

**EXPLANATORY MEMORANDUM TO THE  
MANUFACTURE AND STORAGE OF EXPLOSIVES REGULATIONS 2005  
2005 No. 1082**

1. This explanatory memorandum has been prepared by the Department for Work and Pensions and is laid before Parliament by Command of Her Majesty.

This memorandum contains information for the Joint Committee on Statutory Instruments.

2. **Description**

- 2.1 The Regulations repeal most of the Explosives Act 1875 and 37 items of secondary legislation and replace them with a new regulatory regime in relation to the manufacture and storage of explosives. Annex A to this memorandum sets out the key features of the new Regulations.

3. **Matters of special interest to the Joint Committee on Statutory Instruments**

- 3.1 The Regulations make substantial changes to previous legislation. The paragraphs below on the legislative and policy background give more information on this.
- 3.2 They also make changes concerning fees. A fee is payable under the Health and Safety (Fees) Regulations 2005 (S.I. 2005/676) (“the 2005 Fees Regulations”) for a licence to manufacture or store explosives or registration for the storage of explosives under the Explosives Act 1875. These Regulations amend the 2005 Fees Regulations so as to include fees for licensing and registration under these Regulations.
- 3.3 The Regulations will introduce increases in certain fees, as compared with those in the 2005 Fees Regulations. Licences and registrations for the storage of smaller quantities of explosives are granted by the local authority or the police. The fees for new licences and registrations under the provisions replaced by these Regulations are significantly out of line with costs. For example, the old fee for a registration is £13 while the estimated cost to the local authority is £95.. The Regulations provide for the first stage of “catch up” in this area – which should be completed by 2009. They also introduce fees for the issue of certain explosives certificates under the Control of Explosives Regulations 1991 (S.I. 1991/1531) – at present the police do not receive any fee for their work in carrying out this function. Annex B to this memorandum provides more detail on the increases. The impact of these increases is considered as part of the Regulatory Impact Assessment for the Regulations attached at Annex C to this memorandum.
- 3.4 The new fees involve a one-off increase with the intention that this should be followed by 20 per cent per annum increases until the real cost level is achieved. The increases are shown in Table 1 of Annex B. Table 2 of Annex B shows the planned fee for future years after 2005/6.

- 3.5 The proposed fees for the explosives certificates under the Control of Explosives Regulations 1991 are at Table 3 of Annex B. Table 4 of Annex B gives an overview of the impact of proposed increases in fees for explosives licences/registrations and the introduction of fees for explosive certificates.
- 3.6 HSE published a discussion document in 2004 regarding the Explosives Regulations which was widely circulated in the affected industries. In general industry has accepted the argument that fees should reflect costs to licensing authorities. However it has been concerned to ensure that the fee increases are introduced progressively. The proposals balance the industry concerns with the concerns of local authorities to move quickly to a position where fees reflect the real costs.

#### **4. Legislative Background**

- 4.1 The Regulations are made under the 1974 Act. Section 1(2) of that Act provides that the provisions of Part 1 of the Act and the preparation and approval of codes of practice “shall in particular have effect with a view to enabling the enactments specified in the third column of Schedule 1 (which includes almost all of the Explosives Act 1875) and the regulations, orders and other instruments in force under those enactments to be progressively replaced by a system of regulations and approved codes of practice operating in combination with the other provisions of this Part and designed to maintain or improve the standards of health, safety and welfare established by or under those enactments”.
- 4.2 Pursuant to that provision, these Regulations, in repealing much of the existing legislation and replacing it with new regulatory regime, are intended to maintain and improve standards of safety at explosives sites. The new provision made by these Regulations takes account of changes in technology and the economy. The Regulations are supported by an Approved Code of Practice, which also consolidates existing guidance into a single document.
- 4.3 The Regulations leave certain provisions of the Explosives Act 1875 in place, such as section 30, which prohibits the sale of fireworks in a street or other public place and section 80, which prohibits the throwing of fireworks in a thoroughfare. Sections of the Act supporting these provisions are also left in place. The regulatory regime in relation to acetylene under that Act and linked subordinate legislation is also left in place.

#### **5. Extent**

- 5.1 This instrument applies to Great Britain and, to the extent that it concerns the importation of pyrotechnics into the United Kingdom, to Northern Ireland.

#### **6. European Convention on Human Rights**

- 6.1 The Minister for Work (Jane Kennedy) has made the following statement regarding Human Rights:

In my view the provisions of the Manufacture and Storage of Explosives Regulations 2005 are compatible with the Convention rights.

