The Explosives Regulations 2014
Guidance for Shooters and Shooting Sub-Sector

Guidance for Firearms Users and Associated Trades.

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This guidance is issued by the sub-sector working group.

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This guide is dedicated to the late Colin Greenwood for his tireless work on explosives policy in this sector.

Amendment No	Paragraph	Change
1	22	UN No 0507 corrected to UN No 0509

CONTENTS

INTRODUCTION

What are the Regulations?

1. The Explosives Regulations 2014 are the principal regulations about the acquisition, manufacture, storage, marking, transferring and movement of explosives. The regulations should not be read in isolation, other health and safety laws and obligations still apply. Other than requirements relating to the importation of certain pyrotechnics and plastic explosives the regulations apply only in England, Wales and Scotland with the exception of Regulation 8(8) and associated definitions which apply also to Northern Ireland.

What is this Guidance about?

2. Whilst this publication has no legal status, it is the sector specific guidance for firearms users and associated traders about the provisions of the Explosives Regulations 2014 and HSE overarching guidance publications L150 and L151 in relation to:-

- the authorisations required to acquire, manufacture, store and transfer explosives.
- the safe storage of the higher hazard explosives used by those who shoot or who are involved in historical re-enactment and including those in businesses and trade engaged in the supply of firearms, ammunition and propellants.
- the requirements when transferring and transporting civil explosives.
- the transfers between persons of any explosive that is a relevant explosive.
- the records to be kept and the actions to be taken when relevant explosives are lost.

3. It explains why some of the day-to-day precautions are necessary and supplements the simple guidance available elsewhere on explosives safety for those in businesses and trade engaged in the supply of firearms, ammunition and propellants to end-users and other traders.

Note: Throughout this guidance you will see statements in boxes. The statements are examples of good practice and provide simplified explanations for the reader.

Who is the Guidance for?

4. This guidance is for those who are users of explosives and explosive articles in the recreational area, principally:

- those who shoot;
- those who are involved in activities such as historical re-enactment;
- and those in businesses and trade engaged in the supply of firearms, ammunition and propellants to those who undertake these activities.

5. HSE has published a summary of the steps that people storing and selling explosives for use in shooting in retail premises should follow on a day-to-day basis. http://www.hse.gov.uk/pubns/indg477.pdf

6. HSE has published detailed guidance on the safety and security provisions of the Explosives Regulations 2014 [SAFETY – http://www.hse.gov.uk/pubns/books/l150.htm, SECURITY - . http://www.hse.gov.uk/pubns/books/l151.htm] This detailed guidance provides the background to this document and will be useful to those people who require a deeper understanding of the precautions that are required to store explosives safely and securely. It will also be useful to those people whose undertakings include activities that would be considered to be explosives manufacture.

7. It also identifies the standards of safety and security needed to meet the relevant provisions of the Explosives Regulations 2014, and in the absence of other relevant detailed guidance, is likely to be treated as an 'Industry Code of Practice' for the purposes of enforcing those regulations. As such it contains material relevant to enforcing authorities such as local authority Trading Standards officers, the police, fire and rescue services and other emergency services.

8. There may be other ways of doing things that might satisfy the legal requirement, but the user would need to demonstrate how or explain why their way complies.

Additional reading

9. Advice about the practical use of shooters powders on ranges and additional practices for muzzle loading arms can be obtained from the Muzzle Loaders Association of Great Britain's downloads page.
http://www.mlagb.com/downloads/

TERMINOLOGY

Introduction and reference to Glossary

10. The Explosive Regulations 2014 (Regulation 2) give particular definitions to certain words and expressions. This guide also gives other words and expressions in a particular meaning. Those words, expressions and definitions relevant to this guidance can be found in the Glossary at the rear of this document.

11. All reference to quantity of explosives means Net Explosive Mass.

HAZARD TYPE

The role of Hazard Type

12. Hazard Type (HT) is central to both the safety provisions and the licensing elements of the Regulations. Hazard Type defines and describes the nature of the hazard arising from an explosive article in storage conditions.

Definition of 'Hazard Type' and its relationship to Hazard Division

13. Definitions of the Hazard Types are given in Regulation 2 of ER2014:

    Hazard Type 1: '…an explosive which, as a result of, or as a result of any effect of, the conditions of its storage or process of manufacture, has a mass explosion hazard' (a mass explosion can be one in which the entire body of explosives explodes as one; where a substantial proportion of the explosives present could explode in such a way that the practical hazard should be assessed by assuming simultaneous explosion of all of the explosives present; or one which is associated with a serious blast hazard);

Hazard Type 2: '…an explosive which, as a result of, or as a result of any effect of, the conditions of its storage or process of manufacture, has a serious projectile hazard but does not have a mass explosion hazard' (where a fragment hazard arises solely as a consequence of the store where the explosives are being kept breaking up, the explosives would normally be treated as Hazard Type 1);

Hazard Type 3: '…an explosive which, as a result of, or as a result of any effect of, the conditions of its storage or process of manufacture, has a fire hazard and either a minor blast hazard or a minor projectile

Hazard Type 4: '…an explosive which, as a result of, or as a result of any effect of, the conditions of its storage or process of manufacture, has a fire hazard or slight explosion hazard, or both, with only local effect' (i.e. those explosives which present only a relatively low explosives hazard in the event of ignition or initiation, where no significant blast or projection of fragments of appreciable size or range is expected).

A word on Hazard Division

Hazard Division is the classification assigned (along with a 4-digit UN Number) by a competent authority for an explosive as packaged for transport according to the requirements of the UN scheme. Hazard Types share similar criteria for describing behaviours (blast, fragmentation etc) as Hazard Divisions but represent the hazards posed in manufacture and storage rather than when an explosive has been packaged for transport.

For those explosives being kept as packaged for carriage, and that have been classified, there will generally be a direct correlation between the UN Hazard Division (HD) assigned them on classification for transport and the Hazard Type (HT) they should be allocated for storage, ie:

UN HD 1.1 = HT 1	UN HD 1.2 = HT 2
UN HD 1.3 = HT 3	UN HD 1.4 = HT 4

If explosives are kept other than in their classified packaging, it cannot be assumed that the hazard they present remains the same. The nature of packaging (or lack of it, and the quantity and arrangement in storage) can have a significant effect on the hazard presented in non-transport situations. The hazards presented by explosives should be assessed throughout the course of their manufacture, storage and handling to ensure that the correct Hazard Type is used under all conditions.

This assessment may require tests and trials to be undertaken to determine how an explosive behaves in particular circumstances, and the Hazard Type may vary as conditions change. For example:

Propellants classified as UN HD 1.3 would, under normal circumstances, be regarded as HT 3. However, under specific circumstances these propellants can be HT 1. Such circumstances include confinement during processing (especially at elevated pressure and/or temperature), and exceeding the critical diameter and bed depth of the material. An example of where these circumstances may occur is within a hopper or pipework in a cartridge-filling operation (where the critical considerations are propellant depth and confinement);

An explosion in a box where a large number (thousands) of percussion caps are kept loose will result in the explosion of the majority of the caps in the box (HT 1). However, if the same caps are kept in trays where they are separated from one another, the initiation of one cap will not result in the initiation of the rest of them (HT 4).

Note that black powder classified as UN HD 1.1, would when:

a) stored in quantity or in metal tins be regarded as HT1;

b) unconfined and in quantities of a few grams be generally regarded as HT4 (e.g. in a phial or twist);

c) stored in accordance with Annex C of this guidance or Appendix 7 of L150 be regarded as HT3

14. Additional guidance on the Hazard Type and its determination type can be found in paragraphs 24 – 35 of L150.

15. Some explosives kept under particular circumstances are not normally considered in terms of Hazard Type for the purposes of Regulation 2 of ER2014. These explosives included desensitised explosives and those listed in the exceptions to the application of Regulation 27 (requirements for separation distances):

- any explosive in quantities up to and including 100 grams;
- a combined total of no more than 5 kilograms of shooters' powders and model rocket motors (as defined);
- 30 kilograms of shooters powders and 300 grams of percussion caps; or
- 200 detonators and
- 5 kilograms of water based explosives and detonating cord (as defined); or
- 5 kilograms of water based explosives or detonating cord

AUTHORISATIONS

Introduction

16. The Explosives Regulations 2014 require people undertaking certain activities to have an authorisation unless those activities are specifically exempted in the regulations. In relation to 'explosives' these activities are:

- Acquisition;
- Acquisition and keeping;
- Manufacture;
- Storage; and
- Transfer.

Controls on the Acquisition of Ammunition and Other Explosives

17. The Firearms Acts regulate the acquisition, purchase and possession of all small arms ammunition and the Explosives Regulations 2014 require persons acquiring certain explosives to have an explosives certificate.

18. Many of the explosives used by those who shoot do not require an explosive certificate for their acquisition. These explosives are listed in Schedule 2 to the regulations and a summary can be found at Annex A to this document.

