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Stockpile management: Weapons

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MOSAIC
Good practices for safer societies.

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Foreword

What is MOSAIC?

MOSAIC translates into practice the objectives of key global agreements aiming to prevent the illicit trade, destabilizing accumulation and misuse of small arms and light weapons, including:

- the Programme of Action on the illicit trade in small arms and light weapons
- the International Tracing Instrument
- the Firearms Protocol supplementing the UN Convention against Transnational Organized Crime
- the Arms Trade Treaty.

MOSAIC modules are based on good practices, codes of conduct and standard operating procedures that have been developed at (sub-)regional levels. They were developed by the UN, benefitting from the very best technical advice from experts around the world.

MOSAIC is a completely voluntary toolkit.

MOSAIC supports the achievement of the Sustainable Development Goals, including Goal 16 to promote peaceful, just and inclusive societies and its target 16.4 that includes a significant reduction in illicit arms flows.

Who developed MOSAIC?

Governments often call upon the UN system to provide advice and support on issues related to small arms and light weapons control — including on legislative, programmatic and operational matters.

UN agencies decided that the best way to ensure that the United Nations as a whole could consistently deliver high-quality advice and support in response to such requests, was to develop international guidance on small arms and light weapons control, similar to the standards the UN developed in the areas of mine action (International Mine Action Standards – IMAS); disarmament, demobilization and reintegration (Integrated DDR Standards – IDDRS); and ammunition (International Ammunition Technical Guidelines – IATG).

The compendium is the result of a decade of coordinated work within the UN system, involving 24 partner entities with expertise ranging from development and weapons management to gender and public health. An external expert reference group of over 300 specialists, from NGOs to industry, completed the sturdy process of establishing each module.

Who can use MOSAIC?

MOSAIC can be used by any government or organization. Properly basing small-arms control endeavours on MOSAIC modules, reduces the risk of weapons falling into the hands of criminals, armed groups, terrorists and others who would misuse them.

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Introduction

One of the main sources of illicit small arms and light weapons are inadequately managed stockpiles, from which weapons leak, through loss and/or theft, into the illicit market.

Stockpile management of weapons is the term used to describe those procedures and activities that are necessary for the safe and secure accounting, storage, transportation and handling of small arms and light weapons.

The effective and efficient management of weapon stockpiles is, therefore, an essential element of any small arms and light weapons control programme, since it

- reduces the risk of loss and theft of weapons (and, thereby, their illicit proliferation), and
- can be used to identify obsolete and/or surplus weapons, as well as future procurement requirements.

The systematic control of weapon stockpiles is in keeping with a philosophy of ‘due care’ and requires that States take a pro-active, rather than a re-active, approach to ensuring that weapons are adequately accounted for and secured.

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Stockpile management: Weapons

1 Scope

This document provides guidance on the safe, secure, effective and efficient management of stockpiles of small arms and light weapons, in support of an overarching small arms and light weapons control programme. It is intended to assist in preventing the loss and theft of small arms and light weapons from government and other (e.g. manufacturer's) stockpiles.

This document does not cover the management of small arms and light weapons ammunition stockpiles, which is covered by the International Ammunition Technical Guidelines (IATG).[1]

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.

MOSAIC 01.20, *Glossary of terms, definitions and abbreviations*

MOSAIC 03.20, *National controls over the international transfer of small arms and light weapons*

MOSAIC 05.50, *Destruction: Weapons*

EN 12320, *Building hardware – Padlocks and padlock fittings – Requirements and test methods*

ISO 8271, *Door leaves – Determination of the resistance to hard body impact*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in MOSAIC 01.20, *Glossary of terms, definitions and abbreviations*, and the following apply.

In all MOSAIC modules, the words 'shall', 'should', 'may' and 'can' are used to express provisions in accordance with their usage in International Organization for Standardization (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

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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.

4 United Nations Framework

4.1 General

This document provides practical guidance on the implementation of commitments related to the stockpile management of weapons that are contained in United Nations multilateral instruments related to small arms and light weapons control.

4.2 UN Programme of Action

In the United Nations *Programme of Action to Prevent, Combat and Eradicate the Illicit Trade in Small Arms and Light Weapons in All Its Aspects* (UN Programme of Action), all UN Member States commit themselves

a) “To ensure, subject to the respective constitutional and legal systems of States, that the armed forces, police or any other body authorized to hold small arms and light weapons establish adequate and detailed standards and procedures relating to the management and security of their stocks of these weapons. These standards and procedures should, inter alia, relate to: appropriate locations for stockpiles; physical security measures; control of access to stocks; inventory management and accounting control; staff training; security, accounting and control of small arms and light weapons held or transported by operational units or authorized personnel; and procedures and sanctions in the event of thefts or loss” (section II, paragraph 17);

b) “To regularly review, as appropriate, subject to the respective constitutional and legal systems of States, the stocks of small arms and light weapons held by armed forces, police and other authorized bodies and to ensure that such stocks declared by competent national authorities to be surplus to requirements are clearly identified, that programmes for the responsible disposal, preferably through destruction, of such stocks are established and implemented and that such stocks are adequately safeguarded until disposal” (section II, paragraph 18);

c) “To encourage States to promote safe, effective stockpile management and security, in particular physical security measures, for small arms and light weapons, and to implement, where appropriate, regional and subregional mechanisms in this regard” (section II, paragraph 29);

d) “With a view to facilitating implementation of the Programme of Action, States and international and regional organizations should seriously consider assisting interested States, upon request, in building capacities in areas including […] stockpile management and security…” (section III, paragraph 6); and

e) “Regional and international programmes for specialist training on small arms stockpile management and security should be developed. Upon request, States and appropriate international or regional organizations in a position to do so should support these programmes. The United Nations, within existing resources, and other appropriate international or regional organizations should consider developing capacity for training in this area” (section III, paragraph 8).

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4.3 UN Firearms Protocol

States party to the *Protocol against the Illicit Manufacturing of and Trafficking in Firearms, Their Parts and Components and Ammunition*, *supplementing the United Nations Convention against Transnational Organized Crime* (UN Firearms Protocol) are required to

a) "take appropriate measures […] To require the security of firearms, their parts and components and ammunition at the time of manufacture, import, export and transit through its territory" (Article 11).

5 General

The guidelines, principles and methodology outlined in this document should be incorporated into the strategic, operational and detailed mission planning phases involved in the development of a small arms and light weapons control programme.

The technical methodology outlined in this document has the potential to have a strong positive impact on programme success in preventing the loss and theft of small arms and light weapons from government and manufacturer stockpiles and their subsequent illicit proliferation.

6 Stockpile composition

The total national stockpile of small arms and light weapons – understood as all small arms and light weapons (including their parts, components and ammunition) designated for use by armed services of the State – should comprise a number of smaller function-specific stockpiles, including

a) **operational weapons:** Necessary to support the routine training and operations of military, police, and other State security agencies during internal security operations, peace support operations, external conflict or war;

b) **operational replacement weapons:** Necessary to replace

   1) lost weapons,

   2) weapons under repair or maintenance,

   3) anticipated weapon losses during future operations (or as a general buffer stock).

c) **reservist weapons:** Necessary to support the training and operations of reservist military, police, and other State security agencies during internal security operations, external conflict or war;

d) **training weapons:** Necessary to support the initial training of military, police, and other State security agencies at training establishments;

e) **experimental weapons.** Usually very small numbers of weapons used in trials and in the development of new systems; and

f) **weapons awaiting disposal:** Weapons that are surplus to requirements.

