

PROPELLANT POWDERS



EXPLOSIVE



Licensed storage of emergency devices, black powder and propellant powder – self-audit guide

April 2017



Government of **Western Australia**
Department of **Mines and Petroleum**
Resources Safety

Introduction

Under dangerous goods legislation, ensuring the safety and security of persons from stored explosives is the primary responsibility of the explosive storage licence holder. This self-audit guide is designed to assist licence holders with their legislative responsibilities.

Scope of audit

The audit guide is intended for indoor storage [especially portable indoor magazine(s)] of licensable quantities of Schedule 6 explosives:

- Ammunition propellant and black powder (including storage with ammunition)
- Emergency devices (e.g. flares)
- Model rocket motors
- Smoke generators

Why is self-auditing important?

Self-auditing is a “health check” for your storage facility and should enable you to identify safety and security gaps and take effective corrective actions. Completing this audit will assist in demonstrating compliance with the legislative requirements.

Using this self-audit tool

This tool refers to the explosive storage requirements under the applicable dangerous goods legislation or prescribed Australian Standard AS 2187.1 *Explosives – Storage, transport and use – Storage*. These requirements have been referenced and grouped into key areas for ease of use.

- Placarding and signage
- Magazine and storage of explosives
- Safe storage – separation and segregation
- Management and operations
- Audits and documentation
- Incidents, investigations and emergency planning

Guidance in the form of questions and supporting information has been provided to assist the licence holder in achieving best practice. An audit summary template is also available to assist in the recording of an audit.

Though every effort has been made, this self-audit guide is not exhaustive and explosive storage licence holders should conduct a specific review of dangerous goods legislation and other state and national legislation (as applicable) to ensure compliance. Where deficiencies are identified by a licence holder, it is recommended that they are rectified as soon as is practicable.

Legislation

Dangerous Goods Safety Act 2004 (DGSA)

Dangerous Goods Safety (Explosives) Regulations 2007 (DGSE)

Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007 (DGSH)

AS 2187.1 *Explosives – Storage, transport and use – Storage* (prescribed standard)

Note: The only authorised versions of the Act and regulations are those available from the State Law Publisher (www.slp.wa.gov.au), the official publisher of Western Australian legislation and statutory information.

Guidance

- Standards Australia, www.standards.org.au
AS 1851 Maintenance of fire protection systems and equipment
AS 2187.1 Explosives – Storage, transport and use – Storage
- Safework Australia, www.safeworkaustralia.gov.au
Australian Code for the Transport of Explosives by Road and Rail (AE Code), Third Edition

Department of Mines and Petroleum

- Dangerous goods safety publications, www.dmp.wa.gov.au/Safety/Dangerous-goods-safety-16164.aspx
Storage of explosives – guidance note
Reporting dangerous goods incidents – guideline
Explosives management plan – guide
Explosives management plan – template
Meaning of ‘controlled by other person’ for security purposes – information sheet
Security requirements for the management of explosives – information sheet
- Reporting incident involving dangerous goods, www.dmp.wa.gov.au/Dangerous-Goods/Reporting-incidents-involving-7640.aspx
Dangerous goods incident report – form
- Security clearances, www.dmp.wa.gov.au/Dangerous-Goods/Applying-for-a-dangerous-goods-7642.aspx
- Unwanted marine flares, www.dmp.wa.gov.au/What-to-do-with-unwanted-marine-3209.aspx

Self-audit guide

Item No.	Requirements	Guidance information	Response			Reference	
			Y	N	NA	Legislation	AS 2187.1
Placarding and signage							
1	"HAZCHEM" placards are required to be displayed at the perimeter entrances to the site.	Is there signage at entrance and exit points to the property?				DGSE rr. 34(1), 34 (2); DGSH r. 71, Schedule 4 cl. 2	
		Is the sign clean, unobstructed, clearly legible and separate from other signs or writing?					
2	Sign or writing stating "EXPLOSIVES" must be displayed to identify the location of magazines storage rooms so that it is visible from exterior door.	Is the sign visible and legible from the exterior door?				DGSE r. 90(1)	Section 2.2.1(b)
		For safety, is the room where the explosives magazine is held also marked with "EXPLOSIVES" or a class diamond?					
3	Inside the entrance to any room there is a notice stating the kinds and quantity of explosives licensed to be stored in the room.	Does the product and its quantity reflect what you are licensed to hold?				DGSE r. 93(2)	
		For example, you could use your explosives storage licence and highlight the quantities and magazine <i>(see Item Nos 8 and 19)</i> .					