A word on primers

Section 35 of the Violent Crime Reduction Act 2006 makes it an offence for 'anybody to sell to anybody' a cap type primer "designed for use in metallic cartridges for use in a firearm" (i.e. small and large rifle and pistol primers) unless they produce a certificate for a firearm of a relevant kind i.e. a firearm or shotgun certificate for the firearm concerned.

The Act also relates to empty cartridge cases containing these primers (capped cases) regardless of whether they are for use in a firearm or a shotgun.

Percussion type caps for muzzle loading arms and centre fire 209 type shotgun primers are exempt from this Act and may be freely purchased, however the sale of any ammunition components to non-certificate holders is not good practice and is discouraged.

Authorisation to Acquire and Acquire and Keep Explosives (Explosives Certificates) [Regulations 4 & 5]

19. Regulation 4 establishes the requirement of a certificate; there are two types of certificate:

- *'Acquire only'* certificate – to permit a person or company to obtain explosives that are to be used immediately, and not kept overnight.

- *'Acquire and keep'* certificate – to allow a person or company to obtain explosives and keep them in an approved storage place.

Note: "used immediately" means loaded into cartridges or fired at the shooting range or re-enactment event e.g. expended via muzzle loading firearms.

20. Regulation 5 establishes the criteria for issuing certificates to fit persons. Explosives certificates are issued by the firearms licensing department of each police force in England and Wales; in Scotland it is Police Scotland.

21. Black powder irrespective of its intended use can only be purchased or possessed with an explosives certificate. Paper or card black powder re-enactment cartridges, or "twists" as they are sometimes called are not classified as "small arms ammunition" and will always be regarded as a package of black powder (UN0027 or UN0028) and an explosives certificate will be required for their acquisition and keeping.

22. An explosives certificate is not needed for the purchase of nitro-cellulose based powders or black powder substitutes that have been classified as Hazard Division 1.3, compatibility group C or Hazard Division 1.4 compatibility group C and assigned the UN Nos. 0161 and 0509, when they are acquired by a person who is either registered as a firearms dealer under section 33 of the Firearms Act 1968 or who holds: —
    - a permit granted under section 7 of that Act;
    - a firearm certificate granted under section 27 of that Act;
    - a shotgun certificate granted under section 28 of that Act; or
    - a permit granted under section 17 of the Firearms (Amendment) Act 1988.

    In any other circumstance an explosives certificate would be necessary.

23. Purchasers will usually be asked to produce a valid shotgun or firearm certificate to the seller before they will release powder to you. This is not law but sensible advice to ensure powders are only acquired by bona fide users.

How to apply for an Explosives Certificate [Regulation 11]

I am a shooter, to whom do I apply for my explosives certificate?

Live and store explosives in the same place? Apply to your local police force.
Live and store explosives at different places? Apply to the police force in the area where you will be storing your explosives.
Acquire explosives, but do not store: Apply to your local police force.

Local Explosives Liaison Officers (ELOs) can be found here - http://www.hse.gov.uk/explosives/elo.htm

Note that for those needing licences for storage as well, the same principles apply (contact the force where the explosives will be stored)

24. Explosive certificates are issued by a chief officer of police who is the issuing and enforcing authority for these documents. You need to apply to the 'relevant police force' which is:

(1) As an individual engaged in one of the shooting activities-

(a) When you require an "Acquire Only" certificate, the police force of the area where you reside

(b) When you require an "Acquire and Keep" certificate, the police force for the area in which you will store your explosives

(2) As a business supplying shooters-

(a) When requiring an "Acquire Only" certificate, the police force of the area where you reside or if you are a body corporate (Limited company etc), the police force for the area where your registered or principal office is situated.

(b) When requiring an "Acquire and Keep" certificate, the police force for the area in which the storage is to take place.

25. You will for (1) above need to use form [ER4 or ER4A] for any new application or [ER4B] for renewals. In regard to (2) above, you need to use form [116 and then ER4A]. These are available from your local police firearms licensing department who act for the issuing authority and may be available online.

26. You will need to specify the envisaged amount of powder to be acquired at any one time and the UN classification of black powders i.e. UN 0027 & UN 0028. Upper limits for storage depend on whether a licence has been granted in conjunction with an explosives certificate. See Paragraph 37 below for storage thresholds. Note that there may be a need for separation distance.

27. The chief officer of police who issued a certificate must be informed of any change in the holder's address or, where the holder is a body corporate or partnership, of its proper address for the purposes of section 46(4) of the Health and Safety at Work etc. Act 1974, either before or forthwith after any such change occurs as the certificate relates only to storage at the address stated.

28. Anyone who wishes to acquire explosives, other than most pyrotechnic articles and those listed under Schedule 2 (see Annex A) needs to contact their local Explosives Liaison Officer. A list of your local Explosives Liaison Officers can be found on the HSE website: www.hse.gov.uk/explosives/elo.htm

Certificate costs

29. Explosive certificates are free to those who wish to acquire the quantities of black powder that are for use in connection with firearms and/or shotguns. The limited amounts are found in [Paragraph 37] below.

30. Above these limited amounts, usually trade/commercial related, certificates are subject to charges listed in the Health and Safety (Fees) Regulations. These Regulations are updated periodically and the fees are published on HSE's website.

Authorisation to manufacture explosives [Regulation 6]

31. The reloading or dismantling of ammunition is part of the act of manufacturing an explosive. This can only normally be done under HSE licence.

Making or unmaking of small arms ammunition

A typical recreational shooter may undertake loading/reloading tasks without the need for a licence to manufacture provided that no more than 2kg of explosives are being used at any one time. If you have made up so many cartridges that the 2kg limit was being reached (in both the cartridges and your powder tub/dispenser), then you would need to put the completed cartridges into store before continuing.

32. Regulation 6(2)(b) provides for a limited 'manufacture' of small arms ammunition without the need of a licence to manufacture i.e.

    "the making or unmaking of small arms ammunition, or ammunition with inert projectiles intended for use in recreational or occupational firearms, or the preparation of cartridges for use with firearms which are to be used at historical re-enactment events, where the total quantity of primer and propellant used at any one time does not exceed 2 kilograms and, for these purposes, the quantity of propellant used includes propellant removed from cartridges;"

33. Those who make or unmake the following will not need a licence to manufacture providing the total quantity of explosives in the area where the manufacturing activity is taking place does not exceed 2kg;

    - Small arms ammunition;
    - Larger calibre ammunition with inert projectiles intended for use in recreational or occupational firearms; or
    - Cartridges (including blanks and paper twists) for use with firearms at historical re-enactment events.

34. People filling powder flasks, phials or apostles/chargers will not need a licence to manufacture explosives because these activities are not considered to be acts of manufacture.

Note: the 2 kilogram limit relates only to what is made/unmade at any one time, it does not interfere with the maximum storage thresholds permitted. Any requirement to make ammunition or cartridges above 2 kilograms at a time, or any other type of ammunition not listed in the exception, will require the grant of a licence to manufacture from HSE. The 2 kilogram limit relates to the activity at that place, if more than one person is engaged in the process at that location then the total amount for all those persons is 2 kilograms.

Note: Regulation 6(4)(c) defines **"recreational or occupational firearms"** as hand-held firearms intended for the shooting of -

i. wild game, vermin or, in the course of carrying on activities in connection with the management of an estate, wildlife; or

ii. prepared inanimate objects (i.e. artificial targets);

It may be taken to include miniature cannon used for signalling, starting or recreational purposes.

35. The purpose of this part of the regulations is to ensure that the hazards associated with the manufacture of explosives are recognised and appropriate permissions obtained where necessary. There are a range of firearms and other devices that are in the view of the Secretary of State for Home Affairs, and in the absence of a decision by a court, not regarded as firearms regulated by the Firearms Act, 1968. The cartridges required for the operation of such firearms and devices present the same hazards as and are often identical to cartridges used in small arms, and other recreational and occupational firearms. Until the status of these devices and firearms has been decided by a court they can be considered to be subject to this exception to the requirement for a licence to manufacture explosives. The principal devices to which this applies can be found at paragraph 2.54 in the Home Office "Guide on Firearms Licensing Law"[1].

Authorisation to store explosives [Regulation 7]

36. Regulation 7(1) establishes that no person may store explosives unless that person holds a licence for their storage and complies with the conditions of that licence or is undertaking storage that is exempted specifically from the requirements for a licence by the regulations – see HSE guidance at: http://www.hse.gov.uk/explosives/licensing/how-to-apply.htm.

A typical recreational shooter is therefore unlikely to require a licence for the premises to store explosives because the quantities (as shown in Paragraph 37) will be small enough to benefit from the exemption in ER 2014 Regulation 7(2).

Storage of limited quantities of shooters powders, small arms ammunition and other explosives.