## 7. Policy background

- 7.1 The Explosives Act 1875 is one of the few major pre-Health and Safety at Work Act pieces of legislation that is still in force. While the 1875 Act itself has stood the test of time well there have been significant changes in the industry and in the wider economy that have been addressed in this review, for example:
- the shift from factory-based production to on-site mixing;
  - the growing numbers of supermarkets and DIY ‘superstores’;
  - the growth of leisure and entertainment uses of explosives (firework displays, re-enactment events, and cinema special effects).
- 7.2 The Regulations seek to preserve the strengths of the existing legislative framework for the regulation of the manufacture and storage of explosives. This framework has ensured that explosives facilities are appropriately located and that the risk of explosion is properly controlled. In certain cases the Regulations increase the distances that must be maintained around explosives stores. This takes account of new knowledge on explosion effects.
- 7.3 The Explosives Act 1875 has been overlaid by so many pieces of secondary legislation, much of which cross-refers, making it difficult for duty holders to follow. These Regulations are in part intended to resolve this.
- 7.4 The Regulations form part of the Health and Safety Commission’s (“HSC”) and the Health and Safety Executive’s (“HSE”) contribution to the government’s better regulation effort as well as to meet the obligations under section 1(2) of the 1974 Act to progressively replace pre-1974 legislation.
- 7.5 The major industries using explosives are: quarrying, arms manufacture, firework retail and firework displays. The Regulations will apply to the Crown; however, there is a disapplication from the licensing requirements in certain circumstances for sites under the control of the Secretary of State for Defence. The key safety requirements of the Regulations, namely regulations 4 and 6, will though apply to the Ministry of Defence (“MoD”): at present the Crown is exempt from the Explosives Act 1875, although MoD operates a licensing system that is intended to offer a standard of safety at least equivalent to that required under the Explosives Act.

### *Explosives security*

- 7.6 The Regulations do not cover the security of explosives or controls on the acquisition of explosives. Section 23 of the Explosives Act 1875 places a duty on occupiers to take due precautions to prevent unauthorised access to explosives. This section is to be retained on an interim basis – in the longer term the intention is to consolidate all security requirements into a single set of regulations with the review of the Control of Explosives Regulations 1991 (S.I. 1991/1531).

### *Fireworks*

- 7.7 HSE is responsible for regulation of the safety of the manufacture and storage of fireworks (which these Regulations cover) and the safety of firework displays, while the Department for Trade and Industry have policy responsibility for legislation on consumer product safety and on the supply of fireworks to the general public. There is an important relationship between the two regulatory regimes and in many areas of the country both sets of legislation are enforced by trading standards officers.

### *Consultation*

- 7.8 HSC published a discussion document in 2001 seeking views on the general approach taken in these Regulations. This was then followed by a consultation document on the draft Regulations in 2002.
- 7.9 In addition the development of the proposals has been overseen by HSC's Advisory Committee on Dangerous Substances. A sub-committee involving the explosives industry, local authority associations, police and MoD has been closely involved in the drafting of the Regulations. In addition, HSE has held many bilateral meetings with the groups ranging from the explosives industry, firework retailers, to historical re-enactors and cavers.
- 7.10 A total of 108 responses to the Consultation Document were received. The breakdown of responses are as follows:

	No of responses
Industry and industry representative organisations	39
Police, fire services and local authorities	31
Trade unions	2
Government departments	6
Recreational users (shooters, cavers and re-enactors)	22
Other	8

- 7.11 The responses were generally supportive however:
- industry were concerned to ensure that there were suitable transitional arrangements;
  - local authorities were concerned over enforcement issues in relation to fireworks.
- A number of changes were made to the Regulations to meet these concerns.

## **8. Impact**

- 8.1 A Regulatory Impact Assessment is attached to this memorandum at Annex C
- 8.2 The impact on the public sector is broadly neutral. The Regulations do not create new or additional functions for local authorities. The proposals will give the police licensing and enforcement responsibility for explosives stored at quarries. The police already have enforcement responsibilities in relation to the control of explosives and already make inspection visits to quarries. The proposal will therefore avoid the need for both local authority staff and the police to make licensing visits to the quarry, and will therefore create efficiency savings without adding significantly to the police workload.

## **9. Contact**

- 9.1 Andy Miller at the Health and Safety Executive, Tel: 020 7717 6345 or e-mail: [andy.miller@hse.gsi.gov.uk](mailto:andy.miller@hse.gsi.gov.uk), can answer any queries regarding the instrument.

## Explanatory Memorandum Annex A

### Key features of the regulations

Key requirements of the Regulations are as follows:

- anyone manufacturing or storing explosives must take appropriate measures to prevent fire or explosion; to limit the extent of any fire or explosion should one occur; and protect persons in the event of a fire or explosion. These are the key requirements of the Regulations and are backed up by extensive guidance in the Approved Code of Practice;
- in most cases a separation distance must be maintained between the explosives building and neighbouring inhabited buildings. This is intended to ensure that risks to those living or working in the area are kept to an acceptable level. If there is development in this separation zone then the quantity that may be kept must be reduced;
- with certain exceptions a licence is required for the manufacture or storage of explosives. HSE licences manufacturing activities because of the greater risks involved. HSE also licences larger explosives storage facilities. Stores holding less than two tonnes of explosives are normally either licensed or registered by the local authority or the police;
- HSE may not grant a licence for a manufacturing facility or larger store until the local authority has given its assent (normally following a public hearing). This is an important safeguard in the present system that is to be retained;
- the Regulations introduce the power for licensing authorities to refuse or revoke a licence or registration if either the site is unsuitable or the applicant is unfit. This power is accompanied by provisions concerning the making of representations and appeal;
- licensing authorities are required to maintain registers of licensed and registered premises and to make the information available to members of the public – although these rights are subject to some restrictions because of security concerns;
- the Regulations prohibit the supply or acquisition of more than 50kgs of fireworks without evidence of a legal place of storage. This is a new requirement and is intended address concerns over the illicit supply of fireworks by illicit traders without legal storage.

