

<b>Title:</b> <b>Control of Asbestos Regulations</b> <b>IA No:</b> <b>Lead department or agency:</b> Health and Safety Executive <b>Other departments or agencies:</b> DCLG (Local Government) and Office of Rail Regulation)	<b>Impact Assessment (IA)</b>
	<b>Date:</b> 05/12/2011
	<b>Stage:</b> Final
	<b>Source of intervention:</b> EU
	<b>Type of measure:</b> Secondary legislation
	<b>Contact for enquiries:</b> Sarah Mallagh sarah.mallagh@hse.gsi.gov.uk
<b>Summary: Intervention and Options</b>	<b>RPC Opinion:</b> RPC Opinion Status

Cost of Preferred (or more likely) Option			
Total Net Present Value	Business Net Present Value	Net cost to business per year (EANCB on 2009 prices)	In scope of One-In, Measure qualifies as One-Out?
-£190m	-£188m	£22m	No
			In/Out/zero net cost

**What is the problem under consideration? Why is government intervention necessary?**  
 Following a complaint alleging under implementation of Article 3(3) of Directive 2003/18/EC (amending the Asbestos Worker Protection Directive) the European Commission (EC) has issued a reasoned opinion confirming its view that the omission of two terms from the Control of Asbestos Regulations 2006 (CAR06) means that the UK has failed to fully implement the Directive. The UK Government has agreed to comply with the reasoned opinion and has confirmed to the EC that the necessary legislative changes will be made within 12 months, by April 2012

**What are the policy objectives and the intended effects?**  
 1. To correct the under implementation by making the legislative changes to copy-out the omitted terms of the Directive.  
 2. To revoke CAR06 in their entirety and issue revised regulations to avoid the need to add an amending Statutory Instrument.  
 3. To ameliorate the impact of the required legislative change on business by providing guidance on the application of the new requirements.

**What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)**  
 The wording of the reasoned opinion and the Directive leaves no discretion to implement other than by regulation. Changes to the detail of specific regulations were considered but the benefit of making these was negligible and the option to only make the changes required to comply with the reasoned opinion is the only one proposed.

<b>Will the policy be reviewed?</b> It will be reviewed. <b>If applicable, set review date:</b> October/2017					
Does implementation go beyond minimum EU requirements?			No		
Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base.	<b>Micro</b> Yes	<b>&lt; 20</b> Yes	<b>Small</b> Yes	<b>Medium</b> Yes	<b>Large</b> Yes
What is the CO <sub>2</sub> equivalent change in greenhouse gas emissions? (Million tonnes CO <sub>2</sub> equivalent)			<b>Traded:</b> N/A	<b>Non-traded:</b> N/A	

***I have read the Impact Assessment and I am satisfied that (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) that the benefits justify the costs.***

Signed by the responsible Minister: \_\_\_\_\_ **C. Grayling** \_\_\_\_\_ Date: \_\_\_\_\_ **29/2/2012** \_\_\_\_\_

# Summary: Analysis & Evidence

# Policy Option 1

Description: Amend regulations to extend requirement for medical examinations record keeping and notification

## FULL ECONOMIC ASSESSMENT

Price Base Year 2011	PV Base Year 2010	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: -41	High: -638	Best Estimate: -184

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	1.4	1	4.5	41
High	4.4		73.6	638
Best Estimate	2.7		21.7	190

### Description and scale of key monetised costs by 'main affected groups'

The bulk of the costs relate to medical examinations, estimated to cost business best estimate of £80m (range: £30 to £170m) over 10 years. Notifications of work and record keeping are each estimated to cost around £50m (£3 to £230). In addition there are smaller familiarisation costs to business and to regulators (HSE /LAs and ORR) and costs to regulators for handling notifications of the new notifiable non licensed work. The costs are presented as ranges and best estimates because of substantial uncertainty.

### Other key non-monetised costs by 'main affected groups'

All costs have been monetised as far as possible.

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	0	1	0	0
High	0		0	0
Best Estimate	0		0	0

### Description and scale of key monetised benefits by 'main affected groups'

Benefits of making the changes required by the EC are impossible to isolate definitively because the amendments contribute to an existing package of mutually reinforcing interventions. HSE's view, based on the available evidence, is that the proposed changes by themselves do not bring measurably greater health benefits to workers than those already being achieved.

### Other key non-monetised benefits by 'main affected groups'

N/A

### Key assumptions/sensitivities/risks

Discount rate (%)

3.5

A considerable uncertainty still remains in the analysis because consultees suggestions of how many notifiable jobs will occur were made without final clarity on the scope of the work to be defined as notifiable as this was consulted on at the same time. There were extremely large variations in the ranges suggested and assumptions have had to be made without firm evidence.

## BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual) £m:			In scope of OIOO?	Measure qualifies as
Costs: 22	Benefits: 0	Net: -22	No	IN/OUT/Zero net cost

# Evidence Base

## 1. Introduction – Problem under consideration

### Background

- 1.1 Directive 2003/18/EC amended Directive 83/477/EEC on the protection of workers from the risks related to exposure to asbestos at work. Directive 2003/18/EC introduced a number of measures to further strengthen the control of exposure to asbestos and to provide greater protection for building maintenance workers and tradesmen, e.g. plumbers, electricians and joiners. These workers, who routinely disturb the fabric of buildings, are the group now most at risk of exposure to asbestos due to the legacy of asbestos-containing materials (ACMs) that remains in the UK's building stock. Asbestos-related disease is the single greatest cause of occupational deaths in Great Britain, estimated to cause over 4500 deaths pa.
- 1.2 Directive 2003/18/EC was implemented by the Control of Asbestos Regulations 2006 (CAR06). CAR06 repealed three previous sets of asbestos regulations and consolidated the requirements for the control of exposure to asbestos at work, licensing of high risk work and the prohibitions on marketing, supply and use of ACMs into a single set of regulations.

### European Commission's reasoned opinion on Article 3(3) of Directive 2003/18/EC

- 1.3 In 2006 a complaint was made to the European Commission (EC) alleging under implementation of Article 3(3) of Directive 2003/18/EC. As a result of its investigation, in February 2011 the EC issued a reasoned opinion confirming its view that the omission of two terms from CAR06 means the UK has failed to fully implement the Directive.
- 1.4 The reasoned opinion relates to the omission of the terms '*non-friable*' and '*without deterioration of non-degraded material*' from Regulation 3 of CAR06, which, as provided for in the Directive, exempts 'low risk' maintenance and repair work with ACMs from certain duties in the regulations. When the Directive was originally implemented the Health and Safety Executive (HSE) took the decision to omit these terms. The UK's approach took into account that the Directive had not defined these terms and that there may be a lack of legal certainty which would cause confusion for duty holders and make enforcement more difficult. Instead a short-term peak exposure limit of airborne fibre was set which cannot be exceeded if the exemptions are to apply.

### Effect of complying with the reasoned opinion

- 1.5 The inclusion of the omitted terms in the regulations to comply with the reasoned opinion will have the effect of narrowing the types of work to which the exemptions apply. Consequently, in future duty holders carrying out some types of low risk short-duration maintenance and repair work on ACMs will be newly required to: -
  - i) notify the work to the relevant enforcing authority;
  - ii) obtain medical examinations for workers; and
  - iii) maintain a register for each worker of the type and duration of work done with asbestos.

## 2. Rationale for intervention and timetable

- 2.1 The Government has accepted the reasoned opinion and that UK legislation needs to be changed to include the omitted terms. Instead of issuing amending regulations to bring

UK legislation into line with the Directive it has been decided to revoke the existing regulations CAR06 in their entirety and issue revised regulations containing the omitted terms. This decision has been taken in order to ensure that there is only one set of regulations rather than two.

- 2.2 The EC's reasoned opinion states that measures to comply should be taken within two months. However, in practice the EC may allow a longer period. Following Home Affairs and Reducing Regulation Committee clearance a response was sent to the EC on 15 April 2011 confirming the UK Government's intention to comply by copying-out the omitted terms of the Directive, but that to do this would take 12 months to complete, with the regulations coming into force in April 2012. This timetable has been discussed with the Director-General for Employment, Social Affairs and Inclusion who was generally receptive to it.
- 2.3 The consultation on the proposed revised Control of Asbestos Regulations took place for nine weeks from 5 September to 4 November 2011 and was publicised on HSE's website and through a number of HSE's e-bulletins and was specifically brought to the attention of Local Authorities. Emails were sent to 257 identified stakeholders, many of whom sent the information on to their member organisations. The EC were also provided with details the consultation and an initial version of the draft regulations.
- 2.4 The consultative document was divided into three parts:
- 1) The legal changes required to comply with the reasoned opinion and necessary consequential arrangements;
  - 2) The guidance to be produced to explain how the changes will work in practice; and
  - 3) The impact on business, which asked 15 questions about the assumptions made in the impact assessment.
- 2.5 In total 131 responses were received from a wide cross section of stakeholders.

### **3. Policy Objectives**

- 3.1 The objective is to make the minimum legal changes necessary by copy-out to comply with the reasoned opinion and to ameliorate the impact on business by providing guidance on the scope of application. The aim is to simplify the regulations as far as possible, whilst continuing to ensure the protection of workers' health. Within this objective is the desire to avoid an additional statutory instrument and achieve one set of regulations.