37. Under Regulation 7(2)(a) the requirement to hold a licence under this regulation does not apply to the storage of one or more of the following -

i. no more than 10 kilograms of shooters' powder;

ii. no more than 5 kilograms of
- shooters' powder; or
- any Hazard Type 3 or 4 explosive, or desensitised explosive, which is not a relevant explosive, or a combination of Hazard Type 3 or 4 explosives, or desensitised explosives, which are not relevant explosives; or
- a combination of shooters' powder and any Hazard Type 3 or 4 explosives, or desensitised explosives, which are not relevant explosives;

iii. no more than 15 kilograms (net mass of explosive compositions) of percussion caps or small arms ammunition or a mixture of them;

38. Examples of Hazard Type 3 or 4 explosives would include most types of fireworks supplied to members of the public, safety fuse and most types of quick match intended for use with miniature cannon. Note: This is not an exemption from the separation distance requirements where relevant.

[1] https://www.gov.uk/government/publications/firearms-law-guidance-to-the-police-2012

39. If you store quantities of explosives greater than those exempted by Regulation 7, or for a longer time, you will need to obtain a licence for the place where you store your explosives. Licences will be issued for such a period not exceeding five years as the licensing authority determines.

Temporary storage for more than 24 hours (nitro powders and ammunition)

40. Under Regulation 7(2)(c) the requirement to hold a licence does not apply to Hazard Type 3 or 4 explosives that are stored for longer than 24 hours providing that storage would not breach the conditions of any licence that had been granted. Note: This is not an exemption from the separation distance requirements where relevant.

A more detailed discussion and worked examples for shooters with mixed explosive types can be found at Paragraph 79.

Temporary storage at the place of use (e.g. game fairs, competitions, target practice and re-enactment events).

41. Regulation 7(2)(d) and (e) also allows the temporary storage of shooters powders and Hazard Type 4 explosives (including ammunition) respectively for limited periods without any need for a licence.

- Up to 100 kilograms of shooters' powders can be stored provided that the explosives are stored for no longer than is necessary and in any event no more than 5 consecutive days at their place of intended use.
- Up to 250 kilograms of Hazard Type 4 explosives including ammunition can be kept provided that the explosives are stored for no longer than is necessary and in any event no more than 5 consecutive days at their place of intended use.
- Only one of the options at Regulation 7(2)(d) and (e) shall be applicable on any one occasion, irrespective of who is storing them; and the quantities of explosives referred to are the maximum quantities which may be stored at a site at any one time.
- Where a person holds an existing licence at a site where Regulation 7(2)(a)-(h) is being relied upon, storage may only take place at that site where to do so would not result in a breach of the conditions of that licence
- At sites where multiple duty holders may be present, it will be the responsibility of the licensee, or if no licence is required, the site occupier, to ensure compliance with Regulation 7, particularly in respect of shooters powders, small arms ammunition and primers stored at the site.
- Duty holders must declare their intention to bring explosives to a site in advance to the licensee or site occupier both for use and for storage.

Note 1: If you are using one of the exemptions above you should be aware that where any question is raised as to the length of time your explosives were on the site, it is for you to show that you were within that time period. It is sensible for you to keep a record of time of arrival and departure of the explosives, preferably authenticated by yourself and another person.

Note 2: For events that are longer than the specified time periods, or require larger amounts than are specified, you will need to apply for a licence.

Note 3: When any of the explosives are Relevant Explosives it will be necessary to apply for an Acquire and Keep Certificate.

It is important to appreciate the difference between when ammunition can be classed as small arms ammunition rather than a component in Schedule 2 Part 1 (See Annex A), as this affects the amount of ammunition you can hold.

Applying for a licence to manufacture or store explosives [Regulation 12]

42. All licence applications should be made to the relevant licensing authority.

43. For licences to manufacture explosives or where storage will take place at a mine or a harbour the licensing authority will be HSE. Where the licensing authority is not HSE the licensing authority will generally be determined by the nature of the explosives being stored. Further information can be found at http://www.hse.gov.uk/explosives/licensing/how-to-apply.htm.

44. Each application will be granted on the merits the applicant being a fit person[2] and assessment of the suitability of the site by the licencing authority.

45. Licensing authorities will generally grant a licence for up to 5 years[3] and it will normally take at least 20 weeks for a new application and 8 weeks for a renewal of a licence to be processed. Early engagement with your licensing authority will ensure that you are aware of any additional constraints there may be on your being granted a licence.

Shotgun cartridges

46. If you are only storing shotgun cartridges, greater than the quantities specified in Paragraph 36 above and you are not a registered firearms dealer the application for a licence and subsequent renewals are to be made to your local authority (usually the trading standards department or fire service in a Metropolitan Authority Area).

Other ammunition, smokeless powder and percussion caps

47. If you are storing:

- ammunition the acquisition of which is regulated or prohibited by virtue of the Firearms Acts 1968 to 1997;
- smokeless powder; or
- percussion caps

any application for a licence and subsequent renewal should be made to the police force of the area in which the explosives are stored.

Mixed explosives

48. If one or more of the explosives to be stored requires an explosive certificate, the application for a licence and subsequent renewals are to be made to the police force of the area in which the explosives are stored. A licence may run co-terminously where an explosives certificate is held (e.g. for a maximum of 5 years).

[2] See http://www.hse.gov.uk/explosives/licensing/refusals-revocations.htm for more information on fit persons and unsuitable sites

[3] See http://www.hse.gov.uk/explosives/frequently-asked-questions.htm for the approach that a licensing authority will follow when deciding how long to grant a licence for.

Registered firearms dealer

49. If you are a registered as a firearms dealer under section 33 of the Firearms Act 1968 any application for a licence to store explosives and any subsequent renewal should be made to the police force of the area in which the explosives are stored.

Licence conditions

50. Licences will contain conditions that relate to the site and, within it, the places where the explosives may be stored, or, in the case of a licence to manufacture explosives, where they may be manufactured. The licence will specify also the Hazard Type, description and maximum amount of explosives which may be stored or otherwise be present or, in the case of licence to manufacture explosives, manufactured, at any one time at or in any place.

Transfer, change of address, revocation and refusal to grant

51. The licensing authority may transfer a licence to another person at the same address if required, unless the applicant is deemed not to be a fit person. Additionally the authority has the right to; refuse to licence, refuse to renew, and; to vary or revoke a licence of premises if necessary. There is a right of appeal available for those aggrieved by decisions made by the licensing authority. The appeal application is not time bound and can be made at any time after a licensing authority notice of decision. The appeal is made to the appropriate Secretary of State under Section 44 of the Health and Safety at Work etc Act, 1974 (at present the Secretary of State for Work and Pensions). See HSE guidance at: http://www.hse.gov.uk/explosives/licensing/refusals-revocations.htm.

The cost of a licence

52. Applications for licences are subject to the charges listed in the Health and Safety (Fees) Regulations 2012. These Regulations are updated periodically and the fees are published on HSE's website[4].

Authorisation to transfer civil explosives [Regulation 8]

(Note – guidance on the further requirements to transfer relevant explosives from person to person are found at paragraphs 86-88.)

53. All civil explosives must be accompanied by a Recipient Competent Authority (RCA) document[5] when they are being transferred i.e. any physical movement of explosives apart from movement within one site.

A typical shooter who uses black powder needs an RCA document for any movement outside the site where the black powder is stored.

54. Generally your RCA will be part of your explosives certificate issued by your local police firearms and explosives licensing department.

55. You should apply to HSE for an RCA in those cases where:

- the civil explosives are not relevant explosives;

[4] http://www.legislation.gov.uk/uksi/2016/253/made

[5] Detailed information on RCA documents can be found at http://www.hse.gov.uk/explosives/transfer-of-explosives.htm

- or your explosives certificate was issued by Police Scotland.

56. The requirement for an RCA to accompany civil explosives applies to anyone who transfers civil explosives, be they individuals, companies or carriers.

SAFETY

Fire and Explosion Measures

57. The measures necessary to prevent fire and explosion, prevent the spread of fire and explosion, and protect people from fire and explosion will depend on the activity, the explosives and the location where the activity takes place. In many instances compliance with the guidance contained in HSE Guidance document L150 will be sufficient to ensure the safe storage of shooters supplies. Briefly, for those who are engaged in the storage of the excepted limits of both black and smokeless propellant in ordinary domestic storage, there is a need to consider, when selecting where to keep your powder bottles or packages, certain safety principles.
    - Avoid keeping with or close to flammable materials, oils, spirits, etc. e.g. methylated spirits, thinners, petroleum products and other readily ignitable substances.
    - Keep away from any sources of accidental ignition, e.g. open flames, electrical heating elements and similar.
    - Organise so that in the event of fire the method adopted for storing bottles or packages assists in reducing any immediate risk to people at or exiting from those premises. Plan the normal location of powder bottles in store to be clear of corridors, hall ways or areas adjacent to doors.
    - Reduce the chances of an initiation and risk of injury by burns to any person in the proximity.