## Explanatory Memorandum Annex B

**Table 1 : Fees for licences and registrations for explosives stores**

<b>Service</b>	<b>Current Explosive Act 19875 fee</b>	<b>Real cost</b>	<b>New fee</b>
New store licence (1 year)	77	170	100
New store licence (2 year)*	-	220	150
New store licence (3 year)*	-	270	200
Store licence renewal (1 year)	77	75	75
Store licence renewal (2 year)*	-	125	125
Store licence renewal (3 year)*	-	175	175
New registration (1 year)	13	95	60
New registration (2 year)*	-	125	90
New registration (3 year)*	-	155	120
Registration renewal (1 year)	13	45	30
Registration renewal (2 year)*	-	60	60
Registration renewal (3 year)*	-	90	90
* Multiple year licences etc. have not previously existed			

**Table 2 : Fees for licences and registrations for explosives stores 2005/6 – 2008/9 (all figures £s in constant prices)**

<b>Service</b>	<b>Current fee</b>	<b>Real cost fee</b>	<b>New fee</b>	<b>2006/07 fee (projected)</b>	<b>2007/08 fee (projected)</b>	<b>2008/09 fee (projected)</b>
<b>New store licence (1 year)</b>	77	170	100	120	156	170
<b>Store licence renewal (1 year)</b>	77	75	75	75	75	75
<b>New registration (1 year)</b>	13	95	60	72	86	95
<b>Registration renewal (1 year)</b>	13	45	30	36	43	45

**Table 3 : Fees for certificates under COER 2005/06**

Type of explosive certificate	Fee (£)
Acquire and keep (registered premises)– new certificate	165
Acquire and keep (registered premises)- renewal	135
Acquire and keep (licensed store)- new certificate	175
Acquire and keep (licensed store) – renewal	160
Acquire and keep (HSE site)- new site	225
Acquire and keep (HSE site)- renewal	200
Replacement for lost certificate	30
‘Prohibited person’ check (per person)	5

**Table 4 : Impact of proposed increases for fees for explosives licences/registration and introduction of fees for explosives certificates (all figures in constant prices)**

Service	Current fee	Real cost fee	2005/06 fee [% increase]	Number of premises	Additional revenue expected by 2009 (per annum)
<b>Registrations (renewals)</b>	13	45	30 [131]	32,500	1,040,000
<b>Registrations (new)</b>	13	95	60 [362]	1500	123,000
<b>Licences (renewals – 3 year) (i.e. 3 x £75 per annum)</b>	225	175	175 [-22]	400	-20,000
<b>Licences (new – 3 year) (i.e. 3 x £75 per annum)</b>	225	270	200 [-11]	20	900
<b>Explosive certificate (renewal)</b>	0	160	160 [n/a]	400	64,000
<b>Explosive certificate (new)</b>	0	175	175 [n/a]	20	3,500
<b>Total additional revenue</b>					<b>1,211,400</b>

## **THE MANUFACTURE AND STORAGE OF EXPLOSIVES REGULATIONS 2005 REGULATORY IMPACT AND COMPETITION ASSESSMENT**

### **Purpose and intended effect**

#### **Issue**

1. Over the years the Explosives Act (1875) has been overlaid with a considerable volume of secondary legislation. This has led to a situation where dutyholders and enforcing authorities find it difficult to understand what the law requires. These proposals retain the fundamental features of the existing framework whilst updating the requirements to take account of changes in the industry and technology. The consolidation and reduction in the volume of legislation is intended to make it easier for dutyholders to understand what is required of them and to provide comprehensive guidance on good practice.

#### **Risk assessment**

2. There were 10 events reported under the Explosives Act in 1999/00 causing a total of 4 injuries. Using past levels of risk as a guide we would expect an average of 11 events per year causing an estimated 0.3 fatalities and 3 injuries. In the HSE enforced explosives sector there were 3 major, 33 over 3 day injuries and 7 dangerous occurrences reported to HSE under RIDDOR. These injuries were not all explosion related and many had other causes (e.g slips/trips, contact with machinery).

3. There has not been an off-site fatality as a result of an explosion at an explosives site in the past fifty years. However tests by the MoD have suggested that the current separation distances for smaller stores holding high explosives may not provide sufficient protection against flying debris. The proposals for new separation distances for stores holding high explosives are intended to ensure that the risks to an individual living near to an explosives site are less than one in a million per year.