### **4. Description of Policy Option**

- 4.1 In accordance with BIS guidance<sup>1</sup>, when considering the transposition of legislation agreed at an EU level, the policy options do not include formal consideration of a "do nothing" option (i.e. not implementing the Directive). Instead, as the UK has decided to comply, only options which would satisfy the Commission are presented and assessed against a baseline (though there are references at 4.14 below to other options considered). To measure the incremental costs and benefits of each option, we apply a baseline in which it is assumed that a) current regulations and guidance remain unchanged, and b) the reasoned opinion and the need to review aspects of the regulations has not been proposed, therefore there are no infraction costs.

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<sup>1</sup>Impact assessment toolkit. See link: <http://www.bis.gov.uk/assets/biscore/better-regulation/docs/i/11-518-impact-assessment-toolkit.pdf>

## Option Proposed

- 4.2 **Option 1** – To comply with the reasoned opinion by revoking CAR06 and issuing revised regulations which ‘copy-out’ the currently omitted terms, Article 3 (3) (a) & (b), of the Directive.

### Explanation of Option 1

- 4.3 Revoking CAR06 in their entirety and issuing revised regulations avoids the need to add an amending Statutory Instrument.

#### *Creation of a new category of work*

- 4.4 CAR06 set out the established licensing requirements and require any business carrying out high risk work with ACMs to hold a licence before they can undertake such work. Currently, the exemption from the need to hold a licence is aligned with the other exemptions in the regulations. This effectively creates two categories of work: a) licensed to which all the requirements of CAR06 apply; and, b) non-licensed work which is exempt from certain requirements including, i) notification, ii) medical examinations and iii) registers of work (also known as health records).
- 4.5 To make the changes required to comply with the reasoned opinion, but to avoid extending the requirement to hold a licence to carry out short term low risk work, it is necessary to de-couple the exemption for licensing from the other exemptions and separately define the work for which a licence is required. The definition has been drafted to reflect the current risk-based approach and does not propose any change to the application of the licensing requirements, for that reason it is expected to be more readily understood by industry.
- 4.6 This means in future there will be three categories of work:
- a) licensed, to which all requirements apply;
  - b) non-licensed, which is exempt, as now, from the requirements to i) notify, ii) carry out medical examinations, and iii) keep registers of work; and
  - c) non-licensed, a new category, where in future the requirements i) to iii) above will apply. For ease to be referred to hereafter as ‘notifiable non- licensed work’ (NNLW).

#### *Details of the requirements for new category of work - NNLW*

- 4.7 Where the requirements i) to iii) now apply to notifiable non-licensed work, NNLW, the detail of the relevant clauses of the Directive will be included in the revised regulations. This means for NNLW the requirements will apply as follows: -
- i) Notification of specified particulars, as described in the Directive, to the relevant enforcing authority before work starts;
  - ii) A medical examination to be carried out before an employee starts NNLW, and then at least every 3 years as long as work with asbestos continues; and
  - iii) A register of work with asbestos to be kept by the employer for each employee.

Taking account of consultees’ comments it is estimated that approximately 730,000 workers will carry out NNLW work (para 6.2 gives further details).

- 4.8 Notification (online only) may be made at any time before work starts. This will accommodate emergency insurance repairs for example, although timely planned notification should be the norm. As specified in the Directive the notification must include details of the; location, type and quantity of asbestos handled; activity or process; numbers of workers involved; start date and duration; and control measures to be taken.
- 4.9 Medical examinations have until now only been required for licensed asbestos work and were performed by a limited number of appointed doctors (240) and monitored by HSE. In view of the increased need for medical examinations resulting from the changes required by the reasoned opinion, consultees agreed with the proposal that the regulations should be modified to allow suitably trained/informed local general practitioners to conduct NNLW examinations to help improve accessibility and limit costs.
- 4.10 The medical examination will consist of taking a history, including respiratory conditions, smoking habit, exposure to any dusts, a competent clinical examination looking for asbestos-related signs and measurement of lung function. HSE will provide further guidance. Appointed Doctors who may wish to offer a NNLW examination and GPs will set their own NNLW fees with reference to any British Medical Association (BMA) guidelines. It is likely however that fees will remain similar to present levels for licensed workers, although some consultees suggested fees for NNLW examinations might decrease if significant numbers of local GPs became involved. A three year transition period is proposed to enable suitable arrangements to be established to cope with the additional demand for medical examinations and brief GPs. There is no requirement on employers to continue medical examinations after work with asbestos ceases.
- 4.11 Registers of work can be in any suitable form provided they contain details of the nature and duration of work done and an estimate of exposure. Registers of work and details of health assessments have to be retained by the employer for 40 years following the end of a worker's exposure to asbestos.
- 4.12 HSE will provide guidance to clarify the range of ACMs and tasks brought into the NNLW category with the aim of ensuring the scope of application is as clear as possible. Practical and proportionate approaches to both record keeping and notification will be adopted by regulators with the aim of reducing cost to business.

#### *Licensed work*

- 4.13 The requirement to hold a licence to carry out higher risk asbestos work was first introduced in 1983. Article 15 of the Directive requires *'firms before carrying out demolition or asbestos removal work to provide evidence of their ability in this field and that this evidence be 'established' in accordance with national laws'*. The licensing arrangements implement this requirement of the Directive. No changes to the current requirements for those 555 businesses currently doing licensed work are proposed. 73% of consultees agreed with the proposed definition of licensable work which maintains the current scope of application. This means notification of licensed work will continue to be required 14 days in advance to ensure the employer allows sufficient time to properly plan the higher risk work. The interval between medical examinations for licensed workers has been reviewed (see paragraph 4.30) and will remain at 'at least every two years'.

#### *Consideration of other options*

- 4.14 CAR06 contains some requirements which are not explicit in the Directive. The need to revise the regulations to comply with the reasoned opinion provided an opportunity to consider whether there is a case at this stage to propose amendments to any of these requirements.

- 4.15 The requirements of CAR06 are informed by a long history of regulatory experience and are defined based on the body of evidence of risk to workers (and others who may be affected) from exposure to asbestos. Asbestos related diseases are the single greatest cause of occupational deaths in Great Britain, about 4,500 pa. To justify proposing changes to the established regulatory arrangements there would need to be new risk-based evidence available sufficient to challenge the existing position.
- 4.16 In the past where such evidence has become available changes have been made. For example, CAR06 introduced changes to narrow the application of licensing based on new research evidence which showed that the risks from work with asbestos-containing textured decorative coatings were much lower than previously thought. In HSE's view for the majority of the existing requirements there is no such new evidence and consequently no case to propose additional changes to the regulations.
- 4.17 Four specific requirements not explicit in the Directive have been considered, the 'duty to manage', 'accreditation', the interval between 'medical examinations' for licensed workers, and the 'control limit'. These are discussed below. For the 'duty to manage' and 'accreditation' HSE's view is that there is no new risk based evidence available to justify change and for 'medical examinations' and the 'control limit', although the risk based evidence is less compelling, the benefits to business of making changes are negligible. Neither the consultation exercise or the Red Tape Challenge indicate support from business to remove or limit these requirements, in fact where calls for change were made the majority were to further strengthen the requirements of the regulations.

#### *Duty to manage*

- 4.18 Regulation 4 of CAR06 requires all those with responsibility for managing the maintenance or repair of non-domestic buildings to identify the location and condition of asbestos and put into place a plan to manage the risks. In addition, duty holders must inform anyone liable to disturb asbestos of its presence. The regulation allows duty holders to presume asbestos is present (thus avoiding the upfront cost of a survey) but they then have to manage the building accordingly.
- 4.19 The duty to manage was first considered in the late 1990s in response to research (*Continuing increase in mesothelioma mortality in Britain*, the Lancet, Vol 345 March 1995) which identified the largest group of workers at risk from asbestos exposure were building workers involved in maintenance, repair and refurbishment work and workers such as plumbers, electricians and joiners. One of the biggest problems these workers face is not knowing when and where they may discover asbestos during their work activities. The duty to manage is designed to specifically address this issue and ensure information is provided before work starts so the risks can be properly managed.
- 4.20 Asbestos containing products were widely used in buildings, from the 1950s until all asbestos use in the UK was finally banned in 1999, following a series of progressive prohibitions. This means the UK, particularly when compared to other member states, has a significant legacy of asbestos to manage. In 2002 it was estimated that 4.4 million buildings still contained asbestos, of which nearly 2 million were in the non domestic sector.
- 4.21 The duty to manage was consulted on in 2000 and then again in 2002 before it was introduced in the 2002 asbestos regulations, coming fully into force in 2004. The second consultation was conducted to address a specific issues raised in the 2000 consultation about the workability of the proposed duty holder for the requirements. The vast majority of the respondents to the 2002 consultation were supportive of the proposals.