Item No.	Requirements	Guidance information	Response			Reference	
			Y	N	NA	Legislation	AS 2187.1
4	The indoor portable magazine is marked appropriately with "EXPLOSIVES" as well as its content.	Does the magazine have marking as appropriate: <ul style="list-style-type: none"> on the lid or door written in red on a white background "EXPLOSIVES", with letters no less than 75 mm high a suitable description such as "PROPELLANT POWDERS", "BLACK POWDER", "FLARES" or "DISTRESS SIGNALS" in red letters not less than 25 mm high. 				DGSE rr. 34(3), 74(2)(b)(i)	Section 2.1.3
		A Class 1 label may be displayed on the magazine.					
Magazine and storage of explosives							
5	Explosives are stored safely in a secure container or room as required by AS 2187.1.	Are your explosives secured in the magazine or storage room?				DGSE Schedule 10 cl. 4(2)(c)(ii), r. 74	Sections 3.4, 3.5
		Safety and power device cartridges not in the original package must be stored in a magazine.					
6	The magazine construction complies with requirements of AS 2187.1 Section 2. The magazine:					DGSE r. 90(1)	Sections 2.1.8 – 2.2.2, 2.2.3.2
	<ul style="list-style-type: none"> is painted inside and out 	Is the magazine painted a light colour inside and out? This improves visibility, allows spillage to be seen and helps prevent seepage into wood.					Sections 2.1.8, 2.2.2 (e)
	<ul style="list-style-type: none"> has a close fitting lid or door that overlaps the opening 						Sections 2.2.2(b), 2.2.3.2(d)

Item No.	Requirements	Guidance information	Response			Reference	
			Y	N	NA	Legislation	AS 2187.1
	<ul style="list-style-type: none"> is secured with a steel hasp, staples and hinges except when storing black powder where copper, copper alloy or non-ferrous is required 						Sections 2.2.2(b), 2.2.3.2
	<ul style="list-style-type: none"> is fitted with a six lever 'safe lock', or a padlock with a restricted key system, or lever padlock with a minimum of five levers 	Does the magazine have a high security lock with secured keys to prevent access by unauthorised persons?					Section 2.1.10
	<ul style="list-style-type: none"> is constructed of water-resistant plywood no less than 19 mm thick OR steel or aluminium sheeting, no less than 0.8 mm or 1.1 mm thick respectively, which is wood-lined 	Wooden boxes insulate from heat and protect from fire, and prevent friction-generated sparks.					Sections 2.2.2(a), 2.2.3.2(b)
		Is the magazine constructed to allow pressure to escape?					
	<ul style="list-style-type: none"> has internal screws and nails which are countersunk and the holes filled (i.e. no exposed ferrous material). 	To prevent sparks.					Sections 2.2.3.2(a), 2.2.3.2(c)
7	Licensee's name and address must be on the inside of each indoor portable magazine.	Is the writing legible?				DGSE r. 34(3)	Section 2.1.3
Safe storage — separation and segregation							
8	The explosives to which the licence relates are held at the place stated in the licence.	Is the magazine in the place you said it was on the licence?				DGSE r. 90(3)	
9	Only quantities of explosives < 50 kg can be stored in one magazine or in one room.	<i>Note: Quantities 50 kg and above would be in breach of the licence conditions and have large separation distances to associated works.</i>				DGSE r. 90(3)	Tables 3.2.3.2, 3.2.4.3
10	A separation (> 10 m highly recommended) is required between magazines and Class 1.4 explosives.	This is to prevent propagation.				DGSE r. 90(3)	Section 3.2.6
		<i>Note: Separation may be measured around a fire-rated wall.</i>					

