

Guidance Note No. GN 8

How to Apply for a Mode A Licence for Storage of Schedule 1 Dangerous Goods (Blasting Explosives)



**Mines Division, Geotechnical Engineering Office
Civil Engineering and Development Department**

1. Introduction

- 1.1 This Note provides guidance on how to apply for a Mode A licence for storage of Schedule 1 dangerous goods (S1DG) (blasting explosives) in a Mode A Store. The guidance relates principally to surface Mode A stores, but relevant aspects also apply to underground Mode A stores.
- 1.2 The Dangerous Goods Ordinance (DGO), Cap. 295, stipulates that no person shall store any S1DG except with a licence issued by the Commissioner of Mines (CoM). Only S1DG approved by the CoM can be stored in a Mode A store.
- 1.3 A Mode A store means a premises consisting of a single storey stand-alone structure constructed in accordance with the Dangerous Goods (Control) Regulation (Cap. 295G).
- 1.4 The Chief Geotechnical Engineer/Mines (CGE/Mines), GEO/CEDD, acting for the CoM, processes applications and issues licences for Mode A stores.
- 1.5 The guidance given in this Note does not cover legal, regulatory or administrative requirements under the authority of other departments, including Environmental Protection Department, Hong Kong Police Force, Buildings Department, Lands Department and Fire Services Department. The applicant must fulfil such requirements, where applicable, before the CoM issues a Mode A licence.

2. Application for a Mode A Licence for Storage of S1DG

2.1 Submission of Application

The applicant requiring a Mode A licence must submit the following documents to the CoM:

- (a) a covering letter, stating clearly the reasons why a licence is required, and a properly completed application using the “[Application for a Mode A Licence for Storage of Schedule 1 Dangerous Goods \(Blasting Explosives\)](#)” (Form No. MIN f3), or submit the application to CoM via the Centralised Explosives Licensing and Management System (CELIMS) of Mines Division; and
- (b) a Method Statement (MS), prepared by a competent person and certified by an Independent Checking Engineer, giving the construction details and the operation procedures of the proposed Mode A store (see Annex A for the typical contents of a MS). The MS must be checked by the blasting competent supervisor and endorsed by the AP/RSE/RGE (if private projects) or the Engineer’s Representative for the Contract (if Government projects). The competent person and the blasting competent supervisor should have at least 4 years relevant experience in blast design and supervision of blasting works.

2.2 Processing of Application

Upon receipt of an application for a Mode A licence, CGE/Mines will normally respond to the applicant within 28 days or within 25 days after receipt of subsequent submissions of supplementary information. When CGE/Mines is satisfied with the information and documents submitted with the application, including the MS, and verifies that the proposed site is suitable for a Mode A store, the CoM will issue pre-licensing requirements to the applicant. The applicant must fulfil these requirements, which include construction of the store, before a Mode A licence can be issued (see Annex B for the typical pre-licensing requirements). The agreed MS also forms part of the licence conditions.

2.3 Issue of Licence

The applicant must confirm, in writing, to the CoM when construction of the store has been completed and all pre-licensing requirements have been fulfilled. When CGE/Mines is satisfied with the completion of the pre-licensing requirements, a Mode A licence will be issued to the applicant. A separate licence will be issued for each surface Mode A store. For an underground Mode A store, the scope of the licence will be based on the actual site conditions and the agreed store management plan. The licence, which will be valid for a period of not more than 1 year, will be issued to the applicant within 2 working days upon payment of the prescribed licence fee. The Licensee is required to keep a copy of the licence at the Mode A store site.

2.4 Annual Renewal of Licence

Application for renewal of a Mode A licence must be made not less than 28 days before the expiry date of the current licence. The renewal application must include an updated MS, taking account of any changes to the site conditions and operation procedures of the Mode A store, and the annual maintenance certificates for all necessary firefighting installations, lightning conductors and equipment endorsed by suitably qualified competent persons.

3. References

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| AS (1998) | Explosives – Storage, Transport and Use, Part 1: Storage. Australian Standard, AS2187.1- 1998. |
| BSI (2011) | Protection against Lightning – Parts 1, 3 & 4. British Standards Institution, BS EN 62305-1:2011, 62305-3:2011 and 62305-4:2011. |
| BSI (2012) | Protection against Lightning – Part 2. British Standards Institution, BS EN 62305-2:2012. |
| DOD (2008) | DoD Ammunition and Explosives Safety Standards – Volumes 1 to 8 (with latest changes incorporated). The Department of Defence, Washington, D.C, 6055.09-M. |

ER (2014) The Explosives Regulations 2014, Statutory Instrument 2014 No. 1638, United Kingdom .(see also Explosives Regulations 2014 - Safety Provisions).