- 4.22 In the 2002 IA it was estimated the costs of the duty would be 1.5 billion discounted over 50 years (in present value terms). By comparison the estimated benefits of the duty, when coupled with full compliance with other regulation were valued at £3.0 billion, together with cost-savings of £290 million (due to reduced unplanned disturbance of asbestos and lower costs of eventual building demolition) giving total benefits of £3.3 billion.
- 4.23 Although wider in scope the duty to manage requirement links to Article 11 of the Directive which requires that before carrying out work employers shall take all necessary steps, including obtaining information from the owners of premises, to identify asbestos. The objective of the Directive in this respect is set out at recital 12 which further emphasises the need to communicate information to others who may be exposed to asbestos as result of work, compatible with the UK duty to manage. France, for example, also places very similar requirements on building owners to create a 'technical file' on asbestos and provide this information to those who work on the building.
- 4.24 In 2009 the Institute of Employment Studies published its report 'Evaluation of the Duty to Manage' commissioned by HSE. In summary, the evaluation strongly suggested that the duty had positively influenced duty holder and worker behaviour. 83% of respondents were aware of the duty and although some found aspects difficult to comply with improvements in asbestos management were reported as a result of its introduction.
- 4.25 Health and safety legislation was the spotlight topic in the Red Tape Challenge during June 2011 and received a lot of interest. Only one comment was made in relation to the duty to manage requirement. The respondent claimed the duty was disproportionate. However, since its introduction there have been a number of calls for the duty to be extended to include, in particular, the rented domestic sector.

#### *Accreditation*

- 4.26 CAR06 requires that persons who carry out air testing to determine the concentration of asbestos fibres in air (air sampling) and analysis of materials to determine if asbestos is present (bulk sampling) must be from an analytical laboratory which is accredited by an appropriate body, currently UKAS the national accreditation body. Quality and competence are essential in ensuring the correct identification of asbestos, therefore it is important those organisations and individuals undertaking these tasks do so to a high and consistent standard. The requirements for mandatory accreditation have been in place since 1999 for air sampling and 2002 for bulk sampling and were introduced to address concerns expressed by experts in this field advising HSE about the competence of those undertaking this work.
- 4.27 The Directive does not require accreditation but does recommend the fibre counting method to be used for air sampling and requires those carrying out sampling to be suitably qualified.
- 4.28 The majority of those who responded to the 2002 consultation proposing mandatory accreditation for bulk sampling agreed the proposal was sensible and that it would help to raise standards. In the 2002 IA costs were estimated at £1.8 million (in present day terms) over fifty years.
- 4.29 The Red Tape Challenge did not raise any objections to the current arrangements and in fact there are calls for mandatory accreditation to be extended to those carrying asbestos survey work.



## *Medical Examinations*

- 4.30 Specific consideration has been given to whether the interval between medical examinations should be extended for licensed workers from the current 2 years to 3 years. Independent advice confirms that on current evidence increasing the screening interval is unlikely to have an adverse effect on the risk of disease progression. However, analysis of making this change shows limited benefits, with an estimated annual total cost saving to business of between £110K and £400K. There is also a significant risk that such a change would be perceived by stakeholders as a reduction in standards of health protection of workers who carry out the most hazardous work.

## *Control Limit*

- 4.31 A change to the reference period for the control limit, the maximum concentration of asbestos fibres in air to which a worker can be exposed has also been considered. The Directive sets a single control limit for all types of asbestos and requires that no worker is exposed in excess of 0.1 f/cm<sup>3</sup> airborne fibres averaged over an 8 hour period. In CAR06 the control limit is also set at 0.1 f/cm<sup>3</sup> but is averaged over 4 hours. The 4 hour period is used in the UK to better reflect normal working patterns for licensed workers and was in use before the Directive introduced the single control limit.
- 4.32 Changing to an 8 hour reference period would have the effect of reducing the standard of control, as it allows exposure concentrations above 0.1f/ cm<sup>3</sup> over 4 hours provided that when averaged over 8 hours the value is less than 0.1f/ cm<sup>3</sup>. For example, if only 4 hours work is done in a day an 8 hour reference period would permit an exposure level of up to 0.2 f/cm<sup>3</sup>. However, in practice a change to an 8 hour reference period should have no impact on the level of control applied as employers would still be under a duty to apply the most effective control measures to reduce exposure to the lowest level reasonably practicable. Because a change to an 8 hour reference period does in fact reduce the standard of the control limit there is again a significant risk stakeholders will perceive this proposal as a fundamental reduction in health protection. Analysis confirms that both the costs and benefits to business of such a change are negligible.

## **5. Costs and benefits**

- 5.1 The purpose of this cost benefit analysis is to help determine the best approach to UK implementation of the EC's reasoned opinion. However, from inception the lack of basic data on this new category of work has been and remains a major difficulty. Consultees were sympathetic to the problems caused by having to consult on the scope of NNLW at the same time as making dependent estimates of costs.
- 5.2 Costs and benefits have been quantified and monetised where possible. There is inherently some level of uncertainty about the future impacts of any policy or system. Therefore it is necessary for a number of assumptions to be made. These are detailed in the sections below.

## **Key Considerations**

- 5.3 Given the short timescale for implementation, a pragmatic approach has to be adopted, as there has been insufficient time for considered research. To inform assumptions for consultation, HSE utilised relevant information available from experts in the field, past research, work carried out for the 2002 Asbestos Regulations Impact Assessment and from the consolidating 2006 Regulations. Research by the Institute of Employment

Studies<sup>2</sup>, has sought, but struggled to obtain information on the existing cost of asbestos-related building maintenance work. The research found that duty holders did not separate out asbestos work from general maintenance budgets and did not subdivide it into licensed and unlicensed work. Due to this problem, existing research on costs has not been particularly useful in reducing uncertainty around the costs of the option and the baseline.

- 5.4 As requested by the Regulatory Policy Committee at the pre-consultation stage a series of questions were asked as part of the consultation exercise to test the assumptions made and to try to strengthen them. The consultation responses received demonstrate that industry shares the difficulties in estimating numbers of workers, jobs in scope, compliance levels and therefore costs. Of the 131 responses only a small proportion provided any estimates on these points. Several indicated it was impossible to make meaningful estimates, that HSE's estimates were reasonable and that their own estimates were no better than guesswork. Others suggested that certain estimates should be adjusted but usually failed to specify by how much.
- 5.5 The main gap in the current analysis arises from the fact that despite the consultation we have poor evidence to indicate how many individual NNLW jobs workers will conduct per year. This is because: the definition of this category of work is entirely new so there is no existing data source or experience to draw on; the exact scope of NNLW is as yet unclear because the guidance to support the changes to the regulations is still being developed; the number of workers involved in any particular job is variable; and the extent of asbestos containing materials that remains in the building stock is unknown.
- 5.6 One of the most considered indicative estimates was supplied by The National Federation of Demolition Contractors (NFDC) who estimated perhaps 50 notifications per member company pa, yielding at least 7600 jobs per year from demolition work alone. One Local Authority (LA) estimated 3000 notified jobs generated by 400 workers, another suggested 'several hundred'. A large engineering multinational estimated only 10 notifications from up to 20 employees doing 4 jobs each. Others estimated 6 jobs per worker. The electricity/utility sector was concerned that depending on NNLW final scope some 500,000 or more sector jobs per year could be encountered by 10,000 – 15,000 workers, with an uncertain estimate of 12 jobs per worker pa. One licensed contractor suggested a national GB total of 40,000 notifications, which assumes negligible compliance by micro business. The difficulties are stark. However, estimates were generally on the lower side and on that basis we estimate a range of between 5 and 30 notifications per worker, with a best estimate of the midpoint, 18. This is then used to estimate costs of record keeping and notification. This uncertainty is represented in the cost estimates, in particular driving a wide uncertainty range for costs to dutyholders of notifications and record keeping.

## 6. Costs

### General assumptions

6.1 The following general assumptions are made:

- Costs and cost savings are discounted at 3.5%, consistent with standard HMT Green Book guidance.<sup>3</sup>
- Price Base Year: 2010 or 2011 (dependent on the availability of data).

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<sup>2</sup> Institute of Employment Studies (IES) research report 'Evaluation of the duty to manage asbestos', <http://www.hse.gov.uk/research/rrhtm/rr783.htm>

<sup>3</sup> Source: Treasury Greenbook. See link: [http://www.hm-treasury.gov.uk/data\\_greenbook\\_index.htm](http://www.hm-treasury.gov.uk/data_greenbook_index.htm)

- Present Value (PV) Base Year: 2011 (the year in which the impacts over time are valued).
- Appraisal Period: 10 years. The appraisal period affects the total costs and benefits results. Since for asbestos any health benefits of the policy would not appear for at least 20 years due to the latency between exposure and onset of disease (see paragraph 9.2 for further information) it was initially considered appropriate to frame costs and benefits within a time period of 50 years. Also, a requirement of the Directive is that businesses retain health records for employees working with asbestos for at least 40 years. We retained the 50 year appraisal period for the consultation stage impact assessment, but due to the fact that consultation has not produced evidence to suggest that benefits may be usefully quantified, the present value costs are now calculated for a more standard 10 year appraisal period and can be found in Table 1 at para 12.1. This 10 year appraisal period is based on the period recommended for use when the life of the policy is uncertain.
- Wage data is sourced from the Annual Survey of Hours and Earnings (ASHE), 2010. It is then adjusted to represent full economic wages, by multiplying by a factor of 1.3.
- Where wages were updated using evidence gathered during consultation, they are assumed to include overheads.

