regulations outside the IATG. 	<ul style="list-style-type: none"> ◇ Safer carriage of ammunition. ◇ Transport hubs make local population safer and more secure. ◇ Fewer road transport incidents.
<p>08.20 Storage and Handling of Ammunition and Explosives at Airfields</p>	<ul style="list-style-type: none"> ◇ New module developed by USA and approved by the TRB. 	<ul style="list-style-type: none"> ◇ Instructions on storage of ammunition and explosives for military aircraft. 	<ul style="list-style-type: none"> ◇ Increased safety at airports and in aircraft.
<p>09.10 Security Principles and Systems</p>	<ul style="list-style-type: none"> ◇ Highlighting the importance of accounting as a security measure. ◇ Added paragraph on the importance of staff vetting and selection, adequate training, and recognition and rewarding of staff to foster honesty. ◇ Added info on use of combination locks and Intruder Detection System (IDS). 	<ul style="list-style-type: none"> ◇ Knowing what ammunition one holds is the basis of safe and secure management of the stock. ◇ Thorough vetting of employees reduces sabotage, theft and accidents. ◇ IDS systems and their correct use improve security. 	<ul style="list-style-type: none"> ◇ Well-managed ammunition results in increased safety and security within ASA and for local population.

IATG module	Changes	Reason	Impact
<p>10.10</p> <p>Demilitarisation and Destruction of Conventional Ammunition; title change to <i>Demilitarisation and destruction and logistic disposal of conventional ammunition</i></p>	<ul style="list-style-type: none"> ◇ Added details on demilitarisation and rationale for added 2 paragraphs from MOSAIC (2005). ◇ Cheaper demilitarisation options and reduced capital outlay may be attractive for states, donors, and operators. ◇ Modified disposal options table. ◇ Through-life management (TLM) mentioned as a cost-effective method of disposal. ◇ Commentary on the possibility of a high-order in demolition, hence large danger areas. ◇ Misfire wait times and safety and security aspects added in expanded Annex D. ◇ Added environmental concerns. ◇ Added consideration of local legislation which may be more prohibitive on activity. 	<ul style="list-style-type: none"> ◇ New title reflects the scope of the module. ◇ New demilitarisation options are less costly, attracting more widespread use, and result in reduced effects of ammunition disposal to environment. ◇ TLM significantly reduces the quantities of ammunition wasted. ◇ TLM and new demilitarisation options increase the safety of disposal personnel and population in vicinity. 	<ul style="list-style-type: none"> ◇ Better use of resources for defence. ◇ Less costly disposal of unsafe or shelf-life expired ammunition. ◇ Increased clarity of instruction on available methods of disposal. ◇ Safer disposal methods that are less harmful to environment.
<p>11.10</p> <p>Ammunition Accidents, Reporting and Investigation</p>	<ul style="list-style-type: none"> ◇ Combined with 11.20 to avoid repetition. ◇ Changed title. ◇ Expanded information on witnesses and outside expert agencies. ◇ Added relevant info and reasoning behind reporting and investigation of ammunition incidents to both a unit and an inspector. ◇ ND changed to accidental discharge. ◇ Difference between error OF drill and error IN drill emphasised. 	<ul style="list-style-type: none"> ◇ Clarify rationale for reporting. ◇ Clarify rationale for investigation. ◇ Include advice on how to interview witnesses. 	<ul style="list-style-type: none"> ◇ Better reporting of accidents and their investigation result in learning from mistakes and errors, in time resulting in safer ammunition.

IATG module	Changes	Reason	Impact
11.20 Ammunition Accident Investigation Methodology	<ul style="list-style-type: none"> ◇ Combined with 11.10 to avoid repetition. ◇ Changes as above. 	<ul style="list-style-type: none"> ◇ See 11.10. 	<ul style="list-style-type: none"> ◇ See 11.10.
11.30 EOD Clearance of Ammunition Storage Area Explosions	<ul style="list-style-type: none"> ◇ Added (warning) note to ensure coordination and clear division of labour in joint activities by ammunition specialist and EOD operator. ◇ Incorporated non-technical survey definition and instructions. ◇ Added information (warnings) about colour changes in ammunition, water contamination, sensitisation of exposed explosives, and harmful effects of explosive substances to humans. ◇ Removed included warning on use of contained burning as a clearance method. ◇ Added notes on safe-to-move inspections and criteria. ◇ Changed staff competencies for EOD. ◇ Added proof of Freed from Explosives (FFE). ◇ Altered forms for disposal and included new form for use of serviceable explosives. 	<ul style="list-style-type: none"> ◇ Ensures that personnel with correct technical qualifications and experience are used to plan and conduct the clearance of explosions within ASA. ◇ Inform on probable health hazards to reduce possible exposure. ◇ Remove dangerous practices. ◇ Improve system for FFE. ◇ Improve accounting system for destroyed ammunition and explosives recovered and used during clearance operations. 	<ul style="list-style-type: none"> ◇ Safer and more efficient clearance of areas contaminated by explosive hazards after an explosion in an ASA.