58. Whilst black powder is the greater hazard for which a number of recommendations are made later in this work, it is well to remember that the key hazard of propellants in HT3 is that their characteristic is intense heat and flame. They are a fire hazard and are likely to burn more furiously than other materials. Because of their composition smokeless powders once ignited will burn to expiry and with that there is a likelihood of causing injury by severe burns.

59. The mitigation of this can be assisted by taking steps to create a barrier between the plastic or similar container and the risk that might be caused to any person on the premises as a result of a fire resulting in initiation. Consideration of a suitable room, cupboard or by using a box of the type recommended for black powder may well serve in that regard. It needs to be born in mind that the bottle or package only, unless it is a Hazard Type 4, does not confine the effect of the initiation of the contents to the locality of that item. In the event of an initiation you may need to satisfy others that you had provided a suitable storage arrangement that satisfies the requirements of Regulation 26.

60. Where activities present higher risks or higher hazards additional precautions will generally need to be in place.

Housekeeping

61. Good housekeeping is important and any spilt powder should be cleared away as soon as possible.

Decanting (moving powders between containers)

62. Although shooters' powders are generally not very sensitive to ignition by electrostatic discharge, home loaders or others who decant the contents of plastic containers must take care to reduce the risk of build up of static electricity. Advice on appropriate precautions may be sought from the manufacturer. It is recommended that shooters powders are obtained in the smallest container practicable or something similar (e.g. 500/550 g or 1 kg containers) because this will reduce or eliminate the potential for an initiation during decanting, by reducing the number of decanting

operations. High Density Polyethylene (HDPE) plastic is the industry standard material used for the storage of shooters powders.

Use of powder flasks

63. Flasks designed specifically for use with muzzle loading firearms are usually made from wood, copper, brass, animal horn or other non-sparking material. Such materials have been used for centuries. Where a flask is used for the dispensing and storage of black powder it should have been designed for that purpose.

Phials

64. Phials (small lidded containers usually made of plastic or glass) are also used to hold pre-weighed charges for muzzle loading guns, particularly in competition target shooting. These are often prepared to be stored for a short period and can be an acceptable method of transporting shooters powder (see the Department of Transport guidance referenced at Paragraph 102). They are regarded generally as HT4.

Manufacture of ammunition by individual shooters for personal use

65. Care is needed to accomplish the activity safely and those undertaking this need to ensure they are fully conversant with the technical aspects involved in producing the ammunition or charges that they are making. This is particularly relevant when ammunition is being unmade.

66. The process does have its risks and accidents involving the initiation of the cartridge can occur. People undertaking the activity should be competent and manufacturer's instructions on the handling of explosives and the use of manufacturing equipment should be followed.

67. Anyone engaging in the manufacture of ammunition other than for personal use:

- should comply with relevant guidance contained within L150 and relevant sub-sector guidance[6].
- will be subject to additional legal duties relating to the proof, supply or placing on the market of ammunition.

Emergency arrangements

68. People storing explosives used in shooting or in activities such as historical re-enactments should have considered what they would do in an emergency. The actions that would normally be expected would be the prompt evacuation of the site by the safest route, assembly in an identified safe place, calling the fire and rescue service and providing the emergency services with appropriate information.

Separation distances [Regulation 27]

69. Separation distances are not applicable to the storage of explosives where the total quantity of explosives stored at a site does not exceed 30 kilograms of shooters' powder and 300 grams of percussion caps provided that they are stored safely.

[6] http://www.hse.gov.uk/explosives/er2014-commercial-manufacture-and-storage-of-explosive-articles-and-substances.pdf

70. Any small arms ammunition will be treated separately for the purposes of determining the separation distances. The storage of up to 250kg of small arms ammunition attracts a separation distance of 0m to protected places off the site. If you have more than one store for your small arms ammunition you will need to apply separation distances between those stores if the total quantity of explosives in that small arms ammunition exceeds 250kg.

    NOTE. Separation distances of Regulation 27 to ER 2014 do not apply to black powder, provided that the net explosive mass (in kilograms) does not exceed the quantity limits set out in Reg. 27 (3) when they are stored in a 'safe and suitable place with all due precautions for public safety'.

    In many circumstances, the most straightforward way to demonstrate that the requirement is met will be by storing the black powder in a suitably designed and constructed box, capable of resisting a fire commencing to ignite the contents for no less than 8 minutes. The specification of the box, often referred to as the 'black powder box', given in Annex C of this document, has been shown, on the basis of test evidence, to be capable of meeting this requirement when between 1 and 25 (5 x 5) 1 kg containers of black powder are stored (see http://www.hse.gov.uk/research/rrhtm/rr991.htm for further details). There are other design approaches that can be taken, but these would generally require a greater degree of assessment by the duty holder before putting into use for storing containers of black powder as an alternative to the recognised standard 'model' described in Appendix 7 of ER 2014, in L150 guidance and Annex C of this document.

Storage of shooters powders in suitably partitioned boxes

71. Separation distances do NOT apply to black powder or other shooters powders if they are stored in a suitably partitioned box or boxes in quantities of up to 30kg (See Annex C). Powder should be stored in their originally supplied plastic containers or safe alternative packaging and with no more than 1kg per container.

A small number of twists, phials or paper cartridges may be grouped together and kept temporarily in a suitably partitioned box.

72. Where shooters powders are stored in suitably partitioned boxes:

    - in quantities in excess of 30kg; or
    - with explosives other than 300grams of percussion caps and/or up to 250kg of small arms ammunition.

    The shooters powders would be expected to behave as Hazard Type 3 and separation distances are to apply.

Storage of Shooters Powders other than in suitably partitioned boxes

73. **NITRO POWDERS** - When storing nitro powder you must take steps to ensure that the location in which they are kept cannot lead to ignition. Storage should be in the original trade package or a suitable ready use container.

74. Nitrocellulose propellants and black powder substitutes classified for transport as UN0161 (1.3C) and UN0507 (UN1.4C) can usually be considered to be Hazard Type 3 and Hazard Type 4 respectively in storage. No separation distance to protected places off the site applies for stores of Hazard Type 3 powder of up to 25kg or of Hazard Type 4 explosives of up to 250kg net mass of explosives.

Separation Distance for HT3 in quantities less than 25 kg is ZERO unless related to Class G (on site stores) or Class H (on site manufacturing/processing buildings).

75. **BLACK POWDER** - Black powder is generally classified for transport as Hazard Division 1.1 and is therefore expected to behave as Hazard Type 1. All Hazard Type 1 materials kept in quantities greater than 100 grams have a separation distance applied when they are stored. Schedule 5 of ER2014 lists separation distances to be applied from the stored explosive to a range of places and is dependant on the Hazard Type and quantity of the explosive.

    Note: The 'Explosives Regulations 2014 – Safety Provisions' guidance removes the mandatory requirement that existed in the Approved Code of Practice (ACoP) to MSER 2005; that shooters powder 'must' be stored in a wooden box, and changed it to 'should'. This means that where the duty holder can show that they have taken appropriate measures e.g. a separate store away from travel routes, that the normal sources of ignition expected in the home, shops or other workplaces will not aggravate the potential effects of an event involving the shooters powder (by for example confinement), as well as there being a detailed plan/out of hours response for the emergency services, then the partitioned plywood box (see Annex C) may not be the only potential method for protecting the public (ER 2014 Regulation 27) and principal appropriate measure (ER 2014 Regulation 26) because an equivalent level of safety has been delivered by other means. This will depend on the duty holder's assessment of relevant factors.

76. If you store black powder it might be sensible to store your nitro powder in another storage area/room separately from the black powder depending on your assessment of any risk.

Mixed Hazard Types

77. Where explosives of different Hazard Types are in one store, the explosives must be treated as belonging to the greater Hazard Type requiring the greatest separation distance for the total quantity of those explosives and the separation distance shall be determined in relation to that total quantity.

78. Where Hazard Type 3 shooters powders are stored with black powder that is not kept in line with Annex C then all of the explosives would be treated as being HT1 and separation distances would have to be determined accordingly.

79. Where Hazard Type 3 shooters powders are stored with HT4 explosives then all of the explosives would be treated as being HT3 explosives and separation distances would have to be determined accordingly. For example:

- 20kg of HT3 plus 5kg of HT1 equals 25kg of HT1 & separation distances will apply
- 20kg of HT3 plus 20kg of HT4 equals 40kg of HT3 & separation distances will apply
- 10kg black powder in accordance with Annex C plus 20kg of nitrocellulose powders in accordance with Annex C equals 30kg of shooters powder and means no safety distance is required providing the explosives are in a safe and suitable place.
- 10kg black powder in accordance with Annex C plus 14kg of HT3 nitrocellulose powders in manufacturer's packaging equals 24kg of HT3 and zero separation distance will apply (except Class G and Class H).
- 10kg black powder in accordance with Annex C plus 16kg of HT3 nitrocellulose powders in manufacturer's packaging equals 26kg of HT3 and separation distances will apply.