## **Number of Workers exposed**

- 6.2 We do not know exactly how many workers are exposed to asbestos under the NNLW category of work. This estimate of workers is critical to the costing of medical examinations, notifications and record-keeping. To construct an estimate we initially identified occupations we know might be exposed to asbestos using the Standard Occupational Code (SOC) definitions (see Annex 2, Table 2: number of workers affected for the selected occupations). We then sourced employment data (from the Labour Force Survey, 2010) for the selected occupations (including the self-employed). The final stage was to estimate what percentage of workers from the various occupations would be affected by the introduction of the NNLW category. For example, we know that not all pipe fitters will encounter asbestos in the NNLW category, some may not encounter asbestos containing materials at all if they do not work on property built before asbestos was banned. Owing to the high level of uncertainty we introduced a range for the proportion of workers affected in each occupation, a simplified assumption of 10% plus or minus around the best estimate was made. Best estimates were supplied by HSE's staff experienced in the construction sector (see Annex 2, Table 2: number of workers affected).
- 6.3 The initial assumptions have been adjusted following consultation. A small number of suggested additions to the occupation list were appropriate. Where an occupation has not been added this is because it is already included within a subset of a listed category. Suggestions were discounted if they appeared to be based on a misinterpretation of the question (which related only to those actually doing the NNLW work hands on). Accordingly, the following additions have been made: roofers; bricklayers; riggers and scaffolders; utilities, such as electricity supply repairers; and fitters and labourers in plant and processes to reflect e.g. chemical process plant maintenance etc. Based on the above assumptions, the total number of workers carrying out NNLW is estimated to be between 630 and 820 thousand. The best estimate is 730 thousand.

## **7. Baseline**

- 7.1 Under the baseline, we assume that the status quo continues and by definition costs and benefits are zero.

## 8. Option 1: to comply with the reasoned opinion by revoking CAR06 and issuing revised regulations which 'copy-out' the currently omitted terms, Article 3 (3) (a) & (b), of the Directive.

8.1 The costs of Option 1 are described fully in paragraphs 8.2 to 8.26. Table 1: Cost Breakdown, present value over 10 years (paragraph 12.1) provides a breakdown of the costs.

### Costs to business

8.2 Due to the creation of the NNLW category, under Option 1 any worker undertaking NNLW must have an initial medical examination which then must be repeated at least once every 3 years. NNLW must now be notified to the regulator before work begins and records kept by the employer, of work locations, durations, workers involved, medicals completed etc.

8.3 NNLW is often small scale and incidental to larger jobs. This means it can be difficult to observe or predict and therefore it is problematic to accurately quantify any additional costs to business. Whilst consultees agreed that costs are likely to be ultimately passed onto consumers/clients, certainly when the economic cycle picks up, for the purposes of this impact assessment we shall define them as costs to business.

### Costs of Medical examinations

8.4 Consultees agreed that on balance that medical examinations for NNLW can be expected to cost between £85 and £150 per worker, per examination, (this excludes the cost of their own time). Best estimate is £118. The lower estimate was based on a private occupational provider's published price for an asbestos medical.<sup>4</sup> Whilst many consultees agreed with the earlier upper value of £120 others advised a higher range limit. This will cover an appointed doctor conducting an examination for a standard asbestos medical. The steer from consultation was that a typical medical examination would be expected to take more than 2 hours of the worker's time on average (including 1.5hrs travel) accordingly this has been adjusted to 3.5 hours. Since the bulk of NNLW work and workers are in urban areas, time for rural travel is unlikely to affect the average national figure significantly. The hourly wage unique to each type of worker has been up rated by 30% to account for non-wage costs.<sup>5</sup>

8.5 There is convincing evidence to suggest that compliance with medicals is likely to be low based on research on this sector's general compliance (for more discussion of general compliance see Annex 3, page 27). To account for this only 30% compliance (best estimate) for all NNLW workers was assumed at consultation stage. A compliance range of 20% to 40% was used to calculate lower and upper cost estimates.<sup>6</sup> Consultees in general did not disagree with HSE's estimates of compliance rates and whilst regretting the fact, thought they may be even lower. The range has been lowered to low 10% upper 30% best estimate 20%. We have split the costs of the 20% assumed to undergo medical examinations evenly over a 3 year period since we would not expect all workers to undergo medical examinations straight away. We have also accounted for a decline in the number of workers exposed due to the reduction of buildings containing asbestos by an average annual demolition rate of 2%.<sup>7</sup>

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<sup>4</sup> Source: Please contact HSE's Economic Analysis Unit for further details.

<sup>5</sup> Source: ASHE 2010. It is standard HSE practice to uprate by wages by 30%.

<sup>6</sup> The lower limit for compliance is assumed to be 20% while the upper limit is 40%.

<sup>7</sup> Source: See Annex D (A) - A32, page 207/. <http://www.hse.gov.uk/consult/condocs/cd205.pdf>

- 8.6 To incorporate staff turnover we have assumed a 10% turnover rate based on HSE experts' knowledge of the sectors involved. This will have an effect of increasing costs because we assume that these workers will have a medical immediately regardless of whether or not they are new to the industry or new to the employer. There are however workers who are already provided with medicals either as licensed workers or as an employee benefit, or as a fire and rescue specialist. There would be little extra cost for them. The impact of this is uncertain, as numbers are small. Based on the above assumptions the total cost of medicals over the 10 year appraisal period is estimated to be between £30 million and £170 million, with a best estimate of 85 million. The equivalent annual cost to business (dutyholders) is between £3 million and £20 million.<sup>8</sup>
- 8.7 For those carrying out licensable work there are no additional costs because there are no additional requirements.

#### *Ongoing cost to business - notification and record-keeping*

- 8.8 For the reasons described in paragraph 5.5, it was not possible, at consultation stage to estimate volume of NNLW per worker year (i.e. number of jobs). This constrained what could be quantified and costed in relation to notifications and record-keeping at that stage. HSE used consultation to develop this estimate having made a best estimate as below. The other assumptions necessary for costing are set out below.
- 8.9 For workers estimated to be doing NNLW, we initially estimated 40% compliance (best estimate) with the requirements for notification and record keeping (both of work and health related records). This low compliance rate was based on HSE's experience with smaller building maintenance trades in the construction sector which suggests that without substantial communications activity, awareness of the new requirement among many such businesses will be low and others will avoid it. To account for uncertainty in this estimate the assumed upper and lower estimates for compliance were 30% and 50% respectively. It was thought that compliance rates may very slowly increase via the influence of main contractors' and clients' procurement requirements. However, we estimate this improvement will be marginal as most work is minor, and therefore have not built in a growth in compliance within this analysis. Consultees however were of the view that 30% was the highest likely compliance level with a low of 5% likely, a lower best estimate of 15% has therefore been adopted for both record keeping and notification.
- 8.10 We had assumed that it takes a worker between 5 and 10 minutes to notify the regulatory authority per job by using an online method. 57% of those commenting advised that this was reasonable especially when it became second nature. 43% considered it would take longer. Some who presumed a task as complex as for licensed work, may have over estimated the time required. HSE is determined to simplify the task online. Concerns were expressed that notification could take longer than the job itself. HSE has adjusted its assumption to 10-15 minutes with a best estimate of 12.5 minutes but believes this could shorten with practice.
- 8.11 Duty holders are required to keep a summary record of each worker's activity, its duration and an estimate of their exposure. These records are required to be retained by the employer for at least 40 years. Dutyholders have flexibility in how they decide to keep records of health and work and in many cases workers do this for themselves. We assumed that record keeping would take 5 minutes per job on average since most duty holders are small employers. A low compliance rate is assumed on the basis that the perceived benefits of record-keeping are likely to be low. It is expected that medium or

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<sup>8</sup> The equivalent annual cost is calculated by dividing the net present value of the intervention by the annuity factor.

larger firms are more likely than small firms to comply because they may consider themselves more visible to the regulator and to larger clients who expect compliance. This was the general pattern found during evaluation<sup>9</sup> of related asbestos matters. Consultees agreed that without substantial communications, awareness of the new requirement would be low. The prevailing consensus amongst respondents was for around 10-15 minutes per job for record keeping which gives a best estimate of 13 minutes.

#### *One-off costs to business of record-keeping system.*

- 8.12 One-off costs could arise where employers need to establish a record-keeping system. There could also be recurring costs for any time spent retrieving records in the event of an investigation or worker request under the Directive. We expected one-off costs to be negligible because businesses are already likely to have means for keeping records e.g. a computer and a simple word processing document or notebook would be adequate for record keeping. So, no substantial amount of time should be spent on 'designing' a system. 72% of consultees agreed with HSE's assumption that retrieval requests from employees are likely to be very rare. It is suggested therefore these costs are likely to be insubstantial to the analysis and so were not considered further.