#### **Objectives**

4. The primary objectives of the review of explosives legislation were to reduce the volume of legislation and to make it easier for those who have to comply with the regulations to understand what the law requires. This would be done through consolidating the safety requirements and guidance on good practice into one document. There was also a need to update the requirements to take account of technical and other changes, in particular the trend from factory based production of explosives to on-site mixing.

#### **Options considered**

5. An alternative option would be to leave the existing legislation in place. While this would have avoided the costs of developing and implementing the new regulations this would have been outweighed by the additional costs to industry, local authorities and HSE of maintaining the existing system.

6. The proposals largely maintain the fundamental framework of the Explosives Act including licensing and enforcement responsibilities. HSC published a Discussion Document at the end of 1999 seeking views on a number of issues particularly with the regard to the role of local authorities in the regime. The majority of the respondents were in favour of maintaining the fundamental framework. In broad terms the existing framework is felt to have worked well in maintaining a high level of safety without undue burdens on industry; respondents felt that more fundamental changes to the legislation would create unwarranted disruption which would not be justified by the safety benefits.



## **Information sources**

7. Staffordshire University have carried out a survey of explosives stores for HSE, the research included estimating the impact of the proposed revision of separation distances. Information used in this RIA comes from this research and a company that manufactures explosives stores. All costs and benefits are estimated in 2002/03 prices over a ten year period, then annualised in line with Treasury guidance. The discount rate used was 3.5% for costs/cost savings and 1.5% for health and safety benefits again in line with the most recent Treasury guidance.

## **BENEFITS**

### **Health and safety benefits**

8. While the proposals largely carry forward existing requirements, it is expected that they will yield health and safety benefits through increased compliance. Duty holders will find it easier to understand what the law requires of them and will also have better access to comprehensive guidance on good practice.

9. There are three main areas where new or revised requirements will be introduced.

- increased separation distances for certain types of explosive store. The major impact of these would be in avoiding the construction of explosives stores in areas of high population density;
- the licensing of facilities for the storage of ammonium nitrate emulsions;
- the proposal to give local authority licensing authorities the power to revoke or refuse a licence where either the place is not suitable for storage of explosives or the licensee is not a fit person to hold an explosive licence.

10. These measures will lead to general safety benefits through the prevention of explosives incidents and in mitigating their effect if they did occur. If we assume that 50% of the injury accidents reported under RIDDOR (Reporting of Injuries, Diseases and Dangerous Occurrences Regulations) in the HSE enforced sector are caused by explosions then the number of accidents caused by explosions reported under RIDDOR would be 1 major, 19 over 3-day and 4 dangerous occurrences per year. We add to these the estimated 11 events causing 0.3 fatalities and 3 over 3-day injuries per year reported under the Explosives Act.

11. The cost to society of these injury accidents is estimated at £550,000 per year<sup>1</sup>. In addition to this there is the cost of damage and production loss caused by the explosions which we assume to be an average of £30,000 for an incident reported under the Explosives Act and £3,000 for a dangerous occurrence reported under RIDDOR. This leads to a total cost to society from explosion related incidents estimated at around £900,000 per year. If these proposals prevent 10% of the cost of explosion-related incidents per year then the total health and safety benefit to society is estimated at £90,000 per year. Total health and safety benefits discounted over 10 years would be estimated at around £800,000. When annualised, this is £80,000.

### **Cost Savings**

12. The major cost savings would derive from a reduction in training and administration costs to duty holders and enforcers as a result of the simplification and clarification of the regulatory requirements. For example, at present anyone wishing to find out what quantities of fireworks can be kept in registered premises must refer to four separate Orders-in-Council.

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<sup>1</sup> Using average unit costs of accidents of the various severalties taken from the HSE publication "The costs to Britain of workplace accidents and work related ill health in 1995/96"

13. We have assumed that at each site in the HSE enforced sector and at each Local Authority (LA) licensed store three people need to be familiar with the requirements of the Explosives Act. For registered premises we assume that one person at each site needs to be familiar with the requirements of the Act. There are 176 local authorities in Great Britain, if each of them has an average of two trading standards/local authority officers responsible for the regulation of stores then the total number of officers is 352. The New Earnings survey 2000 gives the hourly wage of a production, works and maintenance manager of £16.17, we add to this one third non wage labour costs to give us a full economic cost of £21 per hour. Estimates of the total numbers of people who need to be familiar with the requirements of the Explosives Act are shown in the table below.

Table 1 : Numbers of people who need to be familiar with the requirements of the Explosives Act by sector.