IATG module	Changes	Reason	Impact
<p>12.10 Ammunition in Multi-National Operations</p>	<ul style="list-style-type: none"> ◇ Added explanatory notes to emphasise the requirement for UN TCC to manage their ammunition safely and securely, thereby protecting both public and troops. ◇ TCN (nations) changed to TCC (countries). ◇ Added information and references on risk management. ◇ Clarification on storage inspection frequency and storage of recovered ammunition. ◇ Deleted modifications after 04.10 Field Storage. ◇ Added explanatory notes to inspection form. ◇ Changed Proof form to Certificate of safety, serviceability and adequate shelf life; explanation changed accordingly. 	<ul style="list-style-type: none"> ◇ The IATG in conjunction with UN instructions should ensure better ammunition management and accountability on the part of TCC. ◇ Improved forms for completion by TCC to certify the serviceability of their ammunition. 	<ul style="list-style-type: none"> ◇ Reduced chance of accidental explosions. ◇ Reduced chance of loss/theft of ammunition. ◇ Safer and more secure populace. ◇ Unsafe ammunition no longer left behind by TCC.
<p>12.20 Small Unit Ammunition Storage</p>	<ul style="list-style-type: none"> ◇ Clarification of the purpose of 12.20 in what can be stored (i.e. 1.2.2, 1.3.3, 1.4 but 1.1, 1.2.1, 1.3.1 only in an emergency, by the approval of relevant authority). ◇ Clarification on meaning of Small Unit Ammunition Storage i.e., for ready-use not operational ammunition; in close proximity to public; not designed for ammunition storage. ◇ Frequency of unit storage inspections increased, i.e. gap between reduced. ◇ 25kg licence, not 50kg. ◇ Removal of disposal section which is the responsibility for an EOD unit. ◇ Added explanatory notes to inspection form. 	<ul style="list-style-type: none"> ◇ Limits of HDs and NEQ that can be stored in a building (possibly in the midst of a populated area) which is not designed to store ammunition. This would be the case with police stations, guard rooms, sub-unit ready-use stores, and similar. ◇ Increase control and supervision of these stores by deploying frequent and regular inspections by technical personnel. ◇ Removal of instructions involving untrained personnel carrying out potentially dangerous actions. 	<ul style="list-style-type: none"> ◇ Safer populations without HD 1.1, 1.2.1 or 1.3.1 in populated areas. ◇ Less chance of unsafe practices and improved security due to increased control and supervision.

REFERENCES

LeBrun, E. (2020) Making Room for Improvement. Gender Dimensions of the Life-cycle Management of Ammunition. [Online] United Nations. Available from: <https://front.un-arm.org/wp-content/uploads/2020/10/gender-and-ammunition-web-1.pdf>. [Accessed 1st October 2021].

Small Arms Survey. (2019) Unplanned Explosions at Munition Sites (UEMS). [Online] Fact Sheet. <https://smallarmssurvey.org/sites/default/files/resources/SAS-Fact-Sheet-UEMS-October-2019.pdf>. [Accessed 1st October 2021].

United Nations General Assembly (2009). Problems arising from the accumulation of conventional ammunition stockpiles in surplus, A/RES/63/61. [Online] <https://undocs.org/en/A/RES/63/61>. [Accessed 1st October 2021].

United Nations General Assembly (2019) Problems arising from the accumulation of conventional ammunition stockpiles in surplus, A/RES/74/65. [Online] <https://undocs.org/A/RES/74/65>. [Accessed 1st October 2021].

United Nations Group of Governmental Experts on problems arising from the accumulation of conventional ammunition stockpiles in surplus (2021) Updated overview of the key considerations of the Group of Governmental Experts on problems arising from the accumulation of conventional

ammunition stockpiles in surplus established pursuant to General Assembly resolution 72/55, GGE/PACAS/2021. [Online] https://documents.unoda.org/wp-content/uploads/2021/07/GGE_PACAS_2021_6-2108193E.pdf. [Accessed 1st October 2021].

United Nations, "Securing Our Common Future. An Agenda for Disarmament". Action 22. [Online] <https://www.un.org/disarmament/sg-agenda/en/>. [Accessed 1st October 2021].

United Nations Security Council (2019) Small Arms and light weapons: report of the Secretary-General, S/2019/1011. [Online] <https://undocs.org/S/2019/1011>. [Accessed 1st October 2021].