#### *Familiarisation Costs*

- 8.13 Familiarisation costs could arise for business owing to the time taken to understand the changes in UK policy and how that affects them. Evidence from HSE operational intelligence suggests that dutyholders will typically only read the supporting guidance. For workers in the NNLW category we estimated the time taken to familiarise with the new guidance and contextualise to be 30 minutes on average. We tested this assumption at consultation. HSE envisaged this cost for only familiarisation as a top up building on an assumed pre knowledge and but instead several consultees reflected the time to familiarise from a zero base. These have been discounted because those likely familiarise are also those most likely to have had basic knowledge already. Only 44% agreed with 30 minutes average top up time and a few felt that ½ day training was appropriate. We have assumed after consultation that between 30 to 90 minutes is required with a best estimate of 1 hour.
- 8.14 To calculate the familiarisation cost we have used hourly wage rates from the ASHE survey 2010. Using the selected list of occupations affected we employed their corresponding wage rates and have assumed that compliance is equal across all occupations. Our already low best estimate for compliance includes ranges to reflect the uncertainty and has been adjusted downwards on consultee advice to 30% upper range, 10% lower and 20% best estimate, since no proactive alert beyond the HSE website is planned and research suggests the affected occupations are not regular business web users. We do not expect compliance to increase significantly over time. This is partly due to a reduction of communications campaigns in the current climate, for the foreseeable future, and difficulty in justifying any such effort by HSE given the lack of health benefits expected.
- 8.15 We have calculated two types of familiarisation cost, one-off familiarisation and ongoing familiarisation. The former applies to existing workers and the latter to new entrants. The annual number of new entrants is equivalent to the annual turnover rate (10%). We have assumed that the same proportion of new entrants will familiarise themselves with the guidance as existing workers i.e. we are not accounting for any existing knowledge of the new requirements. Applying the above assumptions the total cost of one-off

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<sup>9</sup> Institute of Employment Studies (IES) research report 'Evaluation of the duty to manage asbestos', <http://www.hse.gov.uk/research/rrhtm/rr783.htm>

familiarisation is estimated to be between £1 million and £4 million over the 10 year appraisal period. Ongoing familiarisation is estimated to be between £2 million and £4 million over the same period. The equivalent annual cost to business is between £200 thousand and £500 thousand.

## **Costs to Government**

### *Costs to HSE of changing the regulations and guidance*

- 8.16 Costs incurred by HSE include the staff time required to change regulations and guidance to reflect the requirements of the Commission. It is estimated that this will require two HSE Band 3 (SEO) staff for twelve weeks and one HSE Band 2 (Grade 7) for two weeks oversight. Wages are derived from the standard estimates of HSE hourly personnel costs (Global ready Reckoner 2010 - 2011). We assume all updates are web based which results in a total cost to HSE of approximately £39 thousand.
- 8.17 Additional HSE time is required to amend the guidance for appointed doctors on the website and also to formally familiarise HSE staff with the new requirements. This is estimated to take 5 days at SEO level. This would cost approximately £1.5 thousand. There will also be costs to the HSE web team which we expect to be negligible.
- 8.18 The total cost to HSE related to producing and familiarising staff with new guidance is estimated to be around £41 thousand.

### *Costs to HSE – overseeing appointed doctors and other Doctors*

- 8.19 The current 'appointed doctor' system overseen by HSE for medical examinations of licensed workers will not change under the new regulations. This system will stay distinct from the proposed new arrangements for>NNLW medical examinations to be carried out by non-appointed doctors, such as local GP's. Discussions with the British Medical Association and other medical bodies about the details of these new arrangements are ongoing but will require the development of specific guidance, (based on current advice to appointed doctors) for GPs with minimal costs to HSE. Once this is in place the>NNLW related cost to HSE is not likely to be significant.

### *Costs to HSE – handling notifications*

- 8.20 Costs could arise for HSE due to handling increased notifications. As explained in paragraph 5.5, we have not confidently been able to estimate the number of notifications HSE will receive and therefore have decided to set up one unified online notification system for all regulators for>NNLW. This will cost HSE no more than 25k to provide and will be flexible enough to cope efficiently with an unknown number of notifications. In accordance with government policy, notifications should be made exclusively on line e.g. access to the internet via smart phone etc. This will eliminate administration of hard copy and telephoned notifications. An annual maintenance cost of 10% of initial cost is assumed. It is also assumed that HSE staff would interrogate the system about twice a week, 10 minutes a time, at Administrative Officer level at an economic cost of £18/hr.

### *Costs to HSE – enforcement*

- 8.21 HSE regulates construction activities (i.e. demolition, renovation or refurbishment) where they are the main activity on the site. Costs may arise for HSE attributed to enforcing the new requirements. As is consistent with the established Enforcement Policy, the approach to enforcement of both LAs and HSE will be informed by the principles of proportionality in applying the law and securing compliance. In this case, this generally means relating enforcement action to the risks to health incurred by non compliance.

These added costs are estimated to be minimal and will be easily absorbed into other general inspection and enforcement effort.

### *Costs to Local Authorities and the Office of Rail Regulation (ORR)*

- 8.22 Where NNLW (or other unlicensed work) is of a minor isolated nature e.g. an electrician installing wiring, and the activity takes place on a retail or office premises then the Local Authority (LA) remains the enforcing authority. Similarly, in the railway transport estate, ORR, would be the enforcing authority. At present both LAs and ORR would deal reactively with any NNLW encountered. It is unlikely that the LAs or ORR will encounter much of this work routinely during inspection, as it is mainly transient and of short duration. Therefore enforcement costs to LAs and ORR are expected to be insubstantial.
- 8.23 Costs could arise for LAs and ORR due to handling increased notifications. LAs already have manual systems for receiving notifications from licensed asbestos contractors when working in LA regulated premises. HSE's development of a unified notification system for NNLW will relieve handling pressure on LAs and ORR in the event of large numbers of notifications. It is estimated that LAs will receive a similar or possibly higher number of notifications to HSE but again the contractor compliance rate is expected to be very low and the online system will minimise costs to all regulators.
- 8.24 Based on consultation evidence, it is assumed that around 10 minutes twice a week will be spent by LA admin staff scanning notifications online at an average cost of £18/hr. ORR are assumed to interrogate the system once a week, spending around 10 minutes each time, at the same economic cost of £18/hr<sup>10</sup>. Whilst the cost to ORR is small, the majority of the cost is due to the large number of LAs (380), producing an annual cost of around £120 thousand. Over 10 years the cost to LAs and ORR is around £1 million.
- 8.25 Familiarisation costs will arise for LAs and ORR owing to the time taken to understand the new requirements. Information from a sample of LAs suggests that a 'typical' LA might take 3 hours to familiarise about 7-9 staff. For LAs, wage costs are weighted based on one consultee's description of the distribution of familiarisation across different grades, i.e. around 40% at a higher grade costing £45/hr and 60% at a lower grade costing £25/hr. Adjusting to economic costs gives a weighted average of around £44/hr.
- 8.26 For ORR consultation suggests around 70 inspectors might familiarise, spending an average of 3 hours at an economic cost of £70/hr<sup>11</sup>. Total LA and ORR one off familiarisation cost amounts to around £400 thousand (with a range of £370 to £450 thousand).

## **9. Benefits**

- 9.1 This section of the cost benefit analysis assesses the health and safety benefits of option 1.

### **Health impacts of exposure to asbestos**

- 9.2 Exposure to asbestos typically occurs when persons disturb the fabric of a building (either internally or externally) or who are near such work and inhale carcinogenic asbestos fibres. There are four main diseases associated with the inhalation of asbestos fibres. These are asbestosis (a scarring of the lung tissue caused by asbestos), two kinds of cancer (mesothelioma and asbestos-related lung cancer), and diffuse pleural thickening (a non-malignant disease affecting the lung lining). It can take 20 to 40 years

<sup>10</sup> Based on the HSE Band 6 admin economic wage cost of £18/hour.

<sup>11</sup> Source: ORR personal communication.



before the effects of this exposure become apparent. This means that asbestos-related deaths occurring now are attributable to past exposures. The number of future deaths from current exposures are expected to be lower because current asbestos exposure is falling. Asbestos is now a banned material and extensive regulatory controls exist to reduce exposure. However, it is impossible to estimate accurately the exact decline in asbestos-related fatalities or ill health and furthermore to attribute this reduction in exposure solely to specific HSE activities.

## **Baseline**

### *Health Benefits*

9.3 There are no additional benefits associated with the baseline.

## **10. Option 1 - Comply with the reasoned opinion by revoking CAR06 and issuing revised regulations which 'copy-out' the currently omitted terms, Article 3 (3) (a) & (b), of the Directive.**

### *Health Benefits*

- 10.1 HSE is sceptical that the introduction of the NNLW changes will have anything but a marginal impact in preventing damage to health, because the new requirements are mainly administrative. The pre-notification of work does not imply that it will be performed competently, and the quality of records kept after the event is likewise incidental to prevention of risk to health. Medical examinations are designed to detect disease early, to allow removal from further harm and stimulate scrutiny of co-workers health. This approach is of limited practical value in relation to asbestos because of the 20 - 40 year delay before disease onset. There is actually no evidence that medical surveillance for asbestos-related cancer (the main present day risk) is a valid screening tool. Asbestosis is a fibrosis of the lungs rather than a cancer, and any cases presenting now are associated with past cumulative causative higher exposure levels rather than the lower levels of recent decades. For asbestosis there is some evidence that early detection does not confer long term benefit. Nevertheless HSE would expect an individual who has been advised that they have asbestosis to be excluded from further work with asbestos as a precaution.
- 10.2 The Faculty of Occupational Medicine in their response to the consultation confirmed HSE's view stating 'This (the development of guidance to support the changes) will no doubt bring into play the lack of a robust evidence-base to support the argument that such medical assessment of workers who may be exposed to asbestos from time to time is of any benefit. Their view was endorsed by The Royal College of Physicians.
- 10.3 Health benefits, in terms of reduced risk of future fatalities, could arise where the potential effect of the new NNLW requirements is to further educate workers in the risks involved so they are more careful when working with asbestos in the future. However, for this to happen they first have to recognise they are at risk and as several respondents commented it is unlikely without a significant awareness raising campaign that many more will. If they came forward for medicals for example, workers will be advised of the synergistic effects of smoking in causing asbestos-related cancer. However, the workers who are most likely to under go a medical are also most likely to have already have been trained under Regulation 10 of CAR06 so this additional effect is likely to be very small.
- 10.4 If the notification requirement is complied with, it may encourage safer working routines owing to potential for the work to be inspected. Quantifying this impact is not possible because of the huge impracticalities of separating the influences of the existing

regulations from those introduced by the present amendments. Theoretically, the additional intelligence the regulator gathers from notifications could highlight individuals repeatedly claiming to do short duration maintenance work with asbestos far too often for it to be properly classed as such. This could lead to the regulator influencing these workers. An unknown but small proportion of those who comply with the notification requirement could benefit from less risk of disease if the regulator intervened. The effectiveness of intervention on short duration jobs would be limited.