Mines Division Guidance Notes.

Mines Division
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***General guidance is provided in this Note. Specific requirements may be imposed by the Commissioner of Mines to suit the conditions and characteristics of the site. Any feedback on this document should be sent to the Chief Geotechnical Engineer/Mines, Geotechnical Engineering Office, Civil Engineering and Development Department.
Telephone: (852) 3842 7210 Facsimile: (852) 2714 0193 E-mail: mines@cedd.gov.hk
CELIMS Hotline: (852) 3842 7210 CELIMS Website: celims.cedd.gov.hk***

Typical Contents of a Method Statement (MS)

1. Details of the proposed storage capacity of the Mode A store and the types of S1DG (blasting explosives) to be stored. (For surface Mode A stores, ER(2014) should be used to assess the suitability of the proposed storage capacity. For underground Mode A stores, reference can be made to AS (1998) and DOD (2008), but detailed requirements must be agreed with CGE/Mines taking account of local constraints and conditions.) To minimise risk to the public and maintain security of the blasting explosives, the storage capacity of all Mode A stores should be kept to the minimum required for the project (normally 2-3 days' supply).
2. A 1:500 or 1:1,000 scale plan showing the location and site boundary of the proposed Mode A store. The plan(s) must show clearly, and identify, all structures, buildings, roads, utilities (including high-tension cables), slope features, natural terrain and any other potentially affected facilities within a 400 m radius of the proposed Mode A store or a radius compatible with the proposed storage capacity based on the requirement given in ER(2014), whichever is greater.
3. A plan with an appropriate scale showing the location of the proposed blasting site(s) where blasting explosives from the Mode A store are to be supplied and the proposed routes for delivery of blasting explosives from the Mode A store to the blasting site(s), and the return routes in case any surplus blasting explosives need to be returned to the store.
4. A copy of the explosive manufacturer's current Material Safety Data Sheets for the types of blasting explosives to be stored.
5. The construction details of the Mode A store structure and the security compound, with certification from an Independent Checking Engineer (see Annex C for typical construction requirements).
6. A store management plan covering:
 - (a) stock control,
 - (b) ordering and delivery of blasting explosives,
 - (c) security,
 - (d) operational flowchart,
 - (e) handling and transport procedures,
 - (f) list of authorised persons permitted to enter the store, and
 - (g) emergency plan.
7. An emergency contact list, including the contact details of the Licensee's Representative, Resident Site Staff, the Registered Shot Firer, the explosives supplier, and the Safety Officer.

Typical Pre-licensing Requirements for Issuing of a Mode A Licence

1. For a public works project, a certificate for the completion of the proposed Mode A store, signed by a Registered Professional Engineer (Civil or Structural) and the Engineer's Representative for the Contract. For a private project, a copy of Buildings Department's (BD) approval/agreement for the completion of construction of the store in accordance with the approved plans.
2. Training records for all personnel involved in the transport, handling and storage of blasting explosives and supervising the safety and security of blasting explosives for the site. The training course, typically organised by the applicant and explosives supplier, should cover:
 - (a) the dangers related to the type of blasting explosives being transported, handled and stored,
 - (b) emergency procedures in case of accidents,
 - (c) safe driving practice (defensive driving),
 - (d) safe handling of blasting explosives, and
 - (e) use of fire extinguishers and firefighting procedures.
3. A certificate signed by a registered electrical worker and a registered electrical contractor certifying that the lightning conductors function properly and comply with BS EN 62305.
4. Details of the vehicles to be used for the transport of blasting explosives. If the vehicles are used for transport of the blasting explosives outside the project site boundary, the vehicles must meet the requirements in Mines Division's Guidance Note GN No. 2 "Approval of an Explosives Delivery Vehicle".
5. Confirmation that the warning sign(s), notice(s) and placard(s) have been erected/displayed in accordance with section 38 of the Dangerous Goods (Control) Regulation (Cap. 295G).
6. Confirmation that a full up-to-date set of the Material Safety Data Sheets for the blasting explosives to be kept is available at the store and that it will be maintained up to date.
7. Confirmation that the Shot Firer has been provided with a portable lightning detector for use during the handling and transport of blasting explosives.
8. Confirmation that the Hong Kong Police Force has approved the security aspects of the Store, including the security company providing armed security guards and the standing instructions for management/administration of the store.
9. Confirmation that the Fire Services Department has approved the firefighting aspects of the store.
10. Confirmation that the Environmental Protection Department has issued the Environmental Permit for the Project, including the proposed Mode A store.
11. Confirmation that no high-tension overhead cables carrying 440 V are within 45 m of a surface store/portal area of an underground store and that no overhead cables of 1 kV or above are within 75 m of the store/portal area, and that all other types of electrical cables should, except for lighting and firefighting installation connections, be run underground from a point at least 15 m away from the store.