United Nations Security Council (2019), S/RES/2476. [Online] [https://undocs.org/S/RES/2476\(2019\)](https://undocs.org/S/RES/2476(2019)). [Accessed 1st October 2021].

United Nations Security Council (2019), S/RES/2524 (2020). [Online] [https://undocs.org/en/S/RES/2524\(2020\)](https://undocs.org/en/S/RES/2524(2020)). [Accessed 1st October 2021].

United Nations, "UN SaferGuard. Securing ammunition, protecting lives". [Online] <https://unsafeguard.org/>. [Accessed 1st October 2021].

ENDNOTES

1. United Nations General Assembly (2019) Problems arising from the accumulation of conventional ammunition stockpiles in surplus, A/RES/63/61. [Online] <https://undocs.org/en/A/RES/63/61>. [Accessed 1st October 2021].

2. United Nations, "UN SaferGuard. Securing ammunition, protecting lives". [Online] <https://unsafeguard.org/>. [Accessed 1st October 2021].

3. The current composition of the TRB consists of experts from Austria, Bangladesh, Brazil, Canada, China, Germany, Singapore, South Africa, Switzerland and the United States with technical support provided by ex-officio member AMAT/GICHD.

4. Small Arms Survey (2019). Unplanned Explosions at Munition Sites (UEMS). [Online] Fact Sheet. <https://www.smallarmssurvey.org/sites/default/files/resources/SAS-Fact-Sheet-UEMS-October-2019.pdf>. [Accessed 1st October 2021].

5. United Nations General Assembly (2019) Problems arising from the accumulation of conventional ammunition stockpiles in surplus, A/RES/74/65. [Online] <https://undocs.org/A/RES/74/65>. [Accessed 1st October 2021].

6. United Nations Security Council (2019) Small Arms and light weapons: report of the Secretary-General, S/2019/1011. [Online] <https://undocs.org/S/2019/1011>. [Accessed 1st October 2021].

7. United Nations Security Council (2019), S/RES/2476 (2019). [Online] [https://undocs.org/S/RES/2476\(2019\)](https://undocs.org/S/RES/2476(2019)). [Accessed 1st October 2021].

8. United Nations Security Council (2019), S/RES/2524 (2020). [Online] [https://undocs.org/en/S/RES/2524\(2020\)](https://undocs.org/en/S/RES/2524(2020)). [Accessed 1st October 2021].

9. United Nations, "Securing Our Common Future. An Agenda for Disarmament". Action 22. [Online] <https://www.un.org/disarmament/sg-agenda/en/>. [Accessed 1st October 2021].

10. United Nations Group of Governmental Experts on problems arising from the accumulation of conventional ammunition stockpiles in surplus (2021) Updated overview of the key considerations of the Group of Governmental Experts on problems arising from the accumulation of conventional ammunition stockpiles in surplus established pursuant to General Assembly resolution 72/55, GGE/PACAS/2021. [Online] https://documents.unoda.org/wp-content/uploads/2021/07/GGE_PACAS_2021_6-2108193E.pdf. [Accessed 1st October 2021].

11. New modules are 01.35 and 08.20. Former modules 03.30, 03.40 and 03.50 were removed on the grounds of being outside the scope of the IATG's purpose to address the management of ammunition stockpiles.

12. Emilie LeBrun (2020), Making Room for Improvement. Gender Dimensions of the Life-cycle Management of Ammunition. [Online] United Nations. <https://front.un-arm.org/wp-content/uploads/2020/10/gender-and-ammunition-web-1.pdf>. See further in French and Spanish at <https://www.un.org/disarmament/gender-dimension-of-lcma/>. [Accessed 1st October 2021].



GICHD

AMAT - AN INITIATIVE OF THE GICHD AND UN SAFERGUARD

About AMAT Insights

AMAT Insights serves to analyse and clarify issues pertaining to safe, secure and sustainable ammunition management, and, in turn, provides a source of technical advice and guidance to state representatives, operational decision-makers and practitioners. AMAT Insights supports the dissemination and practical application of the International Ammunition Technical Guidelines (IATG) in context.

About AMAT

The Ammunition Management Advisory Team (AMAT) is a shared initiative of the Geneva International Centre for Humanitarian Demining (GICHD) and the United Nations Office of Disarmament Affairs (UNODA). AMAT is a response to the urgent need for practical, authoritative and sustainable technical support to states in the safe, secure and effective management of ammunition in accordance with the IATG. AMAT works to strengthen the capacities of states to improve the safety and security of ammunition stockpiles (in line with the IATG), thus contributing to the global reduction of the risk of accidental explosions and illicit diversion, ensuring safer communities and more stable states and societies.

AUTHORS:

Katherine Prizeman, John Rawson, Samuel Paunila

DESIGN AND LAYOUT:

www.acw.uk.com