In addition to the national stockpile are commercial stocks of small arms and light weapons (production weapons**)**, i.e. weapons that have been produced and that are awaiting sale under the control of a (usually civilian) manufacturer.

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NOTE Production weapons may be available to the military during war, but would not form part of the operational reserve, as their availability cannot be guaranteed.

7 Stockpile locations

7.1 General

Stockpiles of small arms and light weapons should usually be located close to where they are needed on a regular basis, although this will be dependent on national defence and security policies. Accepted principles of stockpile dispersion between different sites may be applied, although this should be reviewed on a regular basis, and especially during restructuring processes.

NOTE National stockpiles of small arms and light weapons are usually dispersed between a number of sites in order to ensure survivability of a proportion of weapons in the event of catastrophic accidents, fire, sabotage or a pre-emptive strike at the onset of conflict.

7.2 Stockpile location parameters

7.2.1 Centralized and decentralized stockpiles

States should determine which weapons are to be concentrated in a central stockpile or divided among a number of appropriately located local stockpiles. Stockpile locations may vary depending upon national policy and the types of security forces that are required to hold weapons.

The following function-specific types of small arms and light weapons may be divided among a number of appropriately located local stockpiles:

a) operational weapons

b) training weapons

c) production weapons

Weapons awaiting disposal should be concentrated as much as possible in a central stockpile.

NOTE This depends, however, on the specific circumstances. For instance, if weapons are to be destroyed and there is capacity at the provincial level for destruction, it might be preferrable not to transfer such weapons into a central stockpile.

7.2.2 Stockpile location determinants

When determining the location of stockpile facilities, the following factors should be taken into account

a) location-based risks and hazards (established by a risk assessment, see Clause 8);

b) requirements for access to the weapons stored;

c) the estimated time it would take for external security assets and external firefighters to deploy in the event of a major incident at the storage location;

d) local planning and environmental issues;

e) local infrastructure; and

f) the number of security personnel required at a specific location.

EXAMPLE Locations with natural defensive (physical security) features such as rivers or caves will have a lower requirement for security staff than a facility located within an inhabited area.

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8 Stockpile risk assessment

Stockpile risk assessments fulfil three core functions for the planning and management of stockpiles, namely

a) informing the selection of a suitable location for a new stockpile facility;
b) determining the physical security requirements and therefore the appropriate security systems to equip or refurbish a stockpile facility;
c) reviewing whether the security systems of stockpile facility remain adequate if risk factors change.

Therefore, risk assessments shall be carried out

a) at all locations where it is planned to stockpile weapons;
b) at all facilities where weapons are stockpiled.

Risk assessments should be conducted by competent technical experts, supported by ammunition technical experts if explosives are stockpiled.

Risk assessments should be renewed as changing circumstances require.

A risk assessment should examine where a stockpile is located. For existing or already planned stockpile facilities, the risk assessment should examine the security systems. The risk assessment should determine the risks faced by the facility and by the people in and around it, including

a) any physical threat posed by the weapons to the local population;

NOTE This is unlikely to be the case for small arms, but some light weapons that contain explosive components, such as MANPADS, will present explosive hazards. Guidance on stockpile management for small arms and light weapons ammunitions can be found in the International Ammunition Technical Guidelines (IATG). For guidance on safety distances, see IATG 02.20.

b) active hazards (i.e., human-made hazards) to the security of weapons and the frequency of such hazards, including the attractiveness and vulnerability of a facility to an internal or external attack or malicious tampering with the facility and its contents such as espionage, theft, loss, sabotage and terrorist attack. This should take into account

    a. the financial value of the facility and its contents;

    b. the ease of access to the stockpile location for external actors (e.g. based on the terrain surrounding the facility and its proximity to urban centres and public roads);

EXAMPLE Locations with natural defensive (physical security) features such as rivers or caves will make access (e.g., an attack) more difficult and usually less likely.

c) passive hazards and their frequency (e.g. natural disasters such as floods, earthquakes, fires, etc);

The information collected from a stockpile risk assessment should be used to establish stockpile management priorities in a cost-effective and secure manner. This will allow residual risk to be kept to a minimum.

In addition, a risk assessment should determine the risk posed by a stockpile facility to nearby populations.

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9 Stockpile physical security (depot storage)

9.1 Principles of physical security

The following outlines the principles of physical security that shall be applied to large-scale weapons storage areas (depots) holding hundreds or thousands of weapons (for guidance on small-scale (unit) storage, see Clause 10). The reminder of Clause 9 deals with these principles in detail.

a) Requirements for physical security systems shall be derived from an effective stockpile risk assessment and should be appropriate for the risks identified (see Clause 8);

b) physical security should be built into new storage facilities at the design stage;

c) weapons should be stored separately from ammunition;

d) particularly hazardous weapons (e.g. MANPADS) should be disassembled and essential components stored in different locations (unless required for current operational needs);

e) an effective perimeter security infrastructure shall be in place (see Clause 9.10);

f) access shall be controlled at all times (see Clause 9.8);

g) access shall be restricted to authorized personnel only;

h) only trusted individuals who have received security clearance, shall be nominated as authorized personnel to work within the facility;

i) personnel working in a weapons storage area shall receive appropriate training – including in the applicable security regulations, standard operating procedures and security plan – and should have their training refreshed at regular intervals; and

j) temporary personnel should be accompanied at all times.

9.2 Aim of physical security

No secured facility is impervious to a determined attack or to theft/diversion from within. The aim of stockpile physical security is to

a) deter and reduce any attempted incursions or internal thefts;

b) thwart any attempted security breach;

c) immediately detect a security breach or threat;

d) assess the scale of any security breach or threat;

e) increase the time needed to illegally remove weapons from storage areas; and

a) allow security personnel to respond and take appropriate action.

9.3 Development of physical security systems

9.3.1 Physical security requirements

Physical security requirements are the set of minimum standards and protective measures that a stockpile storage site needs to meet to provide a reasonable level of security for the weapons and other stored assets against unauthorized access, theft, or misuse, based on the anticipated risks.

Physical security requirements should exist for each stockpile depot storage location.

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The following considerations should be taken into account when determining the physical security requirements for each location:

a) the type of weapons and other assets to be protected;

b) the role of the weapons storage location;

c) the value of weapons and other assets (whether monetary or in terms of utility to illicit users) to be protected;

NOTE Assets refers to anything besides weapons that is stored in the stockpile facility.

d) the threats to those weapons and other assets, (see Clause 8);

e) the desired level of protection against such threats, which shall include a cost/benefit analysis; and

f) any design constraints imposed by the organization storing the weapons.

9.3.2 Physical security components

The following components, dealt with in the following clauses, should form part of a physical security system:

g) security regulations (Clause 9.4);

h) standard operating procedures (SOP) (Clause 9.5);

i) security plan (Clause 9.6);

j) staff vetting and selection (Clause 9.7);

k) access control (Clause 9.8);

l) physical security of buildings and structures (Clause 9.9); and

m) physical security of perimeter (Clause 9.10).

9.4 Security regulations

Comprehensive security regulations governing the stockpiling of small arms and light weapons shall exist in the form of legislation, regulatory or statutory instruments. These regulations should be promulgated, taking into account the provisions of this module.