A shooter stores black powder (10kg) in a partitioned box and nitro powder (3kg), and also stores some fuse for a starting cannon and safety flares for a boat (net explosive content 0.5kg). These are explosives of mixed classification. The explosives in the partitioned box are HT3 and the flares and fuse are HT4, so all the explosives are categorised as HT3. The total quantity is 13.5kg. Look up Table 10 in Schedule 5 of ER2014 or Table 10 in Appendix 5 of L150 and it can be seen that the separation distance is 0 for buildings outside the site (Class D).

80. It is possible to reduce the separation distances applied by separating stores one from the other. If you intend doing this you should contact your local Explosives Liaison Officer for advice.

SECURITY

Unauthorised access [Regulation 30]

81. Any person who manufactures, stores or keeps explosives must take all appropriate precautions for preventing unauthorised persons having access to the places where those explosives are manufactured, stored or kept; or the explosives themselves. It is also an offence for a person to enter premises licensed for explosives storage without the permission of the licensee.

82. The arrangements required by the Firearms Acts 1968 to 1997 for the secure storage of ammunition will generally comprise 'appropriate precautions' for the secure storage of such articles under the provisions of the Explosives Regulations 2014.

Secure storage of explosives in buildings used solely as a store

83. L151 contains detailed guidance on the standards of security expected when explosives are kept in buildings used solely for that purpose.

Secure storage of explosives in buildings also used for other purposes.

84. Explosives kept in buildings that are not used solely for explosives operations should be kept as securely against unauthorised access as those explosives kept in separate stores.

85. Where relevant explosives are kept in for example, retail premises, offices, factories etc, any store should be physically secure and the curtilage of the building, or the room containing explosives, should either be:

- provided with a monitored alarm system;
- constantly attended; or
- have frequent visits by security patrols at intervals that will identify any attempts to gain access to the explosives before that access is actually achieved.

Secure storage of shooters powders in domestic premises

86. When shooters powders are kept or stored in domestic premises, a constantly monitored system may not be required. Where the shooters powders are:

- black powder and the enforcing authority is satisfied that the storage place itself has adequate physical resistance to attack, an acceptable standard of alarming would be a system installed to a relevant standard with an external audible sounder;

- smokeless powder and the enforcing authority is satisfied that the storage place itself has adequate physical resistance to attack, no alarm would be required.

87. Where the place of storage is not a secured room or other suitably secure place the enforcing authority is likely to be satisfied that the physical resistance to attack is adequate when boxes used for the storage of shooters powder meet the following requirements:

- have securely fixed, robust steel hinges;
- have a secure hasp used with a security grade padlock; and
- suitable arrangements have been made to frustrate attempts to remove the box. Examples of good practice are:
    - bolting or screwing the box to the floor of the place where it is being kept
    - securing it by either its handles (if they are bolted through the box) or by a similarly attached ring or other attachment, to a strong point using a good quality chain or fixed device and padlock.

Secure storage of black powder during re-enactments

88. It is often not practicable to store black powder in a physically secure building or room or in a place that is provided with a monitored alarm system during a re-enactment due to the open air and temporary nature of these events. Alternative arrangements will need to be in place to ensure the security of the black powder including:

- the store being:
    - constantly attended; or
    - having frequent visits by security patrols at intervals that will identify any attempts to gain access to the explosives before that access is actually achieved.
- The box having:
    - securely fixed, robust steel hinges;
    - a secure hasp used with a security grade padlock.
- The box being secured by either its handles (if they are bolted through the box) or by a similarly attached ring or other attachment, to either
    - a strong point;
    - other object that cannot readily be moved using a good quality chain or fixed device and padlock.

Requirements in regard to relevant explosives being transferred from person to person

89. Regulation 31 requires that where the explosive is a 'relevant explosive', which in the context of this guidance relates in the main to black powder, the person in possession must not transfer the explosive to another person unless:

- that other person is the holder of an explosives certificate;
- the relevant explosive is for immediate export to a person resident outside the united Kingdom;
- the relevant explosive is for immediate transport to Northern Ireland and the person in Northern Ireland has a police consent from the Police Service of Northern Ireland under Regulation 11 of the Explosives Regulations (Northern Ireland) 1970;
- the relevant explosive is for transport to an offshore installation in controlled waters as defined in Section 12 of the Mineral Workings (Offshore Installations) Act 1971;
- The transferee is a person specified in Regulation 3(7) [police and other enforcing authorities and their appointed employees].

90. This regulation does not apply where relevant explosives are being transported (including where being loaded or unloaded and during breaks that are incidental in completion of the journey e.g. meals or similar) and in the possession of

    - a carrier
    - a person engaged in the work of loading and unloading
    - the occupier of a place it passes through during its journey

91. In the case of relevant explosives, the requirements of Regulation 31 are effective for any civil explosive which also qualifies to be in the interpretation of 'relevant', and these need to be read in addition to any requirements under Regulation 8, transfer of civil explosives.

The purpose of Regulation 31 is to ensure that acquisition and transfers of explosives, including black powder, are controlled and supervised at all times.

In practical terms a muzzle loader who holds an explosives certificate is permitted to load a firearm or shotgun for a non-explosive certificate holder providing they maintain direct supervision and control of that person at all times.

The muzzle loader with an explosives certificate may also provide a small amount of black powder in a single use container to the non-explosives certificate holder for that person to load, providing the loading is done under their direct supervision and for immediate use. This black powder must not be taken offsite by the recipient.

Keeping records of explosives and reporting a loss or theft.

92. Regulations 35 and 36 of ER2014 cover the record keeping requirements for relevant and civil explosives respectively. Regulation 37 requires losses of relevant explosives to be reported.

93. Individuals who acquire any civil or relevant explosives, solely for their own personal use (i.e. not for use in connection with their work) are not required to keep records but they are required to report losses of relevant explosives.

94. Regulation 2(15) establishes that Regulations 36 (Records in relation to civil explosives) do not apply to -

    - fuses, which are cord-like non-detonating igniting devices;

    - safety fuses, which consist of a core of fine grained black powder surrounded by a flexible woven fabric with one or more protective outer coverings and which, when ignited, burn at a predetermined rate without any external explosive effect; or

    - cap-type primers, which consist of a metal or plastic cap containing a small amount of primary explosive mixture that is readily ignited by impact and which serve as igniting elements in small arms cartridges or in percussion primers for propelling charges.

95. HSE has produced detailed guidance on record keeping which can be found in Paragraphs 132 to 162 of L151. People acquiring and keeping relevant explosives for private use who are not required to keep a record under Regulation 35, e.g. homeloaders, are required to

    - maintain adequate systems for ensuring that any loss is detected.
    - report losses to the police.

96. People acquiring and keeping relevant explosives for private use should keep sufficient information to ensure that the types and any significant quantities of explosives lost can be reported. This

should include information such as the number of containers in use kept in a notebook or another appropriate system. It may be helpful to keep receipts and delivery notes to identify the type and quantities of relevant explosives purchased.

97. Whether or not you need to keep records, any loss of explosives must be reported to the police without delay, whether the loss or theft is in storage or transport. The report if made by telephone does need to be confirmed in writing and the information required needs to contain the time, date and place of loss/theft and the details of the amount, type and description of the explosive, or if more than one, a description of each. For best practice guidance on record keeping the following publication is available: www.hse.gov.uk/explosives/record-keeping.htm

Restriction on prohibited persons [Regulation 32]

98. No employer shall knowingly employ a 'prohibited person' in a position where the employee handles or has control of any relevant explosive or any 'restricted substance'. The meanings of 'prohibited person' and 'restricted substance' are given in the GLOSSARY.

99. No prohibited person, whether or not satisfying any relevant conditions of regulations, may acquire, handle or have control of any relevant explosive or any restricted substance. This is the case whether or not the person is an employee mentioned above or not.

100. An example of a restricted substance would be a product comprising a quantity of an oxidising substance and a quantity of a fuel intended to be mixed to produce an impact sensitive explosive for use as a reactive target[7].

CARRIAGE

101. ER2014 does not regulate the carriage of explosives. The guidance below identifies relevant parts of the wider regulatory framework covering the carriage of dangerous goods by private individuals.

The carriage of shooters powders and other explosives by road.

102. Guidance on the carriage of shooters powders for use in small arms, small arms ammunition is available here: www.gov.uk/government/uploads/system/uploads/attachment_data/file/527616/dangerous-goods-guidance-note-6.pdf.

103. Trade movements of shooters powders and ammunition to retailers is handled by specialist couriers organised by wholesalers. Anyone wishing to package and transport explosives to retailers should contact the courier's Dangerous Goods Safety Adviser for tailored advice.

104. Restrictions apply to carriage of explosives in some tunnels in UK. These apply to all commercial operations under ADR. Carriage of dangerous goods by private individuals for their personal use is exempt from ADR (Article 1.1.3.1(a)). However this should be taken to apply only to quantities (NEM) of explosives in UN Hazard Divisions 1.1, 1.2 and 1.3/HT1, HT2 and HT3 up to 20 kg (ADR Article 1.1.3.6.3). There are no current restrictions on transport of explosives on bridges in UK.

