Health and Safety Executive
for Northern Ireland

Proposals to Implement the Fourth List of Indicative Occupational Exposure Limit Values (Commission Directive (EU) 2017/164)

Consultative Document

February 2018

Proposals to Implement the Fourth List of Indicative Occupational Exposure Limit Values (Commission Directive (EU) 2017/164)

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This Consultation Document is closely based on the Consultation Document entitled *"Consultation on implementing new and revised Workplace Exposure Limits"* issued by the Health and Safety Executive in Great Britain (HSEGB), whose assistance is gratefully acknowledged. If you would prefer a printed version, it can be obtained on request. Furthermore, if you require a more accessible format, executive summaries are available in Braille or large print, on disc or audio-cassette, or in Irish, Ulster Scots and other languages of the minority ethnic communities in Northern Ireland. To obtain a summary in one of these formats, please contact Robert Greer at the address shown at paragraph 39.

INTRODUCTION

1. This Consultative Document (CD) seeks views on proposals by the Health and Safety Executive for Northern Ireland (HSENI) for the implementation of Commission Directive (EU) 2017/164 which introduces the 4th list of Indicative Occupational Exposure Limit Values (IOELVs). The Directive (known as the 4th IOELV Directive), introduces new, or revised exposure limits for 31 substances to help protect workers from the ill-health effects of exposure to hazardous substances in the workplace. A copy of the text of the Directive is shown at **Annex A**.

2. The 4th IOELV Directive was adopted by the Commission on 31st January 2017. This CD sets out HSENI's proposals for establishing Workplace Exposure Limits (WELs) for the substances listed in the Directive, in order to implement it in Northern Ireland.

3. On 23 June 2016, the EU referendum took place and the people of the United Kingdom voted to leave the European Union. Until exit negotiations are concluded, the UK remains a full member of the European Union and all the rights and obligations of EU membership remain in force. During this period, the UK Government will continue to negotiate, implement and apply EU legislation. The outcome of these negotiations will determine what arrangements apply in relation to EU legislation in future once the UK has left the EU.

4. The Health and Safety Executive in Great Britain (HSE) is consulting on proposals for implementation in England, Scotland and Wales – see http://www.hse.gov.uk/consult/condocs/cd283.htm.

SUMMARY OF PROPOSALS

5. The proposals are summarised in the table below:

Summary of Proposals

(In following table **TWA =** time-weighted average and **STEL** = short-term exposure limit)

Substance Name	**CAS Number**	**IOELV** A) 8-hour TWA B) STEL C) Skin notation	**Existing UK WEL and notations** A) 8-hour TWA B) STEL C) Skin notation	**HSENI Proposal**
1,4-Dichlorobenzene; *p*-Dichlorobenzene	106-46-7	A)12 $mg.m^{-3}$ B)60 $mg.m^{-3}$ C)Skin	A)153 $mg.m^{-3}$ B)306 $mg.m^{-3}$ C)none	Adopt IOELV 8-hour TWA limit and IOELV STEL and reduce existing WEL and STEL. Introduce skin notation
2-ethylhexan-1-ol	104-76-7	A)5.4 $mg.m^{-3}$ B)none C)none	A)none B)none C)none	Adopt IOELV 8-hour TWA limit and establish new WEL

Acetic acid	64-19-7	A)25 mg.m^{-3} B)50 mg.m^{-3} C) none	A)none B)none C)none	Adopt IOELV 8-hour TWA limit and IOELV STEL and establish new WEL and STEL
Acrolein; Acrylaldehyde; Prop-2-enal	107-02-8	A)0.05 mg.m^{-3} B)0.12 mg.m^{-3} C) none	A)0.23 mg.m^{-3} B)0.7 mg.m^{-3} C) none	Adopt IOELV 8-hour TWA limit and IOELV STEL and reduce existing WEL and STEL
Acrylic acid; Prop-2-enoic acid	79-10-7	A)29 mg.m^{-3} B)59 mg.m^{-3} STEL in relation to a 1 minute reference period C) none	A)none B)none C)none	Adopt IOELV 8-hour TWA limit and IOELV STEL and establish new WEL and STEL
Amitrole	61-82-5	A)0.2 mg.m^{-3} B) none C) none	A)none B)none C) none	Adopt IOELV 8-hour TWA limit and establish new WEL
Bisphenol A; 4,4'-Isopropylidenediphenol	80-05-7	A) 2 mg.m^{-3} B)none C)none	A)10 mg.m^{-3} B) none C) none	Adopt IOELV 8-hour TWA limit and reduce existing WEL
But-2-yne-1,4-diol	110-65-6	A)0.5 mg.m^{-3} B)none C)none	A) none B)none C)none	Adopt IOELV 8-hour TWA limit and establish new WEL
Calcium dihydroxide	1305-62-0	A)1 mg.m^{-3} respirable fraction B)4 mg.m^{-3} respirable fraction C) none	A)5 mg.m^{-3} B)none C)none	Adopt IOELV 8-hour TWA limit and IOELV STEL and reduce existing WEL
Calcium oxide	1305-78-8	A)1 mg.m^{-3} respirable fraction B)4 mg.m^{-3} respirable fraction C) none	A)2 mg.m^{-3} B)none C)none	Adopt IOELV 8-hour TWA limit and reduce existing WEL. Introduce STEL.
Carbon monoxide*	630-08-0	A)23 mg.m^{-3} B)117 mg.m^{-3} C)none	A)35 mg.m^{-3} B)232 mg.m^{-3} C)none	Adopt IOELV 8-hour TWA limit and IOELV STEL and reduce existing WEL and STEL
Carbon tetrachloride; Tetrachloromethane	56-23-5	A) 6.4 mg.m^{-3} B) 32 mg.m^{-3} C) Skin	A) 13 B)none C)skin	Adopt IOELV 8-hour TWA limit and IOELV STEL and reduce existing WEL. Retain Skin notation
Diacetyl; Butanedione	431-03-8	A)0.07 mg.m^{-3} B)0.36 mg.m^{-3} C)none	A)none B)none C)none	Adopt IOELV 8-hour TWA limit and IOELV STEL and establish new WEL and STEL
Diphenyl ether	101-84-8	A) 7 mg.m^{-3} B) 14 mg.m^{-3} C) none	A)7.1 mg.m^{-3} B)none C)none	Adopt IOELV 8-hour TWA limit and IOELV STEL and reduce existing WEL. Introduce new STEL