Such regulations should be as clear and uncomplicated as possible and should not impose disproportionate administrative or financial burdens on those responsible for ensuring the security of small arms and light weapons stockpiles.

Security regulations should be

a) published as a legal document;

b) freely available to all appropriate personnel and imparted to them through training;

c) clear for those responsible for ensuring the security of stockpiles;

d) comprehensive and consistent, with no legal or operational contradictions;

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e) applicable to all stockpiles of small arms and light weapons within the State; and

f) regularly reviewed and updated.

9.5 Standard operating procedures

Security regulations, which are a legislative and regulatory issue, should be underpinned by detailed standing operating procedures that set out clear operational activities and responsibilities.

All personnel working at a weapons storage area should be trained in the application of the standard operating procedures.

Specific standard operating procedures should be developed for each individual weapons storage location. They should contain, at a minimum, the following information:

a) the scope of the instructions;

b) the individual official in charge of the location (professional title, physical location within the facility and telephone number);

c) details of any generic security threats;

d) the appointments and telephone numbers / call signs of all those at the location with security responsibilities (including security officers, safety officers, armaments officers, transport officers, stores officers, accounting officers etc);

NOTE Appointment in this context refers to the official role or position someone holds in the security structure. The SOP should list: the roles/positions (e.g., Security Officer, Armaments Officer) along with their contact details (telephone numbers, radio call signs) so that anyone consulting the SOP knows who holds which security responsibility and how to reach them immediately.

e) the individual terms of reference (i.e., scope of duties, tasks, and authority) for each role with security responsibilities, written in simple and unambiguous language);

f) the access control policy;

g) the policy for the control of security keys;

h) inventory and accounting procedures;

i) security procedures to be followed in the different areas of the weapons storage facility;

j) actions to be taken on the discovery of incursion, theft, loss or accounting inconsistencies; and

k) actions to be taken in response to alarms.

9.6 Security plan

A security plan is essential to the effective management of small arms and light weapons stockpiles and shall be based on the requirements of the security regulations (see Clause 9.4). A written security plan shall be developed for each stockpile location.

All staff members working at a stockpile location shall be familiar with the security plan and with their specific role in it.

Security plans may differ depending on local requirements. Annex A contains a model for a security plan outline, which provides guidance on the content of a security plan.

The security plan should be updated regularly to reflect changing circumstances and requirements. It should be updated as threats change or reviewed every three years.

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Security classification of the plan shall be the responsibility of the designated security officer at the weapons storage facility.

9.7 Staff vetting, selection and employment

Physical security and weapons inventory systems are vulnerable to failure should staff not accept their responsibilities and/or fail to follow standard operating procedures. Inadequately paid, trained and motivated staff are more likely to be involved in malfeasance, including laxity in carrying out duties, being susceptible to bribery, or even active involvement in the theft of weapons.

Standard processes shall be in place for the recruitment and selection of staff working at weapons storage facilities. These processes should be gender responsive.

All staff working at weapons storage facilities shall undergo a security vetting, before the commencement of service at the facility and at periodic intervals during their service, ensuring they do not possess a criminal record and are suitable for their appointment.

NOTE 1 Personnel may already have undergone security vetting prior to being assigned to duties at a weapons or ammunition storage facility. If that vetting remains current and is appropriate to the level of access granted, no additional vetting would be required.

NOTE Security vetting is a process used to perform background checks on an individual's suitability for a particular appointment. It normally consists of confirming an individual's identity and detecting associations with criminal elements, associations that may cause a conflict of interest, and associations through which improper pressure could be brought to bear on the employee.

Furthermore, staff shall

a) receive adequate training (especially in carrying out standard operating procedures and in the implementation of the security plan) on the commencement of service and at regular intervals during service; and

b) receive a fair wage that allows them to provide for at least the basic physical, educational and health needs of themselves and their families.

9.8 Access control

9.8.1 Keys

Keys to all areas and devices that store or secure small arms and light weapons – including buildings, containers, racks, intruder detection systems, etc. – shall be stored separately from other keys and shall not be left unsecured or unattended at any time.

Such keys shall be accessible only to authorized personnel whose duties require them to have access to the weapons. The local authority responsible for weapons security within the facility should maintain a regularly updated roster of authorized personnel (custodians).

The number of such keys shall be kept to the minimum possible, but master keys shall not be used.

9.8.2 Combinations (for combination locks)

The combinations (codes) to combination locks shall be dealt with in the same manner as keys (see Clause 9.8.1).

Combinations should be changed at regular intervals and when security personnel are rotated out of an area secured with combination locks.

Combinations should be held in sealed envelopes by the security office as well as in secure computer systems.

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Every facility or container that is secured with a combination lock shall have a record of access (recording name, date and time) prominently displayed on its door.

9.8.3 Entry to weapons storage areas

Access to weapons storage areas shall be controlled at all times and only authorized personnel shall be allowed access.

Strict personnel and vehicle access control shall be established for all areas storing small arms and light weapons.

Personnel employed by and based at the weapons storage area, and whose duties require them to have access to the weapons, may be issued with a standing authorization to do so. Such an authorization shall remain valid only for as long as their duties require them to have access to the weapons. A record of such standing authorizations shall be retained indefinitely by the authority responsible for weapons security. Officials not employed by and based at the weapons storage area shall require authorization, in writing, from the authority responsible for weapons security, for each entry to a weapons storage area. The following details of each such visit shall be recorded and retained indefinitely by the authority responsible for weapons security:

a) name, address and contact details;

b) job title;

c) reason for visit;

d) date of visit; and

e) time of entry into and exit from the weapons storage area.

Vehicles and individuals should be subject to random inspection and search upon entry into and exit from weapons storage areas.

Anyone else shall be accompanied at all times, even if they have been given authorization to have access to the weapons.

9.9 Physical security infrastructure for buildings and structures

9.9.1 Buildings

The structure of a building that stores small arms and/or light weapons, (normally referred to as an armoury), shall be robust enough to minimize the possibility of forced entry through its walls, roof/ceiling, floor, windows and doors/gates.

9.9.1.1 Walls

Written requirements, instructions, or guidance should exist for the construction of walls for an armoury.

The walls of an armoury should be constructed to one of the following specifications:

a) solid reinforced concrete of 250mm minimum thickness;

b) walls of solid bonded brickwork or masonry of 325mm minimum thickness; or

c) cavity walls of dense concrete block, brick or stone, not less than 275mm excluding the cavity.

If the armoury is built using cavity walls, the construction should be an external leaf of 100mm and an internal leaf of 175mm minimum thickness.

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An existing solid reinforced concrete, bonded brick/masonry or cavity wall that does not comply with a-c above should be reinforced in one of the following ways:

d) increase the internal leaf material thickness to provide a wall of 275mm minimum thickness; or

e) in the case of solid bonded brickwork or masonry, additional material bonded to the existing thickness to produce a wall of not less than 325mm; or

f) fitting of a substantial internal wire mesh reinforcement of not less than 2.3mm thickness, and of 50mm by 20mm maximum mesh size to be fixed either

    1) directly to the wall at 300/400mm centres with mild steel washers and proprietary fixings or resin anchors. Each sheet should be butt jointed; or
    2) to steel angle frame of not less than 50mm by 50mm by 3mm with cross rails at not more than 1.2 metre centres to form an internal lining cage.

9.9.1.2 Roof/Ceiling

Written requirements, instructions, or guidance should exist for the construction of roof/ceiling for an armoury.