[7] Anyone mixing the components together would also be likely to require an explosives certificate and a licence to manufacture explosives.

Tunnel	ADR Category	Restriction applies to
Dartford	C	UN Hazard Division 1.1 /HT1
Mersey	D	UN Hazard Division 1.1, 1.2 and 1.3 /HT1, HT2 and HT3
Clyde	D	UN Hazard Division 1.1, 1.2 and 1.3 /HT1, HT2 and HT3
Limehouse	E	All UN Hazard Division 1 goods /HT1-4
Rotherhithe	E	All UN Hazard Division 1 goods /HT1-4
Blackwall	E	All UN Hazard Division 1 goods /HT1-4
East India Dock Road	E	All UN Hazard Division 1 goods /HT1-4
Tyne	D	UN Hazard Division 1.1, 1.2 and 1.3 /HT1, HT2 and HT3
Channel Tunnel		Only small arms ammunition permitted (UN 0012,0014,0055)

Carriage of explosives on passenger fee paying transport (trains, buses & taxis).

104. Carriage regulations do not affect individuals carrying certain quantities of dangerous goods by means of public transport (in vehicles used to carry passengers for hire or reward).

105. Conditions of Carriage and Byelaws may prohibit explosives of any type being carried on the National Rail network, including both surface and underground train systems. For specific advice contact the relevant train operating company in advance.

106. Similar Conditions and Byelaws exist for the other methods of public transport e.g. buses and taxis. For specific advice contact the relevant transport operating company in advance.

Carriage of explosives on ships and ferries.

107. The service provider will have policies on the carriage of dangerous goods. Always check the terms and conditions of travel before purchasing a ticket or proceeding to board the transport. Note that the captain or master of a ship may override decisions to carry dangerous goods.

108. Annex 5 of the Marine Guidance Note 340(M)[8] guides shipping lines to what may be permitted on Roll On/Roll Off ferries. Annex 5 covers sporting ammunition; it does not cover shooters powders which must be carried under strict requirements laid down by the International Maritime Dangerous Goods (IMDG) Code. For details about how to carry black and nitro powders please contact the ferry company who will advise you as to the requirements.

[8] www.gov.uk/government/uploads/system/uploads/attachment_data/file/440616/MGN_340.pdf

REFERENCES

The Explosives Regulations 2014 -
http://www.legislation.gov.uk/uksi/2014/1638/contents/made

Additional reading

Advice about the practical use of shooters powders on ranges and additional practices for muzzle loading arms can be obtained from the Muzzle Loaders Association of Great Britain's 'Manual for Muzzle Loading Arms'. http://www.mlagb.com/downloads .
For additional information about explosives such as storage, transport, security, transfers and more go to the explosives section on the HSE website at www.hse.gov.uk/explosives/

GLOSSARY

"black powder" means an intimate mixture, with or without sulphur, of charcoal or other carbon with potassium nitrate or sodium nitrate, whether the mixture is in meal, granular, compressed or pelletised form, being an explosive substance assigned in accordance with the United Nations Recommendations the U.N. no. 0027 or 0028;

"civil explosive" means an explosive which has been or would be classified in accordance with the United Nations Recommendations as falling within Class 1 but it does not include —

- ammunition the acquisition of which is regulated or prohibited by virtue of the Firearms Acts 1968 to 1997;
- any explosive which it is shown is intended for lawful use by the armed forces or the police of any country and;
- a pyrotechnic article.

As examples black powder and propellant will generally be treated as civil explosives where as small arms ammunition will not.

Many civil explosives will also be "relevant explosives";

"explosives certificate" has the meaning given in Regulation 4(1). It is certifies that the person to whom it is issued is a fit person to:

- acquire relevant explosives; or
- acquire and keep relevant explosives;

in accordance with the terms of the explosives certificate;

"explosive substance" means a substance or preparation, not including a substance or preparation in a solely gaseous form or in the form of vapour, which is —

(a) capable by chemical reaction in itself of producing gas at such a temperature and pressure and at such a speed as could cause damage to surroundings; or

(b) designed to produce an effect by heat, light, sound, gas or smoke, or a combination of these as a result of a non-detonative, self-sustaining, exothermic chemical reaction;

"firearm" has the meaning given in section 57(1) of the Firearms Act 1968;

"Hazard Type" means any of Hazard Type 1 explosive, Hazard Type 2 explosive, Hazard Type 3 explosive or Hazard Type 4 explosive;

"Hazard Type 1 explosive" means an explosive which, as a result of, or as a result of any effect of, the conditions of its storage or process of manufacture, has a mass explosion hazard;

"Hazard Type 2 explosive" means an explosive which, as a result of, or as a result of any effect of, the conditions of its storage or process of manufacture, has a serious projectile hazard but does not have a mass explosion hazard;

"Hazard Type 3 explosive" means an explosive which, as a result of, or as a result of any effect of, the conditions of its storage or process of manufacture, has a fire hazard and either a minor blast hazard or a minor projectile hazard, or both, but does not have a mass explosion hazard;

"Hazard Type 4 explosive" means an explosive which, as a result of, or as a result of any effect of, the conditions of its storage or process of manufacture, has a fire hazard or slight explosion hazard, or both, with only local effect;

"Net Explosive Mass" (NEM) the total mass of all explosive compositions within an article of ammunition or a container of explosive compositions.

"percussion caps" (i.e. primers) means items intended for use in small arms ammunition or small arms assigned in accordance with the United Nations Recommendations the UN nos. 0044, or 0378;

"primers" see 'percussion caps' for the purposes of the Explosives Regulations 2014.

Note: "A percussion cap is placed on a nipple which directs fire to a muzzle-loading firearms breech, which contains the propellant. Ignition is achieved by a blow to the percussion cap from the firing mechanism which initiates the primary explosive within the cap.

"Primers" (known as cap-type primers) consist of a metal or plastic cap containing a small amount of primary explosive mixture that is ignited by impact. Cap-type primers are usually situated within portable ammunition i.e. cartridges that are loaded into the breech of a firearm.

"prohibited person" a person who is forbidden from:

- acquiring, keeping, handling or controlling relevant explosives or any restricted substance;
- being knowingly employed in a position where they handle or had control of relevant explosives or any restricted substance;

because they have been:

- convicted of any offence under the Explosives Substances Act 1883;
- sentenced to a sentence which is excluded from rehabilitation under the Rehabilitation of Offenders Act 1974[9] by virtue of section 5(1) and (1A) of that Act; or
- sentenced to a custodial sentence within the meaning of section 5(7) and (8) of the Rehabilitation of Offenders Act 1974 and their conviction is not spent for the purposes of that Act;

[9] Guidance on what comprises a custodial sentence and the application of the Rehabilitation of Offenders Act 1974 can be found at www.gov.uk/government/publications/new-guidance-on-the-rehabilitation-of-offenders-act-1974 .

- sentenced to a sentence of service detention, within the meaning of section 5(8) of the Rehabilitation of Offenders Act 1974, for a recordable service offence and their conviction is not spent for the purposes of that Act.

"conviction" includes a finding or a substituted finding that is treated as a conviction by virtue of section 376 of the Armed Forces Act 2006(27); and

"recordable service offence" has the meaning given by article 2(1) of the Police and Criminal Evidence Act 1984 (Armed Forces) Order 2009(28) and paragraph 4 of Schedule 2 to that Order;

"propellant" means a deflagrating explosive used as a propellant in firearms. The application of the legislation to those materials that are commonly known as propellants but which do not meet this definition should be considered on a case by case basis. *See also 'shooters powder' below.*

"recreational or occupational firearms" means hand-held firearms intended for the shooting of -

- wild game, vermin or, in the course of carrying on activities in connection with the management of an estate, wildlife; or

- prepared inanimate objects (i.e. artificial targets);

"relevant explosive" means an explosive for which an explosives certificate is required under Regulation 5 for acquiring or keeping that explosive, or would be so required were it not for Regulation 3(7), and, in relation to Regulations 35 (record keeping) and 37 (reporting loss) and paragraph 4 of Schedule 4 it also includes—

- ammunition the acquisition of which is regulated or prohibited by virtue of the Firearms Acts 1968 to 1997(29); and

- smokeless powder,

even though, and to the extent that (in the case of smokeless powder), an explosives certificate is not required for their acquisition or keeping.

Explosives listed in Schedule 2 (other than smokeless powder as noted above) and pyrotechnic articles (apart from those listed Schedule 3) are **not** relevant explosives.

Many relevant explosives will also be "civil explosives".

"restricted substance" means any collection of substances which would if mixed form one or more explosive substances and which has been prepared for that purpose.