Sector	Number	Full economic cost per hour
HSE enforced Sector	1,220	£21
Mines and Quarries	2,000	£21
LA licensed stores	423	£21
Registered premises	33,320	£21
Trading standards / local authority officers	352	£21
HSE (HID explosives inspectorate)	25	£38 <sup>2</sup>
Police	150	£26
<b>Total</b>	<b>37,490</b>	

14. If we take labour turnover as 10% then the total number of people needing to become familiar with the Explosives Act each year is estimated at around 3,750. We assume that the simplification of the legislation will save approximately half a day's time for each person needing to be familiar with it at premises in the HSE enforced sector and at LA licensed stores. For HSE inspectors, trading standards officers and the police we also assume time saving of one half day for each person needing to become familiar with the legislation. For those operating registered premises we assume that the time saved is equal to one half hour for each person needing to become familiar with the legislation. Using the full economic costs per hour shown in the table above yields a cost saving of around £65,000 per year. Over a ten year period total discounted cost savings from a reduction in familiarisation time are estimated at around £560,000. When annualised, this is £56,000.

15. There may also be operational benefits as dutyholders will be better able to understand what is required of them if their circumstances change and through easier access to consolidated guidance on good practice. These are estimated at two hours per year for dutyholders in the HSE enforced sector and at LA licensed stores, and an average of one quarter hour per year for those operating registered premises. This leads to a total operational benefit to dutyholders estimated at £305,000 each year, and £2.6 million over ten years in present value terms. When annualised, this is £260,000. Operational benefits to HSE and trading standards officers are calculated in the section below.

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(a) 2.HSE Full cost ready reckoner.

## Cost savings to enforcement authorities

16. The proposals will reallocate enforcement responsibilities at stores holding less than two tonnes of high explosives, giving the police responsibility for enforcing, the requirements of these regulations as well as the requirements of the Control of Explosives Regulations (COER) At the moment smaller stores are inspected by the police and by the local authorities. They are generally in remote areas and combining the two inspections could yield significant savings in travelling time and costs. It is proposed that the police should become responsible for the enforcement of health and safety at these stores as well as security. This would apply to around 100 stores that are typically visited by local authorities once every two years. If we assume average travelling time of two hours and a distance of 40 miles for each store at a total cost of £18 per hour and £0.40 per mile then this leads to a yearly cost saving of £2,900. Discounted over a ten year period cost savings would be £25,000. When annualised, this is £2,500.

17. There will be operational benefits to HSE and trading standards officers stemming from an overall simplification of the regulations that will make enforcement less time consuming. For trading standards/local authority enforcement officers we estimate that this operational benefit will be one day per year for each officer. This leads to a yearly cost saving of £50,000 and a total cost saving discounted over 10 years of £450,000. When annualised, this is £45,000. For HSE we estimate that the operational benefits will amount to half a person year each for a band 3 inspector and a band 3 administrator. This leads to yearly cost saving to HSE of approximately £55,000 per year and a total cost saving discounted over 10 years of £475,000. When annualised, this is £47,500.

### *Fees for storage licences and explosives certificates*

18. As part of the package, it is proposed to increase fees for storage licences and registrations as well as introduce fees for the issue of explosive certificates. At present the fees for registrations are substantially less than the cost of this work to local authorities. The cost of issuing explosives certificates is currently borne entirely from public funds. The new fees and fee increases will do no more than ensure that the fees will cover the costs of delivering existing services.

19. A summary of the fee increases is given at Annex I. The increases are to be phased in over a period of three years. At the end of that period the additional fee income to the public sector will be £12 million per annum.

20. The increases in fees for licences, registrations and introduction of fees explosive certificates will result in annual savings to the public sector of £1.2 million and annual additional costs to the private sector of £1.2 million.

21. While there are benefits to dutyholders and society as a whole from the provision of these services, these have not been counted as part of the health and safety benefits estimated in paragraphs 8-11 because the services were already being delivered..

## COSTS

### Business sectors affected

22. 18. There are an estimated 423 local authority licensed explosives stores in Great Britain, the split between those holding fireworks, general explosives and small arms munitions is shown in the table below. There are also an estimated 33,320 registered premises, these are split between the larger Mode A (i.e. a separate store) premises (7.4%) and the smaller (ie storage box/steel cabinet within a room) Mode B (92.6%).

**Table 2 : Estimate of number of LA licensed stores by type of explosives**

Explosive Type	Number	Percentage
Fireworks	118	27.8%

General Explosives	293	69.2%
Small Arms Munitions	11	2.6%
No data	1	0.4%
<b>Total</b>	<b>423</b>	<b>100%</b>

#### *Stores holding high explosives*

23. The revised separation distances for stores holding high explosives are intended to ensure that the risks to an individual living near to an explosive site are less than one in a million per year. The new tables will also distinguish between steel stores and those built of brick and concrete as in certain circumstances the latter will present a greater hazard. The tables will also take into account safety measures such as mounding and the removal of the detonator annex.

24. For the majority of stakeholders (those keeping more than 150kg in a steel store) the impact of these changes will be limited - at most they will have to remove the detonator annex from the store and fix it to a separate hard standing. There is a potentially significant impact on three groups of high explosives storeholders

- those keeping in brick and concrete stores;
- those keeping less than 150kg in a steel store;
- those keeping in registered premises which are presently not required to maintain separation distances.