The roof or ceiling of an armoury should be constructed to one of the following specifications:

a) solid reinforced concrete of 150mm minimum thickness, tied into the walls. Where this forms the roof of a building, the concrete may be sloped to assist in draining of water. In this case, the thickness at the roof edge shall not be less than 120mm;

b) vaulted brickwork or masonry, providing a ceiling of solid materials of not less than 300mm thickness;

c) in the case of an existing roof/ceiling:

An existing solid reinforced concrete or vaulted brick/masonry roof/ceiling that does not comply with a-c above should be reinforced in one of the following ways:

d) upgrading by reinforced concrete to give a resistance comparable with a) above; or

e) fitting of a substantial internal wire reinforcement of not less than 4.5mm thickness and of 50mm by 20mm maximum mesh size, secured to the floor joists using washers or proprietary steel clips held by screws of not less than 10 gauge giving a penetration into timber of at least 60mm at not more than 300mm centres. The reinforcing should be laid so that the mesh, when reaching the edges of the ceiling/roof is either

    1) folded down and secured to the walls with masonry or other heavy duty fixings; or

    2) welded onto steel angle frame that is secured to the wall with masonry or other heavy-duty fixings.

9.9.1.3 Floor

Written requirements, instructions, or guidance should exist for the construction of a floor for an armoury.

The floor of an armoury should be constructed to one of the following specifications:

a) solid reinforced concrete of 150mm minimum thickness, tied to the walls. Where this forms part of the floor for any other part of the premises, this required thickness need extend only as far as is necessary to ensure the integrity of the bond between walls and the floor of the armoury; or

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b) vaulted brickwork or masonry, providing a floor of solid materials of not less than 300mm thickness; or

c) in the case of an existing concrete, brickwork or masonry floor, by the provision of suitable upgrading to ensure that the provisions in a and b above are met; or

d) in the case of an existing suspended timber floor:

1) fitting of a sheet steel flooring, not less than 3mm in thickness, secured to the joists of the floor by screws of not less then 10 gauge giving a penetration into timber of at least 60mm at not more than 300mm centres; or

2) fitting of a substantial internal wire reinforcement of not less than 2.3mm thickness, and of 50mm by 20mm maximum mesh size.

3) The sheet steel overlaid by timber flooring should be of not less than 18mm thick and secured to the floor joists by screws of not less than 10 gauge giving a penetration into the joist timber of at least 60mm at not more than 300mm centres.

4) The mesh, when reaching the edges of the floor should be either folded up and secured to the walls with masonry or other heavy duty fixings; or welded onto a steel angle frame that is secured to the wall with masonry or other heavy duty fixings.

Any adaptation of existing floors shall not compromise the strength of the structure, existing timbers or supports.

9.9.2 Doors and gates

Doors and gates that provide access to areas where small arms and light weapons are stored shall be robust enough to prevent forced entry. Specifically,

a) doors should be made of steel or of solid hardwood with steel on the outside face;

b) door and gate frames should be rigidly anchored so as to prevent disengagement of the lock bolt by prying or jacking the doorframe;

c) door and gate hinges should be located on the inside and should be of the fixed pin type security or equivalent;

d) doors and gates shall be secured with high security padlocks.

Further guidance on the resistance capacities and requirements of doors, gates and other building components may be found in

e) ISO 8271, *Door leaves – Determination of the resistance to hard body impact;* and

f) LPS1175, *Specification for testing and classifying the burglary resistance of building components, strong points and security enclosures*.

9.9.3 Windows

Windows and other openings in weapons storage buildings shall be kept to a minimum and shall be equipped with security bars or grilles equipped with appropriate locks.

9.9.4 Locks and padlocks

Locks and padlocks used on the doors and gates of weapons storage buildings should be compliant with relevant national or regional standards.

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NOTE 2 One widely used example is locks complying with grade six of EN 12320, Building hardware – Padlocks and padlock fittings – Requirements and test methods.

9.9.5 Intrusion detection systems

Buildings and structures used to store small arms and light weapons should be fitted with appropriate intrusion detection systems. Such systems should be fitted to all doors, windows and other openings. Interior motion or vibration detection systems may also be employed.

9.9.5.1 Alarm detection and response time

All alarm signals from intrusion detection systems should be received at a central control or monitoring station from which a response force can be dispatched. The response force should be capable of reaching the site of the alarm no later than 15 minutes after it is triggered.

9.9.5.2 Records and tests

A daily record should be maintained of all alarm signals received. This record should be reviewed regularly in order to identify and correct problems with the reliability of the intrusion detection system. The daily record should contain information on the alarm signal received, including the

a) cause of the alarm, (e.g. illegal entry, system failure, nuisance (e.g. triggering by wind, animals, etc.) etc.);

b) date, time and location of the alarm;

c) personnel involved in the response; and

d) action taken in response to the alarm.

Intrusion detection systems should undergo a comprehensive test at least every 3 months in order to ensure the proper functioning of the alarm sensors, as well as all other components of the system.

9.9.6 Weapon storage racks

All small arms and light weapons inside weapons storage areas that are not packed in transport cases or other containers should be individually stored in weapons storage racks in order to facilitate counting, inventory management and the detection of theft.

In weapons storage areas that are not equipped with intrusion detection systems (see Clause 9.9.5), weapons should be secured to the storage rack by chains or steel cables secured with padlocks.

Weapons storage racks, which may be locally manufactured, should be constructed and installed in such a way as to prevent easy removal of the whole rack. Bolts should be used to secure storage racks to the wall and/or floor and should be spot-welded or otherwise secured in order to prevent their easy removal.

9.10 Physical security infrastructure for the perimeter

9.10.1 Perimeter security fencing

9.10.1.1 General

All facilities used to stockpile small arms or light weapons shall be surrounded by a fence or wall in order to provide a barrier and to identify the boundary of the protected or restricted area.

Written requirements, instructions, or guidance should exist for the construction of fences.

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The level of protection offered by a fence or wall depends on its height, type of construction, and the material used to increase its performance or effectiveness (e.g. topping, PIDS, lighting or closed-circuit television).

The type of fence used should reflect the type of threat faced (e.g. terrorist, criminal, vandalism, etc).

Fences are graded from Class 1 to Class 4 according to the level of protection they provide, with a Class 1 fence providing the least and a Class 4 fence providing the most protection.

The effectiveness of any security barrier depends to a large extent on the level of security at the points of entry. Gates shall be constructed at least to the same security standard as the fence through which they provide access; and strict access control shall be maintained at all times.

The number of pedestrian and vehicular access gates through the perimeter fence shall be kept to a minimum, consistent with operational requirements.

Signs should be displayed prominently on all approaches to the perimeter in order to indicate to unauthorized persons that they are approaching a restricted area to which access is prohibited. If appropriate, such signs should also indicate the presence of armed guards and guard-dogs.

9.10.1.2 Class 1 security fencing

A Class 1 security fence provides minimum security and is at least 1.5m high. It is intended only to mark a boundary and will delay a determined intruder only for a short time.

NOTE The picture (right) shows a standard BS 1722 Part 10 chain link fence, approximately 2.9m high constructed with chain link fabric and a barbed wired topping. Supporting posts may be either reinforced concrete or tubular steel. Chain link does not host intruder detection systems well due to the nature of its construction.



Picture 1: Class 1 security fencing

9.10.1.3 Class 2 security fencing

A Class 2 security fence is an anti-intruder fence that offers a degree of resistance to climbing and breaching by an opportunistic, unskilled intruder using material and breaching items that are readily to hand.