- 10.5 The generally accepted view (shared by HSE) is that optimal risk control can only be achieved through the full package of measures within the Asbestos Regulations. It is the physical controls in use to prevent or reduce inhalation that matter. However, the degree to which the new notification, medical and records requirements brings further risk reductions for workers is questionable. The duty to manage asbestos in commercial properties should already mean that many workers will, once informed of the presence of a substantial asbestos hazard, simply avoid the work. Others may continue to do the work (providing it is non-licensable) but will presumably take greater precautions. Furthermore, employers were already required by law to reduce exposure to the lowest level reasonably practicable. The application of simple precautions lowers exposures to well below the control limit in the great majority of cases.
- 10.6 If the increased requirements result in a smaller group working in NNLW, the regulator might find it easier to influence them. An attempt to gauge if industry believes this may happen was made at consultation and is discussed at referred to at paragraph 13.6.

*Benefits to indirectly exposed people:*

- 10.7 As a result of better control and knowledge by workers newly subject to the NNLW requirements, the level of indirect and domestic exposure to asbestos may fractionally reduce and may similarly reduce future disease in non workers. Indications from consultees were that many thought that more work would be placed with licensed contractors by confused clients, which should increase standards, but others thought this might be counterbalanced by very large hidden activity some in the black economy under cutting standards. The number of prevented fatalities or cases of ill health is impossible to estimate.

## **11. Health and safety benefits summary**

- 11.1 The contribution that a particular part of the Asbestos Regulations will have on reducing risk beyond what has already been achieved since 2000 is impossible to isolate because the amendments contribute to an existing package of mutually reinforcing interventions. Furthermore the workers concerned are hard to reach. Past non regulatory interventions included awareness campaigns, via press and radio, have proven to better reach these workers. The present proposal does not include such a campaign and awareness is likely to remain low. HSE's view, based on the available evidence, is that the proposed changes by themselves, do not bring measurable greater health benefits to workers than those already being achieved.
- 11.2 Benefits could only begin to offset costs in the long run due to latency of asbestos disease. It is estimated that the proposed changes would have to result in a reduction of tens of fatalities per year<sup>12</sup> in order to fully offset costs. At best, HSE experts estimate that the changes required by the EC interpretation may result in very minimal or negligible decreases in risk to workers. Based on these expert views, it is thought that the changes are very unlikely to reduce fatalities by anything like tens of fatalities per

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<sup>12</sup> No calculation is made here as the 50 year appraisal period would be required and costs are no longer framed within a 50 year appraisal period.

year. Many consultees were more optimistic about the impact of the changes but much of this stemmed from a belief that medical examinations could affect the outcome of terminal illness, by providing early detection and treatment, a view not supported by the medical experts.

## 12. Summary of the costs and benefits

### 12.1 Table 1 summarises the costs of Option 1

Table 1: Cost Breakdown, present value over 10 years

	Best Estimate (£ millions)	Range (£ millions)	
		low	high
(10 year appraisal period)			
<b>Costs (one-off)</b>			
Total cost to dutyholders of familiarisation.	2.30	1.00	3.88
Total costs to HSE of producing new guidance.	0.04	0.04	0.04
Total cost to LAs and ORR of familiarisation	0.41	0.37	0.45
<b>Costs (ongoing)</b>			
Total cost to dutyholders of ongoing familiarisation.	3.15	2.05	4.44
Total cost to dutyholders of notifications.	49.69	3.29	230.18
Total cost to dutyholders of record keeping.	49.69	3.29	230.18
Total cost to dutyholders of medical surveillance for NNL workers.	83.56	29.40	167.90
Total costs to HSE of handling notifications.	0.05	0.05	0.05
Total cost to LAs and ORR of handling notifications	1.02	1.02	1.02
<b>Total Costs</b>	<b>189.91</b>	<b>40.50</b>	<b>638.14</b>
<b>Benefits</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>Net Benefits</b>	<b>-189.91</b>	<b>-40.50</b>	<b>-638.14</b>

NB: Due to rounding, figures in the total rows may not sum exactly.

## 13. Risks and Assumptions

- 13.1 As described in the analysis of the costs and benefits, there is uncertainty attached to a number of our assumptions even after consultation and this is reflected by the range in our cost estimates.
- 13.2 As discussed in paragraph 5.5, a considerable gap in the current analysis arises from the fact that we have no firm evidence to indicate how many NNLW jobs workers will conduct per year. We recognised that it is unlikely that we will ever have very reliable evidence on average jobs per worker until notifications are made from 2012 onwards. We have tried to formulate a best estimate for the cost of notification and of record keeping.
- 13.3 Uncertainties concerning the level of compliance, affected occupations and the extent of familiarisation needed have been raised at consultation. Although the responses received have helped to inform some issues a high degree of uncertainty remains.
- 13.4 The consultation was also used to try to address gaps in our understanding of the costs to Local Authorities. The information provided has been used to provide an indication of likely costs, however the responses also highlight there is no such thing as a 'typical' LA,

and there are large local variations in costs and potentially in the interpretation of work priorities.

- 13.5 Any cost to business could potentially be passed on to clients/consumers through higher prices, the extent of which would depend on the price elasticity of demand (PED) in each sector. As the PED for industries that are inspected is unknown and likely to vary substantially between sectors, it does not seem proportionate to try and estimate the extent to which costs will be passed on. At consultation, it was considered very likely that such costs would be passed on to building and equipment owners or managing agents but respondents did not attempt to quantify it.
- 13.6 Because medicals may be perceived as expensive, this may lead to some businesses deciding to avoid working with asbestos materials. We do not know to what extent this could occur, but it would change the number of workers affected and have a downward impact on our estimated costs. We did not factor this into our analysis at the pre-consultation stage. However, following consultation we have some evidence that there could be specialisation by some businesses to focus on NNLW. Too few stakeholders commented to make a proper analysis of this, but it should be noted the requirement for NNLW to be short duration restricts the time individuals can spend on the work and will limit the degree of specialisation possible unless a licence is obtained to permit longer and more frequent work.
- 13.7 As for implementation of the proposed changes, risk would arise if we took longer than 12 months to implement because the EC might review its current position at that point which could incur a penalty fine.
- 13.8 Other risks already identified by HSE and confirmed at consultation include increased confusion giving rise to increased non-compliance by virtue of the creation of a second class of non-licensed work. There is a risk that unscrupulous businesses could use confusion as an opportunity to artificially raise prices or to charge for unnecessary over compliance. Guidance will be provided to clarify the range of materials and tasks brought into the new category.

## **14. Wider Impacts**

### *Statutory equality duties impact test*

- 14.1 A separate equalities impact assessment has been conducted. and did not identify any potential areas for concern. This is attached as Annex 4. The workforce is predominantly male and self employed or small medium enterprises (SME's) but apart from that has no other common features. This is a mandatory EC measure for the protection of workers health which will not discriminate against any individual or group.

### **Economic Impact**

#### *Competition*

- 14.2 We have considered the four key questions identified by the Office of Fair Trading (OFT) in its guidance, namely, whether in any affected market the proposals would:
- Directly limit the number or range of suppliers
  - Indirectly limit the number or range of suppliers
  - Limit the ability of suppliers to compete
  - Reduce suppliers' incentives to compete vigorously