25. Staffordshire University have carried out a survey of explosives stores for HSE. This has found that most of the stores in the first two groups would be unaffected because they are in remote locations. Of the third category HSE estimates that there are no more than 30 stores nationwide.

#### *Stores holding fireworks*

26. For stores holding fireworks the intention is to ensure consistency between the local authority and HSE sectors. The tables local authorities are required to use impose the same separation distances for fireworks as for high explosives (when explosive content is compared rather than gross weight). The distances required by HSE are significantly less - reflecting the fact that the primary hazard is fire/heat radiation. The effect of adopting the present HSE tables for fireworks would depend on the amount stored. For smaller stores with no present requirement to maintain a safety distance it would result in an increase in the distance, while for larger stores it would result in a decrease.

#### *Ammonium Nitrate Emulsions*

27. The proposals extend the scope of the regulations to include the preparation of ammonium nitrate emulsions; these emulsions are mixed on-site with fuel oil to produce an explosive. This would affect around 3 firms operating 3 sites.

#### *Public Sector*

28. The safety requirements of the regulations will apply to the manufacture and storage of explosives by the Crown; the main impact of this will be on the Ministry of Defence (MoD).

## **Compliance costs to business, charities and voluntary organisations**

### *Stores holding high explosives*

29. Where the revised separation distances are not able to be met in the current location of the store, store holders will have several options. They could re-site the existing store on their own premises, this could involve the purchase of a new store or the moving of the existing one. Where there is no suitable place in their current premises they may have to rent land at another location to site the explosive store, this will usually involve the purchase of a new store.

30. As mentioned above research found that the main impact will be on those storing in registered premises where there is no current requirement for separation distances. The cost of a steel explosive store suitable for around 15-20kg of high explosives would be around £7,500 including installation. If the premises had an existing alarm system then the costs of wiring in the explosive store to the alarm would be around £200, if an alarm system had to be purchased then the cost would be £4,500.

31. If there is nowhere in their existing premises to site the store that is able to meet the separation distance requirements then the store holder may need to rent additional land upon which to site the store. A separation distance of 38m will require an area of land approximately 4,500m<sup>2</sup>. In rural areas where it is envisaged most stores will be located the land will have a rental cost of approximately £250 per year.

*Some registered premises may not be in day to day use for the storage of explosives and may just be kept if needed (e.g. stores at police stations, airports). The legislation may cause the sites concerned to review their existing practices. HSE have agreed an exemption for stores containing very small amounts. An example of this could be a store containing a few grammes to train sniffer dogs. If 25 of the registered premises need to purchase and install new stores then the cost in the first year will be between approximately £190,000 and £300,000. If 10 of the registered premises needed to rent additional land then the extra cost would be £2,500 per year and £20,000 discounted over 10 years. Total compliance costs to registered premises holding high explosives would then be in the range of £210,000 - £320,000 discounted over 10 years. When annualised, this is between £21,000 - £32,000. Ammonium nitrate emulsions*

32. We believe that the proposals reflect current practice within the industry and as such we expect the cost implications to be minimal. This view may change as we receive further information.

### *HSE-licensed sector*

33. Regulation 13 requires that the applicant obtain the assent of the local authority before HSE grants a licence for an explosives factory, or a store holding more than 2 tonnes of explosive. Changes to the assent procedure will require the applicant to make a reasonable effort to inform those who might be affected by the proposed factory or store. At present applicants are simply required to place an advert in the local press. It is envisaged that in most cases a mailing to the occupants of the neighbouring properties affected would be sufficient to comply with the new regulations. This is unlikely to involve significant additional cost due to the low number of applications (four or five) that HSE receives each year and the likelihood that most proposed sites will be in areas of low population density.

### *Fees*

34. The increase in fees for licences and registrations together with the introduction of fees for explosives certificates will result in additional annual costs to the private sector of £1.2 million.

## **Familiarisation Costs**

35. Dutyholders and enforcement officers will have to become familiar with the revised regulations. Familiarisation costs are calculated using our estimates of the number of people needing to be familiar with the Explosives Act in Table 1 and assuming that familiarisation time will one day for those in the HSE enforced sector, trading standards officers, HSE

inspectors and police officers and one hour for dutyholders at registered premises and licensed stores. These times are based on the fact that dutyholders and enforcers may already be familiar with the fundamental framework of the Explosives Act. Given these times total familiarisation costs would be £1.1 million in the first year of the regulations. When annualised, this is £110,000.

### **Total compliance costs**

36. Total discounted compliance costs are estimated at between £2.4 and £2.5 million over ten years, the majority of the cost occurring in the first year that the regulations are introduced. When annualised, this cost is between approximately £240,000 and £250,000.