A Class 2 security fence should be supported by other perimeter security systems such as PIDS or CCTV.

NOTE The picture (right) shows a standard BS 1722 Part 10 Anti-Intruder fence, 2.9m high constructed with welded mesh fabric and a barbed wire topping.



Picture 2: Class 2 security fencing

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9.10.1.4 Class 3 security fencing

A Class 3 security fence is an intermediate security barrier designed to deter and delay a resourceful intruder who has access to a limited range of hand tools. The design and construction provide resistance to attempts at climbing and breaching. A Class 3 security fence offers a good balance between delay to intrusion and cost.

A Class 3 security fence should be supported by other perimeter security systems such as PIDS and CCTV.

NOTE The picture (right) shows an Intermediate Security Welded Mesh Fence. This fence complies with BS 1722 Part 14. The fence is 4m high and has a barbed tape concertina topping. It is constructed using narrow aperture welded mesh to resist climbing and cutting.



Picture 3: Class 3 security fencing

9.10.1.5 Class 4 security fencing

A Class 4 security fence is a high-security barrier designed to offer the maximum deterrence and delay to a skilled, determined and well-equipped intruder. It is designed and constructed to offer a high degree of resistance to a climbing and breaching.

A Class 4 fence shall be supported by other perimeter security systems, e.g. closed-circuit television and an intruder detection system.

Class 4 security fences provide the highest level of deterrence and delay to intrusion, but are expensive to construct.

NOTE The picture (right) shows a High Security Welded Mesh Fence. This fence is based on BS 1722 Part 14, is 4.8m high including barbed taped concertina topping, and is constructed using narrow aperture welded mesh with an additional layer up to 3m.



Picture 4: Class 4 security fencing

9.10.1.6 Clear zones

Zones clear of vegetation should be established and maintained for a minimum for 4m inside a security fence and 10m outside a security fence (real estate permitting).

9.10.1.7 Drainage

Drainage structures and water passages that penetrate the perimeter security fence shall have a cross-sectional area not greater than 0.25m^2.

Access to drainage structures and water passages that have a cross-sectional area of more than 0.25m^2 shall be blocked at both ends by security bars or grilles.

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9.10.1.8 Perimeter illumination

Exterior and interior perimeter illumination shall be of sufficient intensity to allow detection of attempted intrusion by the guard force.

All points of access through the perimeter should have direct illumination from above.

Light switches shall be installed in such a manner as to be accessible only to authorized personnel.

An automatic backup generator and power system shall be employed for high risk and high value weapons storage sites.

The perimeter illumination system should be located inside the perimeter fence where it will be difficult to sabotage or destroy. The light should be directed slightly outwards in order to improve the night vision of the guard force inside the perimeter, while impeding that of persons outside the perimeter.

9.10.2 Perimeter intrusion detection systems (PIDS)

Stockpile facilities should use appropriate Perimeter Intrusion Detection Systems (PIDS) based on the threat faced and the resources available.

PIDS is a generic term that covers a wide range of technologies designed to provide advance warning of an intruder gaining access to a secure area.

All detection systems should strike a balance between detection capability (sensitivity) and unwanted or nuisance alarm rates. By their nature PIDS are designed to operate in a less favourable environments than internal intruder detection systems (see Clause 9.9.5).

Perimeter fences around buildings and structures used to store small arms and light weapons should be fitted with appropriate PIDS. All alarm signals from such systems should be received at a central control or monitoring station from which a response force can be dispatched. The response force should be capable of reaching the site of the alarm no later than 15 minutes after it is triggered.

The suitability and performance of a specific PIDS will depend not only on the intrinsic characteristics of the technology employed, but also on operational requirements, the specific conditions of the site on which it is deployed and other constraints that will be placed on its operation. For this reason, specialist technical advice should be sought before a PIDS is procured.

A PIDS shall not operate in isolation, but as part of an integrated security system including physical measures such as

a) fences and walls,

b) visual surveillance systems

c) perimeter illumination; and.

d) integration with site security procedures and the guard force.

9.10.2.1 PIDS types

A range of PIDS types may be considered for deployment, including

a) buried detection systems;

b) fence mounted systems;

c) electric fence systems;

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d) field effect systems;

e) continuity monitoring systems;

f) free standing systems;

g) taut wire systems; and

h) rapid deploy systems.

The range of systems available and of variables involved in their deployment means that it is not realistic to provide a cost estimate until the system requirements have been determined.

9.10.2.2 PIDS records and tests

Records and testing of PIDS should be carried out in accordance with Clause 9.9.5.2.

9.10.3 Visual surveillance systems

Visual surveillance may be used to increase the effective range and area of ground covered by the security staff, thereby minimizing staff requirements.

Technology is available that can provide both day, low-light and night coverage, but such technology should not be used to replace an appropriate level of physical presence by security staff.

Visual surveillance systems, usually closed-circuit television (CCTV), may be used to

a) cover all gates, doors, perimeters and interiors of weapons storage facilities;

b) provide constant, real time monitoring; and

c) record activity for review in the event of loss or theft.

Available camera systems technology, which can be supported by a range of data transmission technologies, includes

d) normal visible light range;

e) low light capable; and

f) Infrared.

The requirements of Clause 9.9.5.2 for records and tests should also apply to visual surveillance systems.

9.10.4 Patrols and dogs

A guard and response force (which may include military, police or civilian security personnel) should check the security integrity of weapons storage areas during non-duty hours on both regularly prescribed and on random occasions. These checks should be recorded and records maintained for a minimum of 90 days.

Security staff should be properly trained and equipped to perform their duties in accordance with the appropriate standard operating procedures.

Trained working dogs may be used to support the guard and response force.

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10 Physical security (unit storage)

10.1 General

Smaller-scale storage of small arms and light weapons at the local level (e.g. in police stations, military barracks or manufacturing facilities) requires different protection systems to those outlined in Clause 9 for larger-scale depot storage.

NOTE Physical security of weapons at the unit level in police stations and military barracks is facilitated by the fact that the facility is more compact, it is usually occupied 24 hours a day and 7 days a week, more personnel (often armed) are present, and such facilities already have security systems in place to control access.

Physical security of weapons under such circumstances should be achieved by the use of an armoury, a secure room or, for small locations, a secure cabinet.

Physical security should be built into new storage units at the design stage.

10.2 Armouries

National guidelines and standards should define requirements for the physical security of armouries. Guidance on the construction requirements of armouries may be found, e.g., in paragraphs 42-75 of Annex A to the UK Firearms Security Handbook[2] or in other relevant national or regional guidelines and standards.

Weapons may be stored in a separate armoury building within the perimeter of the unit.

10.3 Secure rooms

National guidelines and standards should define requirements for the physical security of secure rooms. Guidance on the construction requirements of secure rooms may be found, e.g., in paragraphs 29-41 of Annex A to the UK Firearms Security Handbook or in other relevant national or regional guidelines and standards.

Weapons may be stored within a secure room inside a unit building.

10.4 Secure cabinets

National guidelines and standards should define requirements for the physical security of secure cabinets. Guidance on the construction requirements of secure cabinets may be found, e.g., in BS7558, *Specification for gun cabinets*, and in Annex C of the UK Firearms Security Handbook or in other relevant national or regional guidelines and standards.

Weapons may be stored in secure cabinets inside a unit building.