- 14.3 The construction industry is characterised by having a small number of very large firms while the vast majority of firms are in the small and medium sized category. No firm has a market share greater than ten per cent and the three largest firms together account for less than thirty per cent of the total market. Revising the existing Regulations will not directly limit the number or range of suppliers, but some indirect effects on numbers of suppliers working on NNLW is discussed below.
- 14.4 Under full compliance, the revised Regulations would uniformly increase the costs to non licensed suppliers, new or existing, who seek to do NNLW. Therefore on face value, uniform requirements should not affect the ability of firms to compete on price, quality, range or location. The changes will however have no cost impact on licensed asbestos contractors suppliers who may chose to apportion some of their workforce to sporadic NNLW work.
- 14.5 An important characteristic of the market for NNLW is that the work itself will be largely incidental to other work, such as plumbing, electrical fitting etc. This means that non-licensed contractors wishing to comply would incur costs relating to a part of their work, which may be minor and incidental, such as an electrician who needs to drill through material containing asbestos, when fitting wiring.
- 14.6 If strong incentives to comply emerge (such as customers requiring compliant work) the introduction of the NNLW category of work and associated costs to business could result in some firms withdrawing from types of work that will be classified as NNLW, or possibly jobs that are expected to include an element of NNLW. This might be expected to happen where the cost of compliance is seen to affect profitability adversely. The greatest impact may be amongst small firms with a very small component of NNLW as a proportion of their overall work. This type of supplier is most unlikely to be able to recover the cost of compliance compared with competitors who do enough NNLW work to benefit from economies of scale (as the majority of compliance cost per NNLW worker, related to medical surveillance which is fixed – i.e. it is the same whether the number of NNLW jobs completed is 1 or 100).
- 14.7 It is possible that non-compliant small contractors dealing with jobs containing an element of NNLW may bring in individual suppliers to cover any NNLW work or indicate that they cannot perform a part of the job themselves. This could result in a market for ad-hoc NNLW work from compliant suppliers to supplement the work of non-compliant tradesmen. However, given the additional expense of contracting two rather than one supplier, there may be a strong incentive for non-compliance in such situations. Consultation revealed that low levels of compliance are in fact expected by stakeholders.
- 14.8 Competitiveness effects are therefore likely to emerge between compliant suppliers who bear the cost of medicals, notification and record keeping and non-compliant suppliers who do work without complying. The extent to which price advantage may be gained will depend on the extent to which price is affected by compliance, which is currently unknown and will be affected by suppliers' volume of NNLW (economies of scale).
- 14.9 Some concentration of the market for NNLW work into a smaller number of NNLW qualified suppliers make occur if there is strong demand for compliance suppliers. For example, clients such as public authorities and major employers may insist on full compliance. If this occurs non-compliant suppliers may find that work is lost to them in favour of compliant or licensed contractors. There is already some anecdotal evidence of some clients (unnecessarily) using licensed contractors to do all work involving some asbestos. There was also a significant view at consultation that this may happen to a greater extent following implementation. Licensed contractors have a clear advantage at the margin over non-licensed contractors as they are already compliant with the changes by virtue of being licensed.

- 14.10 Conversely, some views were presented by experts that given that NNLW is typically incidental to trades which licensed contractors do not typically perform, and the small number of licensed employees relative to the estimated non-licensed employees working on NNLW, it is unlikely that the scale of any uptake of NNLW work by licensed contractors will be significant. For example, it is difficult to envisage how licensed contractors could react quickly to small scale, unplanned NNLW, for example when a plumber finds he needs to remove an isolated ACM panel in a bathroom.
- 14.11 For those non-licensed suppliers who choose to comply, there may be an opportunity for a new category of tradesmen able to specialise in carrying out small amounts of work under NNLW derogation on demand as well as their main skills. Any such unplanned concentration of NNLW work in favour of a smaller, better informed group has potential health and economic benefits. There is also some potential for marketing advantage for those who comply. Those who decide to demonstrate an ability to do NNLW work could benefit from this serving as a signal of wider competence.
- 14.12 As regards the international situation, other leading EU member states have very similar requirements to the UK for asbestos in buildings; French law for example is wider in scope.

#### *Small Firms Impact Test*

- 14.13 The moratorium on new domestic regulation for micro-businesses and start ups does not apply to these proposals because the changes being made are as a result of EU measures and obligations. Special efforts were made to engage small business in the consultation. The Electrical Contractors Association for example was amongst those specifically alerted by email. It has 3,000 plus registered members, ranging from small local contractors to national building services organisations and collectively members have an annual turnover of more than £5 billion, employing over 30,000 operatives and supporting 8,000 apprentices in craft training. Alerts were sent to other electrical contractors associations such as NICEIC which has over 25,000 contractors registered with it and other trades such as The Chartered Institute of Plumbing and Heating Engineering (CIPHE), the professional body for the UK plumbing and heating industry which has about 12,000 members.
- 14.14 Small businesses have significantly less resources available to cope with regulatory change. If costs can be passed on the impact may not be significant on the trades involved. Consultees' views were mixed, some estimating that prices will be increased to maintain profit and others indicating it is difficult to pass costs on at present. If compliance levels are as low as consultees are predicting it is not expected that these changes will have a significant impact on small firms. Though one company indicated that the increased costs would amount to 0.5% of their turnover.
- 14.15 A significant problem for SMEs and smaller businesses is the requirement to organise medicals, notifications and record keeping when staff resource is limited. If they wish to comply and maintain business flexibility there will be a significant demand on resource. The Rural and Industrial Design and Building Association (RIDBA) representing contractors, designers, colleges, surveyors, land agents, planners, manufacturers and clients, for example, commented that small business will find the changes challenging and it is possible that some will, out of caution, over, rather than under, notify NNLW.
- 14.16 The entire impact assessment and consultation have been largely concerned with impacts on small firms. This is reflected in the conclusions on compliance levels, and on potential avoidance of, or specialisation in, NNLW work where suppliers have to choose

whether they will do enough NNLW to benefit from economies of scale, or whether the cost will be too difficult to recover.

14.17 Efforts to minimise the costs of compliance for SMEs will be made. Notification will be made as quick and simple as possible using an online system. Consultees did not agree that it is possible to shorten record keeping time if it is done properly, but the smaller the firm the less onerous this will be. The 3 yearly medical examination involves more opportunity costs especially since consultees considered that HSE's time estimate of 2 hours should be adjusted to 3 or even 4 hours in rural areas. That is of course only every 3 years and the individual cost of medicals per employee is not large. It is intended that the use of local GPs to carry out the required medicals will reduce these costs once the arrangements are established.

14.18 Costs will also only apply to compliant firms. As discussed in previous sections, compliance is expected to be low. With this in mind, any more reliable estimation of costs to small firms is unlikely to merit further research at this stage.

#### *Greenhouse Gas Assessment Impact Test*

14.19 There are no implications for greenhouse gas emissions from the proposal other than increased use of phones to notify jobs and paper or computer records of work and medicals.

#### *Wider Environmental Issues Impact Test*

14.20 There will be no wider environmental impacts resulting from the proposed changes

#### *Health and Well-being Impact Test*

14.21 Health impacts are discussed in the main body of the evidence base (see benefits section) but a separate Health Impact test considering wider issues is also attached at Annex 5.

#### *Human Rights Impact Test*

14.22 The proposal will not have any implications for human rights.

#### *Justice Impact Test*

14.23 Detailed written exchanges and briefing to MOJ Criminal Offences Gateway have resulted in agreement that there will be little or no justice implications because of the proposal. No new offences are created in the primary legislation because of these changes. The existing regulations will be replaced with virtually identical regulations except for the changes required to Regulation 3 so the net effect in terms of increased cases for the courts is negligible as mentioned in 8.21 above.

#### *Rural Proofing Impact Test*

14.24 There are no specific impacts on rural communities as a result of the proposal.

#### *Sustainable Development Impact Test*

14.25 There is no impact on sustainable development from the proposal.

## **15. Summary and preferred option with description of implementation plan**

- 15.1 As indicated there is only one option flowing from the UK's decision to accept the EC's reasoned opinion. Correcting the under implementation by copy-out of the missing terms of the Directive heavily influences the final implementation. The aim is for the regulations with the omitted terms of the Directive included to come into force in April 2012.
- 15.2 HSE and Local Government will use the usual channels, mainly the internet, to publicise the changes ahead of April 2012, and will work to find ways of minimising burdens as far as possible, whilst preserving any benefits which are gained. Before the regulations come into force, suitable guidance, written to ameliorate the impact of the changes, will be provided on HSE's website to help businesses to understand their responsibilities. HSE will also review and revise the Approved Code of Practice associated with CAR06 to ensure the duties are clearly understood and to help reduce perceptions that health and safety law is inappropriately applied. Account will be taken of consultees' views that the guidance should be short, clear and supported by practical examples.
- 15.3 Work has already begun to design the single online notification system. This will mirror other similar existing notification systems and will be available on HSE's website. The information requested will be kept to the minimum required by the Directive and guidance on completion will be provided. The system will be available when the regulations come into force.
- 15.4 The increased need for medical examinations requires greater flexibility and accessibility to suitable services. The proposal, accepted in principle by the medical profession, to allow an expansion of the pool of medical practitioners available to provide this service is designed to deliver this. Discussions with representatives of the medical profession will continue with the aim of having arrangements in place for April 2012.



# Annexes

## Annex 1: Post Implementation Review (PIR) Plan

A PIR should be undertaken, usually three to five years after implementation of the policy, but exceptionally a longer period may be more appropriate. If the policy is subject to a sunset clause, the review should be carried out sufficiently early that any renewal or amendment to legislation can be enacted before the expiry date. A PIR should examine the extent to which the implemented regulations have achieved their objectives, assess their costs and benefits and identify whether they are having any unintended consequences. Please set out the PIR Plan as detailed below. If there is no plan to do a PIR please provide reasons below.

**Basis of the review:** [The basis of the review could be statutory (forming part of the legislation), i.e. a sunset clause or a duty to review, or there could be a political commitment to review (PIR)];

Political commitment to review the working of these regulations. Note however, that the 'Red Tape Challenge' and Prof. Löfstedt's review of health and safety legislation may also result in a requirement to review/make changes to asbestos legislation to a shorter timescale.

**Review objective:** [Is it intended as a proportionate check that regulation is operating as expected to tackle the problem of concern?; or as a wider exploration of the policy approach taken?; or as a link from policy objective to outcome?]

To ensure that HSE has achieved its objective that the requirements of Directive 2003/18/EC have been met in the UK.