Typical Construction, Security and Fire Fighting Requirements for a Mode A Store

1. The store should consist of a single storey stand-alone structure made of substantial brickwork, masonry or concrete to a design approved by the Commissioner of Mines in each case.
2. The following typical construction details are available from the Mines Division upon request:
 - (a) layout and details of the building for a surface Mode A store,
 - (b) the lightning conductor, and
 - (c) earth mound surrounding a surface Mode A store.

The typical construction details are for reference purposes only. The applicant for a Mode A licence may use directly or modify these typical construction details or make an alternative design to meet their own project need. In all cases, a certificate from an Independent Checking Engineer should be provided to confirm that the Mode A store has been adequately designed to relevant standards and/or codes of practice. The Independent Checking Engineer shall be a Registered Professional Engineer (Civil or Structural) for a public works project or a Registered Structural Engineer for a private project, who is independent of the designer and the applicant.

3. All hinges and locks must be made of non-ferrous metal.
4. No ferrous metal must be left exposed in the interior of the Mode A store.
5. The interior and exterior walls of the Mode A store must be painted white.
6. The outer side of the steel door of the Mode A store must be painted red. No ferrous metal must be exposed on the inner face of the door forming part of an interior of the Mode A store.
7. A warning sign legibly showing the English words “DANGER – EXPLOSIVES” and the Chinese characters “危險 – 爆炸品” in white against a background in red must be displayed outside or adjacent to every entrance to the Mode A store. The English words and Chinese characters must not be less than 100 mm in height.
8. A warning signboard (a notice in English and Chinese) with prohibited articles and substances painted in red and black being shown in symbols and in Chinese and English characters must be displayed at a conspicuous place outside or adjacent to every entrance to the Mode A store and outside or adjacent to every gate of the security fence of the store. Each symbol should be at least 100 mm in diameter (see Annex D for a typical warning signboard).
9. A placard must be displayed at a conspicuous place outside or adjacent to every entrance to the Mode A store to show the appropriate Division of Class 1 SIDG being stored in the store in an appropriate form and with appropriate specifications. The form and specifications of Class 1 SIDG placards are shown in Annex E.
10. The maximum explosive content of the blasting explosives to be stored and the maximum number of personnel permitted to enter the Mode A store must be shown at a conspicuous place near the entrance to the Mode A store.

11. As far as practicable, the roof of the store should be made of lightweight materials to limit the potential for injury from debris in the event of an explosion.
12. A security fence surrounding the Mode A store must be installed and set back at least 6 m from the store. The fence should be 2.5 m high, stoutly constructed of chain link fencing with a mesh size not exceeding 50 mm. The fence should be firmly fixed to metal or concrete posts and topped with a 0.7 m high outward overhang of razor wire. The base of the fence located between the posts should be secured with pegs to prevent intrusion.
13. The area between the security fence and the Mode A store must be cleared of all vegetation. Vegetation clearance must also apply to a minimum distance of 1 m on the exterior of the fence. A uniform cross-fall of at least 1 in 100 away from the store to a drainage system must be constructed.
14. The gate in the security fence must be fitted with a lock of close shackle design with a key-retention feature.
15. The road leading to the Mode A store must have a concrete surface and it should be constructed and maintained so that 11 tonne trucks (about 8.9 m long and 2.5 m wide) can use it under all weather conditions. A suitable turning circle or other alternative means for these trucks to turn must be provided so that the trucks can be driven up to the gate of the security fence.
16. In addition to the above, the typical requirements imposed by the Hong Kong Police Force include:
 - (a) Electric flood lighting supported on light poles at a maximum spacing of 20 m along the security fence, should be provided to illuminate the area between the Mode A store and the security fence and the area directly outside the security fence.
 - (b) A guardhouse should be provided. For surface Mode A store, security guards should be on duty outside the inner security fence adjacent to the gate when there is no receipt or issue of blasting explosives inside the Mode A store. A separate outer security fence should be installed to protect this guardhouse. For an underground Mode A store, the guardhouse should be positioned inside the security fence to guard the entrance gate and the portal to the underground magazine.
 - (c) Inside the guardhouse, an arms locker constructed as an integral part of the house and fitted with a lock is required.
 - (d) A telephone should be provided for use by the guard in the guardhouse. A watchdog should normally be provided for the store. In this regard, the Hong Kong Police Force may agree to alternative site-specific security provisions, e.g. CCTV.
17. The typical requirements imposed by the Fire Services Department include:
 - (a) For surface Mode A stores, firefighting installations consisting of at least four 6 litre foam and one 4.5 kg dry powder fire extinguishers to be positioned on two racks and four buckets of sand should be provided at the nearest convenient locations to the Mode A store doors. For underground Mode A stores,