11 Weapons accounting

Weapons accounting refers to the systematic recording, tracking, and verification of all weapons in a national inventory. It ensures that each weapon is registered from acquisition to disposal. It is furthermore a system of assigning accountability for all weapons in the national inventory.

[2] http://www.homeoffice.gov.uk/publications/police/operational-policing/firearms-handbook-2005/firearms-security-handbook?view=Binary

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11.1 Inventory management

11.1.1 General

Inventory management is a fundamental component of stockpile management. It assists in detecting loss or theft of weapons from stockpiles and facilitates the identification and disposal of surplus weapons. Effective inventory management should be a priority for all States.

National authorities shall maintain an integrated accounting system for the national inventory of stockpiles. The accounting system shall contain the following information, which shall be determined by national authorities (with the assistance, in the case of production weapons, of manufacturers):

a) the number of weapons being held within the national stockpile;

b) detailed information on the weapons, matching the data in local weapons accounts (see Clause 11.1.3), i.e., each weapons'

   a. make;

   b. model;

   c. calibre;

   d. serial number;

   e. country of manufacture or most recent import;

   f. current holding unit and location;

   g. the date entered into account;

   h. the date the weapon was transferred to another storage location; and

   i. the weapon's record of modifications and/or repairs

c) the physical location of weapons stockpiles;

d) the condition of weapon stockpiles; and

e) the designation of the weapons (see the categories set out in Clause 6).

The above information should be contained in a national database, which should be collated and controlled by an established national authority. The database should be centralized.

NOTE Such an inventory forms the basis for an effective weapon stockpile management system and allows national authorities to maintain an overview of individual weapon locations; future weapon procurement and supply requirements; weapon movements; and requirements for weapon disposal.

11.1.2 Separation of powers

Checks and balances should be put in place to ensure that personnel involved in the management of small arms and light weapons stockpiles do not simultaneously hold responsibilities that would make it easier for them to steal or otherwise divert weapons while hiding their malfeasance from view. For example,

a) the same personnel should not be responsible simultaneously for conducting storekeeping, accounting and auditing functions;

b) personnel responsible for physically verifying the transfer of weapons should not be responsible for compiling the physical records of the weapon transfers;

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c) Personnel responsible for weapons accounting should not participate in stock checks without the direct supervision of storage personnel;

NOTE This procedure will help to ensure that law-abiding personnel are better protected from blame should a loss or theft occur.

d) Regular external audits of weapons stocks should be carried out by independent bodies.

11.1.3 Local weapons account

A *local weapons account* is the facility-level inventory ledger (whether in electronic form or on paper) for all weapons stored on the premises.

A weapons account shall be maintained at each weapon storage facility. It shall record the following information for each weapon in storage:

a) make;

b) model;

c) calibre;

d) serial number;

e) country of manufacture or most recent import;

f) current holding unit and location;

g) date entered into account;

h) date transferred to another storage location;

i) record of modifications and/or repairs; and

j) overall quantity of weapons, disaggregated by type.

The weapons account should be in electronic form but may be in hard copy.

Whatever form it takes, the weapons account shall be backed up. Backups should be in both electronic and hard copy, but may be only in hard copy.

Whatever form the backups takcopy buthall be stored separately from the original and from each other in order to prevent the loss of all data in the event of theft, fire, etc. at the weapons accounting office.

When a weapon leaves storage, e.g., by being sold, transferred, destroyed or demilitarized, the record shall be retained in the local weapons account for at least 20 years after the weapon left the stockpile, and should be retained indefinitely. The method and date of disposal shall be recorded.

The information contained in the local weapons account should be entered into the national database, either automatically as part of an integrated system, or otherwise manually. The national database should be updated in a timely manner, as feasible, whenever the local weapons account is updated. The information contained in the weapons account and in the national database shall match.

11.1.4 Forensic records

Every firearm leaves unique microscopic markings on the surface areas of fired bullets and cartridge cases; in other words a ballistic fingerprint. Current ballistics technology makes it possible to share and compare thousands of ballistic exhibits in a matter of hours using the following systems.

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11.1.4.1 Integrated Ballistic Identification System (IBIS)

As part of the weapons account, forensic records may be maintained for each weapon in the national stockpile. The Integrated Ballistic Identification System (IBIS) can be used to obtain such records and can be a powerful tool for combating gun crime.

NOTE IBIS is used to laser scan spent bullets and cartridge cases. The system digitally records the unique marks made on each bullet/cartridge case by the rifling, firing pin and extractor. When bullets or cartridge cases are subsequently recovered from a crime scene they can be laser scanned by IBIS, which provides a list, in order of statistical probability, of records in the IBIS database that match the bullet/cartridge case recovered from the crime scene. IBIS is a particularly powerful tool that becomes more effective the more the database is populated. The system allows for the exchange of data with other States also using IBIS, hence facilitating cross-border criminal investigations. Data protection is assured within the system, as each record for each weapon/bullet/cartridge case is held under a unique identification barcode. Data on individuals to which the barcode refers to are kept in a separate database. Administrative procedures then require judicial approval before the barcode number is matched to an individual.

11.1.4.2 INTERPOL Ballistic Information Network (IBIN)

The INTERPOL Ballistic Information Network (IBIN) is a platform of the International Criminal Police Organization (INTERPOL) for the large-scale international sharing and comparison of ballistics data. It connects those member countries or territories that use Integrated Ballistic Identification System (IBIS) technology.

Just as fingerprint data can link crimes and criminals across international borders, so now can the international sharing of ballistic data. IBIN can show connections between separate crimes that would otherwise have gone undetected. Over time, it is anticipated that the analysis of the shared ballistic data will reveal illicit firearms trafficking routes and provide police with critical information about firearms traffickers and other violent criminals.

11.1.5 Storage management

The daily management of the storage facility will be determined by the type of unit, its organization and local procedures. The following general points should be followed, however:

a) weapons should be stored together by type, as this assists the inventory management process;

b) in large-scale weapons storage areas, weapons shall be stored separately from ammunition;

c) in large-scale weapons storage areas, particularly hazardous weapons shall be stored as primary packaged;

d) locks securing crates, containers, cabinets, racks, etc. containing weapons should be sealed with official, tamper-disclosing tape or other materials in order to reduce the need to open them during stock checks (see Clause 11.1.7).

11.1.6 Issue of weapons

Only authorized officials shall remove small arms and light weapons from storage areas.

A system to positively identify and authenticate persons authorized to remove weapons from storage areas shall be developed and implemented.

Such a system should include a register or log, which can be easily cross-referenced with the weapons account, that records at least the following information:

a) name and signature of individual removing weapon(s);

b) date and time of issue and return of weapon(s);

c) make, model and serial number of weapon(s) removed and returned; and

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d) purpose of removal of weapon(s).

11.1.7 Stock checks

The contents of weapons stocks shall be verified on a regular basis against the local weapons account (see Clause 11.1.3). Specifically,

a) a physical stock check by quantity and type of weapons should be conducted

   1) every day in the case of smaller volume unit storage (see Clause 10), and

   2) every week in the case of larger volume depot storage (see Clause 9);

b) a physical stock check by serial number should be conducted on at least 10% of the weapons in stock

   1) every week in the case of smaller volume unit storage, and

   2) every month in the case of larger volume depot storage;

c) a 100% physical stock check by quantity, type and serial number should be conducted

   1) every 6 months, regardless of the quantity of weapons in storage, and

   2) whenever the custody of keys is permanently transferred between an in-coming and out-going key custodian (see Clause 9.8.1).