### **Impact on small and medium sized businesses**

37. The main impact would be on those small and medium sized businesses (SME's) that currently store high explosives in registered premises and would now be required to maintain a separation distance around the store. If the existing store had to be moved or a new store purchased then this would involve additional cost. There may also be nowhere on the SME's current premises to site the store that would comply with the required separation distances. If this was the case then they would have to rent additional land to site the store. Only a minority of the registered premises storing high explosives would be small businesses with the rest being large businesses or hobbyists (cavers, divers etc.).

### **Other costs**

#### *Public sector*

38. The MoD currently issues non-statutory permissions ('licences') for its own sites under the terms of a delegated authority from the Secretary of State. It would be administratively very burdensome for HSE to seek to license all MoD explosive sites, so the proposal is that MoD would continue to operate its permissioning system under delegated authority from the Secretary of State for Defence. The safety requirements of the regulations will apply in full to the MoD but as these reflect existing practice we expect the cost impact to be minimal.

### **Total costs to society**

39. Total costs to society are therefore estimated at between around £1.3 and £1.4 million over ten years, in present value terms. This figure is the total compliance costs to industry minus the additional revenue to the public sector from new or increased fees. Of this between £200,000 and £300,000 are policy costs and £1.1 million implementation costs. Annualised, total costs are between £130,000 and £140,000, with approximately £20,000 to £30,000 consisting of policy costs, and £110,000 implementation costs.

### **Environmental impacts**

40. None, except the prevention of explosives incidents that also have an environmental impact

### **Arrangements for monitoring and evaluation**

41. To be determined.

## COMPETITION ANALYSIS

### *Product markets*

42. The principal product markets affected by the proposals would be:

- munitions and armaments
- fireworks and pyrotechnics
- shooters powders and small arms ammunition
- packaged explosives
- the bulk and on-site mixed explosives
- sale of explosives services to the construction and quarrying industries

43. While these are the principal product markets there are a number of other individual products and services of which explosives are a component and which would to some degree be affected by his regulations. These include: Christmas crackers; party poppers; car airbags and seatbelt pre-tensioners; as well as drilling products used in the offshore oil and gas industry and film and theatre special effects.

### *Geographical markets*

44. The overwhelming majority of fireworks and other pyrotechnics are manufactured in China and other Pacific Rim countries and imported into the UK.

45. Most blasting explosives are manufactured on-site and therefore by definition in the UK. Packaged explosives are almost entirely manufactured in the UK as are munitions. The only exceptions are detonators and some specialist such as shaped charges used in the offshore oil industry.

### *Barriers to entry*

46. There are a number of regulatory controls that restrict entry to the market. The principal controls are:

- controls on the transport and dangerous goods and movement through ports;
- licensing and other requirements for the manufacture and storage explosives.

47. Obtaining a manufacturing license involves both satisfying the requirements of HSE, but also obtaining the assent of the local authority. In some circumstances this may be a significant task. However, in HSE's experience the most significant difficulty for anyone wishing to establish a manufacturing operation is the need to obtain land and planning permission. It is also likely that the very low prices for explosives in the UK (significantly lower than in the rest of Europe) are the major deterrent to market entry.

### **Competition filter**

48. The proposals have been considered using the competition filter recommended by the Office of Fair Trading. In the case of a number of the markets covered by the proposals there were market concentration issues:

- in consumer fireworks one company has an estimated market share greater than 20 per cent and the top three companies have a combined market share approaching 50 per cent;
- the munitions market is also divided between a few large firms;
- virtually the sole producer of packaged explosives in the UK is a joint venture between two firms;
- two firms account for over 95 per cent of the production of ammonium nitrate emulsions – although it is important to stress that ammonium nitrate emulsions are only one part of the market for bulk on-site mixed explosives.

49. At the same time the proposals pass the other competition filter tests in that:

- in general they do not create new or additional barriers to market entry;

- they do not impose substantial additional new costs on new entrants as opposed to incumbent firms;
- they do not impose disproportionate costs on one type of firm.

50. However there are some qualifications to add to these general conclusions:

- while in the large majority of cases the proposals would not affect some firms substantially more than others. However a very small number of firms with small stores may be adversely affected by changes to the separation distance requirements;
- there are concerns that changes to the controls on the amounts of fireworks that may be kept in shops will mean that traditional outlets (eg newsagents shops) and specialist retailers will face greater competition from supermarkets;
- in most cases the regulations would not lead to higher set-up costs for new or potential firms compared with the costs for existing firms. However there are some transitional provisions that will give existing licensees time to comply with the revised requirements on separation distances. Given that the majority of firms will be unaffected by these proposals the affects of these transitional provisions are likely to be minimal. The decision to require licences for the manufacture of ammonium nitrate would result in higher entry costs for any new entrant when compared with existing manufacturers (who already manufacture on sites that are covered by licences). This is discussed in more detail below.

#### *Initial conclusions*

51. The conclusion of the competition filter suggested by OFT is that the proposals are unlikely to have an impact on competition. However the issue of the impact on the market for bulk on-site mixed explosives is discussed in more detail below.