To confirm that the requirements are operating in a proportionate manner

To confirm that the objective of the entire regulations of reducing the potential for ill health effects from exposure to asbestos in the workplace has been met, (bearing in mind long latency).

**Review approach and rationale:** [e.g. describe here the review approach (in-depth evaluation, scope review of monitoring data, scan of stakeholder views, etc.) and the rationale that made choosing such an approach]

Review will consider review statistical data from enforcement activities, etc. and a scan of stakeholder views in order to assess whether the aims of the regulations have been met. Information gained in the review will also inform any feedback on the implementation of the Directive to the EU Commission.

**Baseline:** [The current (baseline) position against which the change introduced by the legislation can be measured]

Through its normal operations, HSE collects data on its enforcement activities. HSE is, through a variety of routes, in continuous liaison with various stakeholders who have an interest in asbestos and who can be surveyed for their views.

**Success criteria:** [Criteria showing achievement of the policy objectives as set out in the final impact assessment; criteria for modifying or replacing the policy if it does not achieve its objectives]

That the objectives of the regulations/directive are being met in a proportionate manner. The results of current reviews of H&S legislation will inform this exercise.

(The immediate present objective to comply with the EC requirement by April 2012 will not be relevant in 2017. ) This plan will be refined for the final stage impact assessment)

**Monitoring information arrangements:** [Provide further details of the planned/existing arrangements in place that will allow a systematic collection of monitoring information for future policy review]

HSE has access to a variety of sources of information that can be used for ongoing monitoring, in particular, enforcement activity; numbers of contractors licensed to work with asbestos; numbers of notifications received for work with asbestos and data on asbestos related ill health (although the usefulness of this for PIR in the near term is limited due to long latency periods)..

**Reasons for not planning a review:** [If there is no plan to do a PIR please provide reasons here]

## **Annex 2: supporting calculations**

This table shows the estimates made by HSE to generate the number of workers affected by the new requirements and it has now been modified to take account of advice from consultees. The number of affected workers reflects those that will come under the NNLW category that is those directly carrying out the work which is notifiable and who need medicals and records as a result (not those who are bystanders or managers who may be inadvertently exposed).

**Table 2: number of workers affected**

SOC Code	Occupation	Number of Jobs (thousands) 2009-10 GB*	Percentage of workers Affected (lower limit)	Percentage of workers Affected (best estimate)	Percentage of workers Affected (upper limit)	Number of workers affected (lower limit)	Number of workers affected (best estimate)	Number of workers affected (Upper limit)
3313	Fire Service Officers	49,200	20%	30%	40%	9,840	14,760	19,680
5312	Bricklayers and masons	71,600	10%	20%	30%	7,160	14,320	21,480
5216	Pipe fitters	10,400	59%	65%	72%	6,084	6,760	7,436
5223	Metal working & production maintenance fitters	205,800	18%	20%	22%	37,044	41,160	45,276
5241	Electricians, electrical fitters	243,400	27%	30%	33%	65,718	73,020	80,322
5242	Telecommunications engineers	41,500	59%	65%	72%	24,278	26,975	29,673
5243	Lines repairers and cable jointers	10,800	10%	20%	25%	1,080	2,160	2,700
5244	TV, video and audio engineers	12,000	18%	20%	22%	2,160	2,400	2,640
5245	Computer engineers, installation and maintenance	42,000	9%	10%	11%	3,780	4,200	4,620
5249	Electrical/electronics engineers n.e.c.	81,800	23%	25%	28%	18,405	20,450	22,495
5313	Roofers, Tilers, Slaters	39,900	10%	30%	40%	3,990	11,970	15,960
5314	Plumbers, heating and ventilating engineers	170,400	68%	75%	83%	115,020	127,800	140,580
5315	Carpenters and joiners	221,000	65%	72%	79%	143,208	159,120	175,032
5316	Glaziers, window fabricators and fitters	42,100	34%	38%	42%	14,398	15,998	17,598
5319	Construction trades n.e.c.	220,200	18%	20%	22%	39,636	44,040	48,444
5321	Plasterers	48,600	29%	32%	35%	13,997	15,552	17,107
5322	Floorers and wall tilers	39,200	9%	10%	11%	3,528	3,920	4,312
5323	Painters and decorators	124,900	23%	25%	28%	28,103	31,225	34,348
6232	Caretakers	74,600	45%	50%	55%	33,570	37,300	41,030
8141	Scaffolders, staggers and riggers	25,800	10%	20%	30%	2,580	5,160	7,740
8149	Construction operatives n.e.c.	71,000	18%	20%	22%	12,780	14,200	15,620
9121	Labourers in building and woodworking trades	166,000	18%	20%	22%	29,880	33,200	36,520
9129	Labourers in other construction trades n.e.c.	29,800	18%	20%	22%	5,364	5,960	6,556
9139	Labourers in process and plants operations	72,800	10%	20%	30%	7,280	14,560	21,840
<b>Total **</b>		<b>2,114,800</b>				<b>628,882</b>	<b>726,210</b>	<b>819,008</b>

Source: Annual Population Survey

Notes: \*rounded to the nearest 100. \*\*Totals may not sum due to rounding.

The table below is an attempt to give a sense of scale based on records of initial asbestos product production figures for a snap shot 4 years (from the 2007 Impact assessment p.97.) Although the Environment Agency records of legal asbestos disposal this cannot be used to reliably estimate how much remains in buildings as not all the waste tonnage will be asbestos alone.

**Table 3: Asbestos fibre use in the UK (thousands of tonnes)**

	1970	1973	1976	1978
Asbestos cement products for buildings	52.5	55.6	42.9	32.9
Asbestos cement pressure pipes	Not given	9.0	8.1	Not given
Fire-resistant insulating board	18.5	22.5	14.5	11.4
Other insulation (incl. spray)	4	4	0.4	1.5
Floor tiles and coverings	20.5	16.2	15.8	12.5
Friction materials	15	17	15.7	10.6
Jointings and packings	9	11.4	10	6.6
Other textile materials	9	8.3	6.3	5.3
Fillers and reinforcements (felts, millboard, paper, underseals, mastics, adhesives)	21.5	25.7	28.4	17.2
Moulded plastics	4.5	2.8	1.2	2.0
Total	154.5	172.5	143.3	100.0

### **Annex 3: discussion of low compliance**

The following paragraphs discuss the evidence supporting assumptions of low compliance. These assumptions were largely confirmed during consultation. Research conducted by the Institute of Employment Studies in 2007<sup>1</sup> found that a large number of workers appear to be oblivious to, or in denial of the fact that they are being exposed to asbestos. Some of that exposure is likely to be in the NNLW category because of the ubiquity of asbestos insulation board with which most work is likely to be within NNLW. Their report also suggested workers consistently overestimate their ability to recognise ACMs. Others may be aware and might even recognise NNLW but deliberately decide not to incur the additional overheads. Added to this is the familiar pattern of smaller businesses who dominate this sector being less well informed, resourced or organised to meet legal requirements. The level of detailed knowledge required to decide if NNLW applies will be an added filter further reducing compliance levels within the target workforce.

There is considerable evidence that supports an assumption that compliance will be very low. This is derived from HSE field operational experience of the smallest businesses and from research. For example, The Asbestos Pilot Campaign Evaluation, by Continental Research/COI, in a presentation to the HSE 2008 Parkinson T, Chilvers D, confirmed inaccurate beliefs of workers including: asbestos is a thing of the past - not much risk of exposure (42 per cent); very few people die of asbestos-related diseases nowadays - not a real threat (40 per cent); taking proper precautions too expensive and time consuming (36 per cent). Barriers included the complexity of messages about asbestos, its effects and how to deal with it effectively.

Recent research for the HSE, the Fit3 Employer Survey (Wave 1) asked questions about the information passed on to maintenance workers regarding asbestos.<sup>2</sup> The results showed that 40 per cent of employers do not provide any information to their workers. This research again found that workers potentially underestimate levels of exposure to asbestos, as 56 per cent believed that they had not come into contact with asbestos in the past six months. This is most unlikely given the pervasiveness of asbestos in pre asbestos ban buildings. Workers who in good faith do not believe they are disturbing asbestos when in fact they are not in a position to comply with requirements to notify etc. Research conducted by the Health and Safety

<sup>1</sup> Institute of Employment Studies (IES) research report 'Taking risks with asbestos – What influences the behaviour of maintenance workers?' <http://www.hse.gov.uk/research/rrpdf/rr558.pdf>

<sup>2</sup> Fit 3 Wave 1 Surveys; Preliminary results, unpublished, HSE.

Laboratory in 2003 showed that plumbers seriously underestimate their exposure to asbestos and do not take adequate precautions.<sup>3</sup> The HSL research involved a comparison between work activity logs (in which workers note down when they believe they have come into contact with asbestos) and asbestos samplers detecting exposure. It found that even amongst plumbers who recorded (and presumably believed) that they had not worked with asbestos at all, 69 per cent had in fact had some asbestos contact over the course of a sample week.

#### **Annex 4: Equality Impact Assessment**

See separate document

#### **Annex 5: Health and well being Impact Test**

See separate document

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<sup>3</sup> Burdett G, Bard D (2003), Pilot study on the exposure of maintenance workers (Industrial Plumbers) to asbestos, Health and Safety Laboratory MF/2003/15.