11.2 Reporting of losses and investigations

Any suspected loss or theft of a weapon shall immediately be reported to the appropriate authority, which should immediately instigate an independent investigation by an individual or organization unconnected with the weapons management system.

An investigation report should be compiled, including the following information:

a) identity of the weapon, including its

   1) make,

   2) model,

   3) calibre,

   4) serial number, and

   5) country of manufacture or most recent import;

b) date, location and unit involved;

c) summary of circumstances of loss;

d) explanation of loss (e.g. negligence, theft, etc.);

e) disciplinary and/or criminal action taken;

f) recommendations to prevent a reoccurrence;

g) date and location of recovery of the weapon(s) (if applicable);

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h) summary of circumstances of recovery (if applicable)

The identity of lost or stolen weapons, as set out in (a) above, shall be recorded and retained for at least 20 years by an appropriate national authority in order to facilitate their timely identification upon recovery.

When processing inventory adjustments, no weapons loss shall be attributed to an accounting or inventory discrepancy unless an investigation has determined that the loss was not a result of theft.

12 Determination of surplus stocks

12.1 General

It is the prerogative of States to determine the types and numbers of small arms and light weapons that are required by their security forces for the purpose of achieving internal and external security.

National stockpiles of small arms and light weapons shall be reviewed on a regular basis with a view to determining the types and numbers of weapons that have become surplus to national requirements.

Surplus stocks are understood as functioning small arms and light weapons (including their parts, components and ammunition) in the national stockpile that are no longer required by the armed services of the State in order to ensure internal and external security.

Weapons determined to be surplus to national requirements should be

a) officially declared as surplus to national requirements;

b) recorded as surplus to national requirements in the weapons account (see Clause 11.1.3) and in the national database (see Clause 11.1.1);

c) taken out of service;

d) stored separately (see Clause 6); and

e) disposed of, preferably through destruction, in accordance with MOSAIC 05.50, *Destruction: Weapons*.

12.2 Planning criteria

In order to identify surplus small arms and light weapons, it is essential that national authorities determine the national requirements for small arms and light weapons, i.e., the types and numbers of small arms and light weapons required by their security forces.

National defence and security strategies or policies typically provide the basic planning assumptions that determine military, policing and security tasks, the operational concepts and hence the size, organizational structure and equipment requirements of the security forces.

Stockpile surpluses commonly occur and should be identified when

a) there are major changes to the national security and defence strategy or policy (due, for example, to changes in the threat, political or financial landscapes , technology etc.);

b) reform of the security sector involves the restructuring and/or downsizing of organizations routinely holding weapons;

c) major organizational changes are made to security forces;

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d) weapons fail to reach desired performance requirements;

e) re-equipment programmes make weapons obsolete or obsolescent; or

f) when the acquisition of weapons is not based on clear parameters for equipping security forces.

12.3 Parameters for equipping security forces

In determining the types and quantities of small arms and light weapons required in a national stockpile, authorities typically consider the following parameters:

a) the number of personnel in the security forces that are required to use small arms or light weapons;

b) the organization of the security forces;

c) the equipment needs of the security forces, based on capability requirements;

d) current holdings of small arms and light weapons and their effectiveness for future tasks, (e.g. can operational weapons be transferred to reservist weapons?); and

e) available financial resources.

12.4 Calculation of weapons requirements

The calculation of requirements for small arms and light weapons may be based on the matrix contained in Annex B, although this matrix will require amendment by States to include specific weapon types and enhancement factor levels.

13 Transport of weapons

13.1 General security requirements

The following general principles should be applied to the transport of small arms and/or light weapons:

a) Prior to each transport operation, a risk assessment of the operation shall be carried out in order to determine the required level of security. The following considerations should inform the risk assessment:

    1) the quantity of weapons to be transported;

    2) the types of weapons to be transported;

    3) the amount of time the weapons will be in transport;

    4) the number of times the weapons will need to be loaded/unloaded/reloaded; and

    5) expectation of security incidents along the proposed transport route, based on previous experience and analysis of the prevailing situation.

b) Transport agents, airlines, road or rail haulage or shipping companies shall not be used if they

    1) have been named in UN Sanctions Committee monitoring group reports, or

    2) are known by national authorities to have previously been associated with the illicit trade in small arms, light weapons or other illicit trafficking;

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c) If civilian contractors are used to transport weapons by road, sea, rail or air, procedures for authorization, security, monitoring and inspection of (1) each individual transport and (2) the contractors themselves should be put in place beforehand.

d) weapons should be transported separately from ammunition;

e) boxes or crates containing small arms or light weapons should be secured and sealed prior to loading into transport containers (e.g. freight containers, trucks, etc.);

f) Weapons shall be transported in locked and sealed transport containers. The locks of such containers shall meet the requirements of Clause 9.9.4;

g) End-opening and side-opening weapons containers shall be placed door-to-door during transport (i.e. end-to-end and side-to-side, respectively).

h) shipments shall be checked upon receipt and, where possible, during transit to ensure that the locks and seals of containers are intact. If indications of theft, tampering or damage are found, an immediate stock check shall take place to determine whether a loss has occurred, in accordance with Clause 11.2;

i) weapons that are transported together with other goods shall be placed in the rear of containers, behind non-sensitive items, in order to reduce the opportunity for theft; and

13.1.1 Road transport

The transport of small arms and light weapons by road may be conducted by marked or unmarked military vehicles, (including armoured vehicles) or by civilian contractors.

Civilian transport contractors should be equipped with protection systems, (e.g. alarm systems on vehicles and/or electronic tracers in boxes) and should be monitored by police or guarded by military or security forces, depending on the findings of the risk assessment (see Clause 13.1(a)).

Transport routes should be planned in advance and information concerning these routes should be treated as classified. The routes taken by regular transports or weapons between two locations should be varied and should be reviewed regularly.

In order to provide additional security during road transportation, weapons may be partially dismantled and essential components transported in separate vehicles.

13.1.2 Sea transport

Prior to transport by sea, the consignor of the weapons should liaise with the master of the transport vessel to agree the most appropriate location(s) for weapons containers in the vessel stow plan.

Containers of non-sensitive items should be used to block any remaining accessible doors to weapons containers.

Weapons should be shipped on vessels that offer a direct voyage to the destination port in order to reduce the possibility of the weapons being offloaded en-route, either in error or by criminal design.

13.1.3 Rail transport

Barriers on rail cars should be used to prevent access to side-opening containers.

13.1.4 Air transport

The transport of small arms and/or light weapons by air may be conducted by military aircraft or by civilian contractors / transport agents.

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NOTE Civilian air transport agents are individuals or organizations, such as cargo companies or air freight agencies, that arrange the transport of weapons from the point of dispatch to their final destination. They may use leased or chartered freighter aircraft with hired aircrews.

Civilian air transport agents shall obtain the necessary over-flight authorization from the countries over which the weapons are to be transported.

Detailed flight and routing plans should be charted and overseen by the appropriate national authority of the exporting state to ensure adherence to flight plans and security en-route.

Weapons should be transported on aircraft that offer a direct flight to the destination airport, in order to reduce the possibility of the weapons being offloaded en-route, either in error or by criminal design. Refuelling stops only may be permitted.

Transport agents or airlines that have been named in UN Sanctions Committee monitoring group reports shall not be used.