#### *Licensing of manufacture of ammonium nitrate emulsions*

52. The market for bulk on-site mixed explosives comprises two main sets of products. The first of these are ammonium nitrate emulsions. These are mixed on-site with gas and fuel to produce an explosive. The second is ammonium nitrate mixed with fuel oil (ANFO). In most to circumstances this latter products is a viable substitute for use of emulsions -on both price and technical grounds.

53. In the major producers of ammonium nitrate emulsions are Orica and Exchem who between them produce significantly more than 95% of the product used in this country. Most of the ANFO used in this country is produced by quarrying operators themselves (although it should be noted that a significant proportion of the explosives-grade ammonium nitrate is supplied by Exchem and Orica). The ability of quarry operators to manufacture ANFO is a significant check on the ability of Exchem and Orica to raise the prices of their product. Indeed, it is arguable, that the most significant deterrent to entry into this market is the very low level of prices that manufacturers can obtain for their product.

54. HSE has proposed bringing the manufacture of ammonium nitrate emulsions into the same framework as the manufacture of explosives. At the same time, it has been concerned not to introduce fresh market distortions.

55. The initial HSE proposals were to require the licensing of all storage of AN emulsions. The intention was to avoid putting the manufacturers of these products and a disadvantage relative to quarry operators. However representations from a number of respondents argued that this would tend to give quarry operators an incentive to use ANFO rather than use emulsions. In particular HSE received representations of that this proposal would force one company to exit the market with a detrimental impact on competition.

56. In HSE's view, it is unclear what the implications for competition would be given both the extremely small market share held by the firm concerned, and the availability of a very close substitute in the form of ANFO. Nevertheless, HSE has recognised that the proposal would have significantly disadvantaged manufacturers of AN emulsions in general,



and that this would potentially have had a disproportionate impact on the smallest firm in the market. In the light of this, HSE has modified its proposals so that only the manufacture of AN emulsions would require a licence - the regulations will apply to the storage of this product that it will be exempt from the requirements for a storage licence.

57. HSE recognises that it could be argued that the requirement for manufacturers of ammonium nitrate to hold a licence would be a barrier to entry. However, while not wishing to minimize the task faced by anyone wishing to obtain a licence, in HSE's view this is not the primary deterrent to market entry. In any event, in HSE's view the public policy arguments for adopting the proposal significantly outweigh the largely theoretical competition issues: the ease with which quarry operators can manufacture ANFO for themselves means that the market for on-site mixed explosives is a competitive one and will remain so.

#### **Balance of costs and benefits**

58. Total quantified costs to society are estimated at around £1.3 to £1.4 million over ten years in present value terms, or £130,000 to £140,000 when annualised. Total quantified benefits are estimated at around £570,000 per year, £5 million over ten years in present value terms or £500,000 when annualised. (This figure does not include the additional revenue to the public sector from new or increased fees). This implies a net benefit from introducing the revised regulations of approximately £3.6 to £3.7 million over ten years, or £360,000 to £370,000 when annualised.

#### **MINISTERIAL DECLARATION**

I have read the Regulatory Impact Assessment and I am satisfied that the benefits justify the costs

Signed by the responsible Minister

*Chris Pond*

Date 4 April 2005

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## Annex I

### Fees for licences and registrations for explosives stores 2005/6 – 2008/9 (all figures £s in constant prices)

<b>Service</b>	<b>Current fee</b>	<b>Real cost fee</b>	<b>New fee</b>	<b>2006/07 fee (projected)</b>	<b>2007/08 fee (projected)</b>	<b>2008/09 fee (projected)</b>
<b>New store licence (1 year)</b>	77	170	100	120	156	170
<b>Store licence renewal (1 year)</b>	77	75	75	75	75	75
<b>New registration (1 year)</b>	13	95	60	72	86	95
<b>Registration renewal (1 year)</b>	13	45	30	36	43	45

**Impact of proposed increases for fees for explosives licences/registration and introduction of fees for explosives certificates (all figures in constant prices)**

<b>Service</b>	<b>Current fee</b>	<b>Real cost fee</b>	<b>2005/06 fee [% increase]</b>	<b>Number of premises</b>	<b>Additional revenue expected by 2009 (per annum)</b>
<b>Registrations (renewals)</b>	13	45	30 [131]	32,500	1,040,000
<b>Registrations (new)</b>	13	95	60 [362]	1500	123,000
<b>Licences (renewals – 3 year) (i.e. 3 x £75 per annum)</b>	225	175	175 [-22]	400	-20,000
<b>Licences (new – 3 year) (i.e. 3 x £75 per annum)</b>	225	270	200 [-11]	20	900
<b>Explosive certificate (renewal)</b>	0	160	160 [n/a]	400	64,000
<b>Explosive certificate (new)</b>	0	175	175 [n/a]	20	3,500
<b>Total additional revenue</b>					<b>1,211,400</b>