Item No.	Requirements	Guidance information	Response			Reference	
			Y	N	NA	Legislation	AS 2187.1
		Ammunition (1.4S) may be kept within 10 m of a magazine but should not hinder emergency response (be within 5 m).					
11	The magazine is stored in a locked room, not in the way of emergency exits, but easily removed in case of emergency (e.g. fire).	Is the magazine in a dry, cool, secured area?				DGSE rr. 90(1), 90(4)	Sections 2.2.1, 4.6.5.2
12	There is a separation > 5 m from combustible goods, flammable solids, gases and liquids, or classified Class 8 (corrosive substance and articles).	Magazine is kept clear of Class 8 dangerous goods (e.g. batteries).				DGSE r. 38	Sections 2.2.1, 4.6.5.2
		Magazine is kept clear of combustible materials.					
13	There is a separation > 8 m to ignition sources from where explosives are being handled or stored. This includes operations or equipment which could produce sparks, heat, friction, impact or flame.	Examples of equipment include mobile telephones, hearing aids, cameras and non-flame proof torches.				DGSE r. 37	Section 4.1.1
14	Provide an appropriate portable fire extinguisher(s).	Is the fire extinguisher (e.g. dry powder, water) readily accessible and adjacent (e.g. 3 – 10 m) to each magazine to protect it from external fire?				DGSE r. 90(4)	Section 4.1.3 (also refer to AS 1851)
		Has the fire extinguisher been serviced within the last six months and is it fully charged?					
Management and operations							
15	A licensee may authorise persons to have supervised and unsupervised access to explosives. Individuals with unsupervised access (i.e. qualified officer, secure nominee) require: <ul style="list-style-type: none"> a current security clearance (e.g. dangerous goods security card, written authorisation) 	Does the qualified officer or secure nominee have a security clearance (e.g. dangerous goods security card, letter of authorisation) which is available for inspection?				DGSE rr. 23(1), 23(2)	

Item No.	Requirements	Guidance information	Response			Reference	
			Y	N	NA	Legislation	AS 2187.1
	<ul style="list-style-type: none"> suitable training (to the satisfaction of the licensee) to safely handle the explosive. 	Are the training records available?					
		<i>See Item Nos 22 and 23.</i>					
16	The management of the magazine (e.g. magazine rules) must comply with AS 2187.1 Section 4 or alternative safety measures.	Have procedures (e.g. magazine rules) been drafted for the operation of the magazine?				DGSE r. 90(4)	Section 4.6.1
		Are the rules prominently displayed inside the magazine or otherwise available?					
		An example of magazine rules include: <ul style="list-style-type: none"> magazine identification number type and quantity of explosives permitted no smoking or other ignition sources within 8 m explosives to remain in approved packages lock magazine when unattended authorised persons only to access magazine complete inventory and stocktake records. 					Appendix J
17	The magazine is kept secure (closed and locked) except when opened for use by the qualified officer or secure nominee of the licence holder.	Is the magazine kept locked when not required or attended?				DGSE rr. 52, 90(1), 94	Sections 2.2.2(c), 4.6.3
		Is the area in which the magazine is stored secured when unattended by an authorised person?				DGSE rr. 52, 90(4), 94	Section 4.6.5.2
18	A licence holder keeps the means of unlocking a magazine secure from any person other than a secure nominee of the licence holder.	Are the keys appropriately secured (e.g. digital key safe) or kept in the care of an authorised person?				DGSE rr. 52, 94(2)(b), Schedule 10 cls. 4(2)(e), 4(2)(f)	Section 4.6.3(b)
		Are the keys not accessible by unauthorised persons?					

Item No.	Requirements	Guidance information	Response			Reference	
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Audits and documentation							
19	A copy of the explosives storage licence must be kept with the magazine.	Is your licence available on site or displayed at the entrance to the room holding the indoor portable magazine(s) [see Item No. 3]?				DGSE r. 93(1)	
20	A copy of the material safety data sheet (MSDS), also known as a safety data sheet (SDS), for each explosive stored must be easily accessible (to any person handling the explosive or a person treating someone injured when handling the explosive).	Do you have current MSDS for each explosive stored on site?				DGSE r. 93(3)	
21	There is written authorisation for a secure nominee.	Does the authorisation letter provide the following details: <ul style="list-style-type: none"> • date on which authorisation was given • name and residential address of the individual • each type of explosive in the licence to which the person may have unsupervised access • where and when that person may have access • other conditions imposed by the licence on the individual in relation to unsupervised access. 				DGSE r. 23(3)	
		There should be a signed statement, preferably on the same form, stating the individual understands the authorisation e.g. "Do you understand the above conditions?".				DGSE r. 23(4)(b)	