"separation distance" means the distance between the store or the building or other place in or at which explosives are, or are to be, manufactured and a building, or other place in or at which people are or are likely to be present either all the time or from time to time;

"shooters' powder" means -

- black powder,

- smokeless powder which is manufactured for use in small arms, or

- any other substance or preparation based on potassium nitrate or nitro cellulose, whether in powder, pelletised or granular form, used, or to be used, as a propellant;

Note: This includes black powder substitute propellant powders such as Pyrodex® or Triple Seven

"site" means the whole area under the control of the same person and, for these purposes —

- all places adjoining each other under the control of the same person are to be treated as a whole area; and

- two or more areas under the control of the same person separated only by a road, railway or inland waterway are to be treated as a whole area;

Note: Where explosives are being kept at the site of a re-enactment it will generally be the case that a single society or person will be responsible for ensuring the safe, secure and lawful storage of explosives at that site. (See Annex D for detailed guidance).

Where ammunition or other explosives are being kept at a game fair or shooting competition or practice event the organiser will need to identify who will be responsible for ensuring the safety and security of explosives. Where it is decided to treat each stall or stand as a separate "site" the organiser and every dutyholder present will need to coordinate their activities to ensure that appropriate standards of safety and security are maintained.

"small arms" means any of—

- a firearm with a calibre not larger than 19.1 millimetres designed to fire ammunition consisting of a propelling charge and an inert projectile;

  British military flintlock muskets have a calibre of 0.75 inches or 19.05mm and therefore qualify as a small arm.

- a shotgun as defined by section 1(3) of the Firearms Act 1968(30); or

- a firearm intended to fire blank cartridges not more than one inch in diameter measured immediately in front of the rim or cannelure of the base of the cartridge;

Note: 'inert projectile' generally considered to be a projectile that does not contain explosive substances or other materials that are intended to have an effect or be dispersed upon impact with the target i.e:

- explosive and incendiary rounds are **not** considered to be inert.

- expanding projectiles and bullets incorporating a tracer element **are** considered to be inert.

"small arms ammunition" means the explosive articles assigned in accordance with the United Nations Recommendations the U.N. no. 0012, 0014 or 0055 which are intended exclusively for use in small arms;

"smokeless powder" means an explosive substance assigned in accordance with the United Nations Recommendations the U.N. no. 0509 or 0161 and which is intended exclusively for use in firearms;

"transfer", in relation to explosives, means —

- in Regulations 3(14) and 8, (transfer of civil explosives) any physical movement of explosives apart from movement within one site and whether or not transferring possession of or property in the explosives is involved; and

- for all other provisions, transferring possession of or property in the explosives, save that, in relation to Regulation 38(2) (transfer of unmarked plastic explosives) it is limited to a transfer of possession;

"U.N. no." means United Nations Serial Number, that is to say one of the four-digit numbers devised by the United Nations as a means of identification of types of explosives in accordance with the United Nations Recommendations;

"United Nations Recommendations" means the United Nations Recommendations on the Transport of Dangerous Goods (based on those originally prepared by the United Nations Committee of Experts on the Transport of Dangerous Goods considered by the Economic and Social Committee of Experts at its twenty-third session (Resolution 645G (XXIII) of 26 April 1957))(31) as revised or reissued from time to time;

Other definitions

Regulation 2(4) establishes that any reference in the Regulations to the quantity of an explosive is to be construed as a reference to the **'net mass'** of explosive substance.

Note: Ammunition net mass is calculated by the weight of powder and the explosive content of the primer that is used. As an accepted rule, 0.8 of a grain is allocated as the explosive content of any small arms primer/percussion cap.

Regulation 2(5) establishes that for the purposes of the Regulations and subject to paragraph (6), **"storage"** in relation to explosives means their possession for any period after their manufacture, save for –

- any period during which they are being prepared at any place for use at that place; and
- any period during which they are being transported beyond the place where they are stored.

ANNEX A

EXPLOSIVES NOT REQUIRING AN EXPLOSIVES CERTIFICATE

(Only explosive items applicable to sporting, shooting and re-enactment have been shown.)

Schedule 2 - Part 1

Description	*UN No.*
CARTRIDGES FOR TOOLS, BLANK	0014
CORD, IGNITER	0066
FUSE, INSTANTANEOUS, NON-DETONATING (QUICKMATCH)	0101
FUSE, SAFETY	0105
PRIMERS, CAP TYPE	0044
PRIMERS, CAP TYPE	0378

Schedule 2 - Part 2

1. Ammunition intended for use in small arms.
2. Blank ammunition intended for use in small arms.
3. Cartridges, which are empty but with a primer which —

    (a) are assigned in accordance with the United Nations Recommendations the U.N. no 0055 or 0377;

    (b) are intended for use in small arms; and

    (c) would, if packaged for transport, be assigned in accordance with the United Nations Recommendations the U.N. no 0055 or 0377.

9. The explosive substance smokeless powder which is —

    (a) assigned in accordance with the United Nations Recommendations the U.N. no 0161 or 0509 or which has been recovered from ammunition or blank ammunition intended for use in small arms; and

    (b) acquired by a person who is either registered as a firearms dealer under section 33 of the Firearms Act 1968(a)[10] or who holds: —

        (i) a permit granted under section 7 of that Act;
        (ii) a firearm certificate granted under section 27 of that Act;
        (iii) a shotgun certificate granted under section 28 of that Act; or
        (iv) a permit granted under section 17 of the Firearms (Amendment) Act 1988(b)[11].

[10] 1968 c.27; section 33(3) was amended by the Firearms Act 1997 (c. 5), section 42(2), and section 33(5) was amended by the Firearms (Amendment) Act 1988 (c. 45), section 13(1).
[11] 1988 c. 45; section 17 was amended by the Firearms (Amendment) Act 1997 (c. 5), section 52 and Schedule 2, paragraph 19 and by S.I. 1992/2823 and 2011/2175.

ANNEX B

LABELLING EXAMPLES FOR "SHOOTERS' POWDER"

Generic Class 1
Explosives Hazard Symbol

Class 1 Hazard
Division 1 Symbol
(UN Hazard Division 1
With Hazard
Classification Code D
for Black Powder)

Class 1 Hazard
Division 3 Symbol
(UN Hazard Division 3
corresponds to ER
2014 Hazard Type 3)

NB: The symbols above are usually featured on bulk packaging as well as on each bottle of powder. However some bottles may only show the Hazard Division instead of a warning label. i.e. **1.1** or **1.3**

ANNEX C

STORAGE GUIDANCE FOR HAZARD TYPE 1 POWDERS

Figure 1 – Examples of 500g plastic containers

Figure 2 – Examples of 1kg and 500g plastic containers

Figure 3 – Example storage box for 12.5 kg in 500g containers showing partitions and intumescent strip

Figure 4 – Example storage box for 5kg in 500g containers showing partitions, hasp, staple and padlock

Shooters' powder

1. Shooters' powder includes both black powder and smokeless powder.

2. The powder should be kept in containers with no more than 1 kg of powder per container (see Figure 1 and Figure 2). The containers should be constructed in such a way that, in the event of a fire they do not provide additional containment that will either increase the explosive force of any deflagration or cause smokeless powder to detonate. Normally plastic/polythene or paper/cloth containers should be used. Metal containers with a screw cap, or a push-in lid should not be used.

3. Although shooters' powders are generally not very sensitive to ignition by electrostatic discharge, homeloaders or others who decant the contents of plastic containers must take care to reduce the risk of static electricity build up. Advice on precautions may be sought from the manufacturer.

Plywood Box

4. The containers of powder should be kept in a box constructed of plywood with a minimum thickness of 18 mm and a maximum thickness of 24mm.

5. Where the box holds more than one container, each individual container should be separated by a 6 mm wooden partition that is securely fixed to the outer walls of the box. Each compartment should allow 30% additional height between the top of the container and the inside of the lid.

6. An intumescent strip should be fitted around the edges of the lid to give a good seal. Alternatively a stepped lid or internal second lid can be used.

7. The box should be constructed so that there is no exposed metal on the inside. Internal nuts should be covered by a glued wooden liner not less than 6 mm.

8. Figures 3 and 4 show boxes that would meet the requirements set out in the previous paragraphs.

9. The box may have an internal lid for ease of use or the lid may be a 'stepped lid' as shown in Figures 5 and 6.

Figure 5 – Example box for 9 kg showing an internal lid

Figure 6 – Example box with a stepped lid

10. Boxes constructed in line with the findings presented in HSE research report RR991 can be used for the storage of between 1 and 25 (5x5) containers without being type tested. They are expected to provide at least 8 minutes of fire protection to a box that is involved in a major fire.

11. Metal boxes, including ammunition boxes, are not suitable and should not be used. This is because, firstly while metal is fire resistant it also transmits heat very well and secondly, because the metal container adds additional containment that significantly increases the explosive power of the powder.

Safety and Security of the Box

12. The box should not be located:

- under or near any means of access or escape, for example under stairs;

- in the same room as flammable liquids; or
- in areas where there are risks of fire.