firefighting installations should be determined in consultation with Fire Services Department.

- (b) The Fire Services Department may require site-specific firefighting installations, e.g. automatically triggered firefighting systems.

18. Regular inspections of vegetation and trees surrounding the Mode A store shall be arranged to maintain security and to mitigate the risk of fire affecting the store.

Typical Warning Signboard for a Mode A Store

警告

WARNING

嚴禁攜帶以下物品進入圍網範圍內：

The following articles or substances are prohibited inside the security fenced area:

火柴或火機  Matches or lighter	香煙或煙草  Cigarette or tobacco	酒精類飲品  Alcoholic liquor	流動電話，傳呼機 或無線電話發射器  Mobile phone, pager or radio transmitter
燃料或溶劑 [貯於密封容器除外]  Fuel or solvent not in a tank or container	槍械及軍火 [緊急事故除外]  Firearm except for emergency	未經批准爆炸品  Unauthorized explosives	食物或飲料  Food or drink

1. A warning signboard (min. 500 mm x 500 mm) showing the above prohibited articles and substances in symbols, and in Chinese and English characters should be posted at the gate of the security fence.
2. Each symbol in red and black should be at least 100 mm in diameter.

Forms and Specifications for Class 1 S1DG Placard

Part 1 - Typical Form of Class 1 S1DG Placard

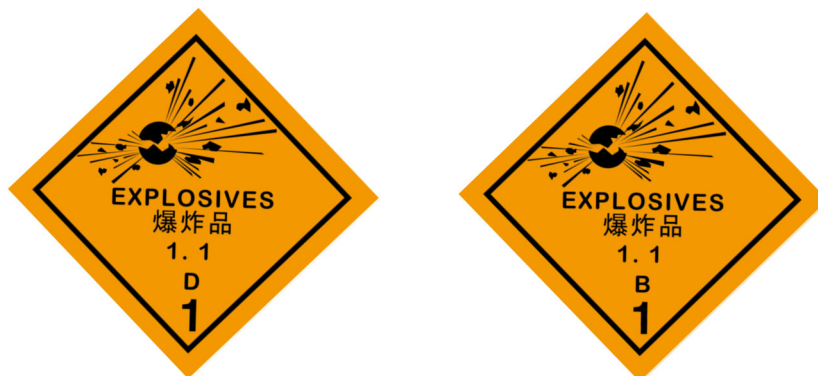


Figure No.1 - 1.1D, Explosives

Figure No.2 - 1.1B, Detonators

Part 2 - Specifications for Class 1 S1DG Placard

1. A placard must be displayed in an upright position.
2. A placard must be square-shaped, with the minimum length of each side measuring 250 mm (*minimum dimensions*).
3. For a placard of minimum dimensions, the number “1” at the bottom of the placard must be at least 25 mm in height.
4. If no specific dimensions are indicated for a feature of a placard in this Part or in the relevant Figure in Part 1 of this Annex, the feature must be in the appropriate scale as shown in the Figure. If a placard’s dimensions are bigger than the minimum dimensions, the dimensions of every feature in the placard must be adjusted upward proportionally.
5. A placard must be displayed on a background of contrasting colour or, if a background of contrasting colour cannot be provided, have a dotted or solid outer boundary line.
6. A placard must indicate the appropriate Division (by way of a number), and the appropriate compatibility group (by way of a letter), of the Class 1 S1DG.