Item No.	Requirements	Guidance information	Response			Reference	
			Y	N	NA	Legislation	AS 2187.1
22	A record of secure nominee must be kept while they are in that role and for two years thereafter.	Do you have a record book with the secure nominee's: <ul style="list-style-type: none"> name and residential address valid security card details, which have been held while a secure nominee <p><i>Note: if no security card then the details of the valid security clearance from another Australian jurisdiction and date of residency within Western Australia.</i></p> <ul style="list-style-type: none"> cancellation date of unsupervised access authorisation. 				DGSE rr. 23 (2), 23(3), 23(4)(b), 24	
		A copy of each unsupervised access authorisation (i.e. written authorisation) [see Item No. 21].					
		Training records for the safe handling of the unsupervised explosive should be kept (see Item No. 15).					
23	A record of qualified officer must be kept while they are in that role and for two years thereafter.	Do you have a record book with the qualified officer's: <ul style="list-style-type: none"> personal details and date of birth position held in the body corporate or partnership details of their security clearance. 				DGSE r. 165(4)	
		Training records for the safe handling of the unsupervised explosive should be kept (see Item No. 15).					
		<i>Note: Applies to body corporates or a partnership that holds the explosives storage licence and must be done for at least one of their qualified officer(s).</i>					

Item No.	Requirements	Guidance information	Response			Reference	
			Y	N	NA	Legislation	AS 2187.1
24	A written inventory must be kept for the place to which the storage licence relates.	Records must be kept for a minimum of two years.				DGSE rr. 92(1), 92(2)	Section 4.7
		Does the inventory record the following:				DGSE r. 92(2)	Section 4.7
		<ul style="list-style-type: none"> the required details (description including commercial name) of each explosive received or dispatched 					
		<ul style="list-style-type: none"> date and time of each receipt or dispatch 					
		<ul style="list-style-type: none"> or each dispatch, the name and address of the person to whom the explosive was dispatched, and the person's licence details or authority to possess the explosive (if a licence was required) 				DGSE r. 117	Section 4.7
		<ul style="list-style-type: none"> the quantity of explosive stored after each receipt and dispatch. 					
		<p><i>Note: Firearms Act 1973 also applies to the storage and supply of ammunition, propellant powder and black powder. The booklet supplied by the Firearms Branch (WA Police) may suffice if modified to include above details.</i></p>					
		Current records must be readily available for emergency services and dangerous goods officers as part of the emergency management plan (<i>see Item Nos 29 and 30</i>).				DGSE Schedule 10 cl. 3A	Section 5.3.1

Item No.	Requirements	Guidance information	Response			Reference	
			Y	N	NA	Legislation	AS 2187.1
25	A stocktake of the stored explosives must be done at least monthly and records should be kept.	Records of stocktakes are recommended to be kept for a minimum of two years.				DGSE rr. 92 (3), 92(4)	
		<p>A stocktake is not done until:</p> <ul style="list-style-type: none"> explosives stored are compared to the most current storage inventory any discrepancies between what is stored and the inventory is investigated if the loss is unexplained, a report of the stocktake must be given within one month to the Department (Chief Officer) [see Item No. 28]. <p><i>Note: The report must cover the investigation findings into the unexplained loss and measures taken so that such a loss does not happen again.</i></p>					
26	At least monthly, undertake an inspection of the explosives and site to see if they comply and are stored in accordance with the Dangerous Goods Safety (Explosives) Regulations 2007. Records must be kept.	Records must be kept for a minimum of two years.				DGSE rr. 92(5), 92(6)	