13.2 Documentation

Each transport operation should be accompanied by cargo documentation / freight papers. Hand-over / take-over protocols requiring verification and signatures upon receipt of goods should be in place in accordance with MOSAIC 03.20, *National controls over the international transfer of small arms and light weapons*.

Annex A
(informative)

Model for a security plan[3]

A.1 General

The following is an indicative list of subjects that should be covered in a security plan related to the stockpile management of small arms and light weapons:

a) Name, location and telephone number of the establishment security officer.

b) Scope of the plan.

c) Content and value of the stocks.

d) The generic security threats.

e) Detailed geographic map of the site location and its surroundings.

f) Detailed diagrams of the layout of the site, including all its buildings, entry and exit points, and of the location of all features such as electricity generators/substations; water and gas main points; road and rail tracks; wooded areas; hard and soft-standing areas etc.

g) Outline of physical security measures for the site, including but not limited to details of

    1) fences, doors and windows;

[3] Taken from the OSCE “Best Practice Guide on National Procedures for Stockpile Management and Security.” FSC.GAL/14/03/Rev.2 of 19 September 2003.

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2) lighting;

3) intrusion detection systems (IDS);

4) perimeter intrusion detection systems (PIDS);

5) automated access control systems;

6) guards;

7) guard dogs;

8) locks and containers;

9) control of entry and exit of persons;

10) control of entry and exit of goods and material;

11) secure rooms;

12) hardened buildings; and

13) Closed circuit television (CCTV).

h) Security responsibilities (including but not limited to the following personnel, as applicable):

1) security officer;

2) safety officer;

3) armament officer;

4) production manager;

5) transport officer;

6) heads of department;

7) stores/supply officers;

8) foreman in charge of operations/accounting/movement;

9) workers; and

10) all personnel authorized to have access to the site.

i) Security procedures to be followed in production/process areas; storage areas, servicing; processing; trials; quality assurance; climatic and other tests as well as further activities in respect of weapon stockpile management.

j) Control of access to storage and processing rooms, buildings, structures and areas.

k) Procedures for handling and transport of weapons.

l) Control of security keys – those in use and their duplicates.

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m) Accounting – audits and stock checks.

n) Security education and briefing of staff.

o) Action on discovery of loss/surplus.

p) Details of response force arrangements (e.g. size, response time, orders, activation and deployment).

q) Action to be taken in response to activation of alarms.

r) Action to be taken in response to emergency situations (e.g. fire, flood, raid etc).

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Annex B
(informative)

Weapon requirement calculation matrix (example)

B.1 General

The matrices below may be used to assist in the calculation of national stockpile requirements for small arms and light weapons, as well as in the identification of surpluses.

The matrices contain example calculations to illustrate the use of the matrices. The example data used is fictional and is not based on any specific security force. The example data is only partially completed in each matrix, for illustrative purposes only.

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Matrix 1 – Estimation of national weapons stockpile requirement

Serial	Specific stockpile function	Individual weapons[4]			Crew served weapons[5]			Weapons for equipments[6]			Total weapon requirement
		Number of personnel	Enhancement factor[7]	Sub total (c) x (d)	Number of crews	Enhancement factor	Sub total (f) x (g)	Number of equipments	Enhancement factor	Sub total (i) x (j)	(e) + (h) + (k)
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
1	**Operational weapons**	65,000									
1a	9mm Pistol	20,000	1.25	25,000	0	0	0	0	0	0	25,000
1b	5.56mm Assault Rifle	65,000	1.4	91,000	0	0	0	0	0	0	91,000
1c	12.7mm HMG	0	0	0	4,000	1.4	5,600	290	1.5	435	6,035
2	**Reservist weapons**	140,000									
2a	9mm Pistol	20,000	1.25	25,000	0	0	0	0	0	0	25,000
2b	5.56mm Assault Rifle	140,000	1.4	204,000	0	0	0	0	0	0	204,000
2c	12.7mm HMG	0	0	0	1,000	1.4	1,400	30	1.5	45	1,445
3	**Operational and war reserve weapons [8] [9]**			0			0	0	0	0	Included in above Serials (1) and (2).
4	**Training weapons**			0			0	0	0	0	Included in above Serials (1) and (2).
5	**Experimental weapons**			25			20			100	145
6	**Production weapons**			1,000			100			500	1,600
7	**Weapons awaiting disposal**			2,500			500			300	3,300
8	**Totals**	205,000		348,525	5,000		7,620	320		1,380	357,525

[4] For example, pistols, assault rifles or light machine guns (LMG).
[5] For example, heavy machine guns (HMG) or mortars.
[6] For example, armoured fighting vehicle (AFV) pintle mounted machine guns.
[7] This is a factor that may be used to allow for training weapons and operational reserve weapons. It shall be determined by the State holding the stockpile. Enhancement factors used in this matrix are for illustrative purposes only. If used, then Serials 3 and 4 should not also be used.
[8] Usually calculated as a percentage of operational and reservist weapons by the use of the enhancement factor.
[9] Number of training equipments should be entered in cells 3(i) and 4(i).

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Information developed in Matrix 1 is then transferred to Matrix 2,[10] which estimates total requirements for each weapon type and possible surplus stocks.

NOTE Data for Serials 4 to 7 would also require breakdown by weapon type as well as by specific function.

Matrix 2 – Estimation of total stockpile requirement by weapon type and possible weapon surpluses

Serial	Weapon type	Specific stockpile function	Individual weapon requirement	Crew served weapon requirement	Weapons for equipments	Sub total	Total weapon requirement	Current stockpile[11]	Possible surplus
						(d) + (e) + (f)	Sum (g) column for each weapon		(i) – (h)
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
1a		Operational weapons	25,000	0	0	25,000			
1b		Reservist weapons	25,000	0	0	25,000			
1c		Operational and war reserve weapons	0	0	0	0			
1d	**9mm Pistol**	Training weapons	0	0	0	0	50,000	53,221	3,221
1e		Experimental weapons	0	0	0	0			
1f		Production weapons	0	0	0	0			
1g		Weapons awaiting disposal	0	0	0	0			
2a		Operational weapons	91,000	0	0	91,000			
2b		Reservist weapons	204,000	0	0	204,000			
2c		Operational and war reserve weapons	0	0	0	0			
2d	**5.56mm Assault Rifle**	Training weapons	0	0	0	0	295,000	265,000	-30,000[12]
2e		Experimental weapons	0	0	0	0			
2f		Production weapons	0	0	0	0			
2g		Weapons awaiting disposal	0	0	0	0			
3a		Operational weapons	0	5,600	435	6,035			
3b		Reservist weapons	0	1,400	45	1,445			
3c		Operational and war reserve weapons	0	0	0	0			
3d	**12.7mm HMG[13]**	Training weapons	0	0	0	0	12,525	44,000	31,475
3e		Experimental weapons	25	20	100	145			
3f		Production weapons	1,000	100	500	1,600			
3g		Weapons awaiting disposal	2,500	500	300	3,300			
		TOTALS	348,525	7,620	1,380	357,525	357,525	332,221	4,696

[10] This can be done automatically using standard spreadsheet software features.
[11] Example only.
[12] This would indicate that procurement action may be necessary.
[13] It has been assumed that the totals for Experimental, Production and Awaiting Disposal weapons in Matrix 1 are all 12.7mm HMG. This is obviously very unlikely to be the case.

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