13. The plywood box should not be kept in any form of metal box, drawer or cupboard so as to avoid close confinement.

14. Figures 5 and 6 show methods of securing the box itself that meet the requirements of HSE Guidance L151. A hasp, staple and padlock should be used. The padlock need not be a security grade padlock, nor does the box need to be secured to a strong point, unless the box will be stored for any period outside the secure store.

Figure 7 – Example box showing hasp and staple securing

Figure 8 – Example box with secure padlock

15. Figure 9 shows an example of a good practice method of securing the box to a strong point that meets the requirements of HSE Guidance L151 in a situation where the box or boxes are not able to be kept in a secure room or cupboard.

Figure 9 – Example box secured to strong point when not in a secure room or store

ANNEX D

GUIDANCE FOR CONTROL OF ACQUISITION AND USE OF BLACK POWDER BY RE-ENACTMENT SOCIETIES

Introduction

1. This guidance has been prepared under the Explosives Regulations 2014 [1] to cover aspects of acquisition and control of use of black powder by re-enactment societies that are additional to the general guidance in this document. It takes the place of the relevant aspects of the HSE Code of Conduct for Acquisition and Use of Explosives by Historical Societies [2] which is now cancelled.

2. Applying this guidance will provide one way to satisfy the police that members of re-enactment societies have good reason for acquiring explosives as required by Regulations 4, 5, 11 and 19 of ER 2014.

Organisational Structure

3. Re-enactment or historical societies are formed usually in a hierarchical structure often resembling a military chain of command. Administrative and practical control of black powder, other explosives and firearms is part of this chain of command. For the purposes of control of black powder the following definitions apply:

3.1. The Society Powder Master or Explosives Officer(s) (called Category 3 members in [2]) are persons responsible for supervising and directing all matters concerning explosives used by the Society. There may be only one such person, or there may be several in a large society. They bring black powder to an event when required and store black powder between events. They hold a valid Acquire and Keep Certificate for the black powder for which they are responsible.

3.2. The Appointed Officers or in some societies Non-Commissioned Officers (called Category 2 members in [2]) are responsible to the Powder Master/Explosives Officer and in certain circumstances may control the daily issue, use and return of black powder by individual members. They can hold either an Acquire Only Certificate or an Acquire and Keep Certificate and may have the additional responsibilities of a Powder Master/Explosives Officer as events dictate.

3.3. The soldiers, musketeers, harquebusiers, dragoons, riflemen, gunners and artillerymen etc (called Category 1 members in [2]) use the black powder issued to them on each day of an event by their Powder Master/Explosives Officer or by Appointed Officers, and return any unused black powder. They hold an Acquire Only Certificate for black powder and a valid Firearm Certificate or Shotgun Certificate for the weapon they will use.

Description of Key Aspects of Control of Acquisition and Use of Black Powder

4. When a society intends to stage a display, skirmish or battle, the controlling Powder Master/Explosive Officer appointed for that event should give prior notice to the police (and also the fire service and the local authority where relevant) for that location stating that black powder will be in use in accordance with this Guidance.

5. The Powder Master/Explosives Officer shall also apply in good time (at least 8 weeks in advance) to the Police Explosives Liaison Officer in the relevant area for an Acquire and Keep Certificate for the period of storage at the event, stating how and where the powder is intended to be stored, regardless of whether this is within the time limits stated in Regulation 7 (2) of ER 2014. This is to ensure that the Police ELO is content with the method of storage intended.

6. Note that other members of the society who may hold black powder Acquire or Acquire and Keep certificates may not bring additional black powder to the event unless by agreement with the Powder Master/Explosives Officer of the event and within the total limits of the Certificate granted for that event (in

accordance with Regulation 7 (4) of ER 2014) (i.e. only if the stored quantity will not then exceed the total permitted limit).

7. For transport of black powder see Paragraph 102 of the main document. Note that the prescribed limit for transport of black powder by individual Acquire and Keep holders is 30kg (Carriage of Dangerous goods and Use of Transportable Pressure Equipment Regulations 2009 – Paragraph 9(4)(b)).

8. All black powder should be secured overnight in the store for the event. The bulk black powder is to be stored in containers and boxes in accordance with Annex C of this document.

9. Bulk quantities of black powder and other explosives should be located in a part of the site to which the public does not have access and all other personnel should be excluded from the store location (except for issue or return of black powder). Regardless of the quantity held, a minimum exclusion zone of 25 m should be applied just to keep other possible hazards, such as sources of ignition and other fuels, away from the black powder. For larger quantities the distances stated in ER 2014 Schedule 5 Table 10 for a Hazard Type 3 explosive should be used. In this context Class E buildings (vulnerable buildings) should include tents, caravans and motorhomes (and vehicles).

10. Because all black powder is brought to the re-enactment event in the approved wooden boxes, it is reasonable to assume that the maximum size of an accidental initiation would be related to the largest quantity in any single box. This is because the box is designed to withstand fire for a period of at least 6 minutes and would also withstand the explosion of an adjacent box, provided it was not in direct contact or confined in any way. The first initiation would probably be followed by a series of successive initiations involving other boxes in the store as they became damaged by explosion and fire; at least until some fire fighting effort came into play. This principle is commonly known as unitisation. To be effective it is essential that the boxes in the store are separated from each other and not placed side by side or one on top of another. A minimum distance apart of 76 mm (3 inches) is recommended.

11. The quantity of black powder issued is to be recorded from the Powder Master/ Explosives Officer(s) to the Appointed Officer(s) and also to each individual soldier or artillerymen on suitable forms. Likewise the return of all unused powder is to be recorded at the end of each day of the event.

12. Each society should produce safety guidelines relevant to the weapons and methods of control of black powder that are in use in that society.

13. Black powder is normally to be prepared for use in paper or other suitable cartridges or 'twists'. When preparing cartridges for use, only up to 2 kg of powder should be in the area at one time - See Para 31-33 of the Guidance document [Authorisation to manufacture explosives]. Suitable precautions to prevent ignition or fire and to keep uninvolved personnel away from risk should be taken.

14. The loading of loose powder main charges is permitted only when necessary to reflect the period being re-enacted. When loose powder is used in main charges in artillery pieces, specific additional precautions are recommended as were stated in detail in the HSE Code [2]. Societies using loose loading are recommended to draw up their own written procedure based on the HSE Code.

References:

1. The Explosives Regulations 2014 – UK Statutory Instrument 2014 No 1638 – I October 2014
2. Acquisition and Use of Explosives by Historical Societies (1998) - HSE Books ISBN 0 7176 1622 3 (no longer in publication).

ANNEX E

GUIDANCE FOR AMMUNITION COLLECTORS

Introduction

1. Collectors of ammunition may hold various types of ammunition under a Firearm Certificate. However this ammunition must also comply with the Explosives Regulations 2014. Ammunition that is certified Free From Explosives (FFE), inert, empty or dummy is not regulated.

2. The collecting of ammunition is recognised as a good reason for possession by those who can demonstrate they are bona fide collectors, or those with interests in research or an academic interest in the subject of the development etc. of firearms and ordnance. Reference in the Home Office guidance to police [13.53] sets out that ammunition can be collected in its own right.

3. Providing the collection is of 'small arms ammunition' (see Glossary) it will generally be classified as Hazard Type (HT) 4. If the collection includes rounds which do not have 'inert projectiles' such as incendiary or high explosive heads these will probably be classified as HT 1, 2 or 3 and will require careful consideration regarding the Nett Explosive Mass (NEM) to understand the application of ER 2014.

Regulations for Storage

4. In the first place you should establish the original UN Hazard Division for each item of ammunition. It is reasonable to suppose that this can be read across to Hazard Type regardless of the fact that the ammunition is (or may be) no longer in its original packaging or container (see Page 3 of the Guidance). Otherwise assume that high explosives are HT 1, explosive cartridges larger than the small arms limit are HT 2 and incendiary and pyrotechnic devices are HT3.

4.1. So long as the total NEM of propellant (HT3, or HT3 and HT4) is less than 25kg no separation distances apply

4.2. If the total NEM of small arms propellant (HT4) is less than 250kg then no separation distances apply

4.3. If any quantity of HT 1 or HT 2 explosives is stored then separation distances will apply based on the total (aggregated) explosive mass of all explosives held.

4.4 If you are collector and you also hold ammunition for shooting it is the total quantity of explosives held that should be considered, unless the storage sites are separated by an appropriate amount.

4.5 You should consider the safety and security of your place of storage of ammunition in accordance with the guidance issued under ER2014 and how this may be affected by further acquisitions to your collection.

Regulations for Certification

5. If the collection includes any live ammunition components items not regulated by the Firearms Acts, excluding primers and percussion caps for small arms, then you will need to apply for an Acquire and Keep Certificate (See Paragraphs 22-29 of the Guidance).

References:

1. The Explosives Regulations 2014 – UK Statutory Instrument 2014 No 1638 – I October 2014
2. The Firearms Acts (Section 27).