Item No.	Requirements	Guidance information	Response			Reference	
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27	A copy of the explosives management plan should be kept onsite and must comply with regulation 161 and Schedule 10 of the Dangerous Goods Safety (Explosives) Regulations 2007.	Revise the explosives management plan as required, or within 5 years. Make a note of the revision date.				DGSE rr. 161(4), 194(2), Schedule 10	
		Must include address and current site plan to which the licence relates.				DGSE r. 161(4)	
		The current site plan must be readily available for emergency services (<i>see Item No. 30</i>) and dangerous goods officers.					Section 5.3
		Must include the security risk assessment and emergency management plan.				DGSE r. 161(4), Schedule 10 cls. 3A, 4	
		A record is to be kept of the training required for the explosives and emergency management plans.				DGSE Schedule 10 cls. 2(c), 2(f)	
28	Records of an investigation into a reportable situation should be kept and be available on request by a dangerous goods officer and address the criteria detailed in regulation 44(3) Dangerous Goods Safety (Explosives) Regulations 2007.	Incidents that must be reported on: <ul style="list-style-type: none"> • those involving explosives • unexplained loss of explosive (e.g. stocktake discrepancies) • theft or attempted theft • unlawful entry or attempted unlawful entry. 				DGSA s. 9, Schedule 1 cl. 1(15); DGSE rr. 44, 92(4)(c), 161(4)(f), Schedule 10 cl. 2(a)	Section 5.2
		The expected quality of the investigation is also outlined in the <i>Reporting dangerous goods incidents – guideline</i> and form.					

Item No.	Requirements	Guidance information	Response			Reference	
			Y	N	NA	Legislation	AS 2187.1
Incidents, investigations and emergency planning							
29	The operator has provided a copy of the emergency management plan to the emergency services and other people who may be affected.	Where is the evidence you have you notified or provided basic information to adjacent places?				DGSE Schedule 10 cl. 3A(f)	Section 5.3.1
		It is highly recommended that you supply neighbours, who may be affected, with the plan.					
		<i>See Item No. 24.</i>					
30	The emergency management plan must contain a current site plan and explosives manifest.	Site plan should show access to the magazine and include the location of: <ul style="list-style-type: none"> • internal and external fire protection systems (e.g. hydrants) • electrical services • dangerous goods. 				DGSE r. 90(5)	Section 5.3.1
		<i>Note: A manifest is an up-to-date list of the type and quantity of the explosives stored. See Item No. 24.</i>					
31	Measures should be present to investigate reportable incidents, incidents and dangerous situations.	As part of the emergency management plan include: <ul style="list-style-type: none"> • a statement of what must be investigated (<i>see Item No. 28</i>) • where the records are kept (hardcopy and electronic) • instructions on making these records available on request. 				DGSE Schedule 10 cl. 3A (c), rr. 44(3), 92(4), 161(4)(f)	
		The expected quality of an investigation is outlined in regulation 44(3) of the Dangerous Goods Safety (Explosives) Regulations 2007 and in the <i>Reporting dangerous goods incidents— guideline</i> and form. The guideline could be kept in the emergency management plan.				DGSE rr. 44(3), 92(4)	

Item No.	Requirements	Guidance information	Response			Reference	
			Y	N	NA	Legislation	AS 2187.1
32	Current contact details for the Department of Mines and Petroleum (Resources Safety Division) and the Western Australian Police should be in the emergency management plan.	<i>Note: An incident must be reported as soon as reasonably practicable to a dangerous goods officer and immediately to the police.</i>				DGSA s. 9(2); DGSE Schedule 10 cl. 2(a), rr. 44, 92(4)(c), 161(4)(f)	Section 5.2
		Incidents that must be reported are detailed in <i>Item No. 28</i> .					
33	There should be evidence of emergency preparedness.	People must be trained in the emergency procedures as outlined in the emergency management plan, including thunderstorms, theft and fire.				DGSE Schedule 10 cl. 3A	Section 5
		Who is responsible for dealing with emergency situations should be known by all persons (as appropriate).					
		Confirmation will be sought through such means as: <ul style="list-style-type: none"> • review of training records (<i>see Item No. 27</i>) • signatures on the emergency plan • proof of regular emergency drills • presence of emergency procedure cards • questioning on scenarios or responsibilities. 					

Audit summary

Date of audit: / /

Item No.	Finding(s)	Reccomendation(s)	Auditor	Corrective actions	Responsible person	Scheduled date	Verified by	Date
e.g. Item 1	Illegible magazine sign	replace sign	XXX	replace with new sign	XXX	01/04/2016	XXX	10/04/2016



Government of **Western Australia**
Department of **Mines and Petroleum**
Resources Safety

Department of Mines and Petroleum
100 Plain Street
EAST PERTH WA 6004

Resources Safety Division

Telephone: + 61 8 9358 8002

NRS: 13 36 77

Facsimile: + 61 8 9358 8000

Email: ResourcesSafety@dmp.wa.gov.au

Website: www.dmp.wa.gov.au/ResourcesSafety

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