Ethyl acetate	141-78-6	A)734 mg.m^{-3} B)1468 mg.m^{-3} C)none	A)200ppm (734 mg.m^{-3}) B)400ppm (1468 mg.m^{-3}) C)none	Retain current WEL and STEL
Glycerol trinitrate	55-63-0	A) 0.095 mg.m^{-3} B) 0.01 mg.m^{-3} C)Skin	A)none B)none C)none	Adopt IOELV 8-hour TWA limit, IOELV STEL and introduce skin notation
Hydrogen cyanide (as cyanide)	74-90-8	A)1 mg.m^{-3} B) 5 mg.m^{-3} C) skin	A)none B)11 mg.m^{-3} C)skin	Adopt IOELV 8-hour TWA limit and IOELV STEL and reduce existing STEL. Retain Skin notation
Lithium hydride	7580-67-8	A) none B)0.02 mg.m^{-3} Inhalable fraction C) none	A)0.025 mg.m^{-3} B)none C)none	Adopt IOELV STEL and remove existing WEL.
Manganese and inorganic manganese compounds (as manganese)		A)0.2 mg.m^{-3} inhalable fraction 0.05 mg.m^{-3} respirable fraction B) none C) none	A)0.5 mg.m^{-3} inhalable fraction B)none C)none	Adopt IOELV 8-hour TWA limit and reduce existing WEL
Methyl formate	107-31-3	A)125 mg.m^{-3} B)250 mg.m^{-3} C) skin	A)none B)none C)none	Adopt IOELV 8-hour TWA limit, IOELV STEL and Skin notation
Methylene chloride; Dichloromethane	75-09-2	A) 353 mg.m^{-3} B) 706 mg.m^{-3} C) skin	A)350 mg.m^{-3} B)1060 mg.m^{-3} C)skin	Adopt IOELV 8-hour TWA limit and IOELV STEL and reduce existing WEL and STEL. Retain Skin notation
Nitroethane	79-24-3	A) 62 mg.m^{-3} B) 312 mg.m^{-3} C)Skin	A)none B)none C)none	Adopt IOELV 8-hour TWA limit, IOELV STEL and Skin notation
Nitrogen dioxide*	10102-44-0	A) 0.96 mg.m^{-3} B)1.91 mg.m^{-3} C) none	A)none B)none C)none	Adopt IOELV 8-hour TWA limit and IOELV STEL
Nitrogen monoxide*	10102-43-9	A)2.5 mg.m^{-3} B) none C) none	A)none B)none C)none	Adopt IOELV 8-hour TWA limit and establish new WEL
Potassium cyanide (as cyanide)	151-50-8	A)1 mg.m^{-3} B)5 mg.m^{-3} C)skin	A)5 mg.m^{-3} B)none C)skin	Adopt IOELV 8-hour TWA limit and IOELV STEL and reduce existing WEL. Retain Skin notation
Sodium cyanide (as cyanide)	143-33-9	A)1 mg.m^{-3} B)5 mg.m^{-3} C)skin	A)5 mg.m^{-3} B)none C)skin	Adopt IOELV 8-hour TWA limit and IOELV STEL and reduce existing WEL. Retain Skin notation
Sulphur dioxide	7446-09-5	A)1.3 mg.m^{-3} B)2.7 mg.m^{-3} C)none	A) none B)none C)none	Adopt IOELV 8-hour TWA limit and IOELV

				STEL and establish new WEL and STEL
Terphenyl, hydrogenated	61788-32-7	A)19 mg.m^{-3} B)48 mg.m^{-3} C)none	A)none B)none C)none	Adopt IOELV 8-hour TWA limit and IOELV STEL and establish new WEL and STEL
Tetrachloroethylene	127-18-4	A)138 mg.m^{-3} B)275 mg.m^{-3} C)skin	A)345 mg.m^{-3} B)689 mg.m^{-3} C)none	Adopt IOELV 8-hour TWA limit and IOELV STEL and reduce existing WEL and STEL. Introduce skin notation
Tetraethyl orthosilicate	78-10-4	A)44 mg.m^{-3} B) none C) none	A)none B)none C)none	Adopt IOELV 8-hour TWA limit and establish new WEL
Vinylidene chloride; 1,1-Dichloroethylene	75-35-4	A)8 mg.m^{-3} B)20 mg.m^{-3} C) none	A)40 mg.m^{-3} B)none C)none	Adopt IOELV 8-hour TWA limit and IOELV STEL and reduce existing WEL

For substances marked * an extended transitional period is proposed for the underground mining and tunnelling industries, An interim limit is proposed for these industries for nitrogen monoxide of 30mg/m^3 or 25ppm in line with Directive 91/322/EEC.

BACKGROUND

6. IOELVs are science-based exposure limit values set to help protect workers from the ill-health effects of exposure to hazardous substances. The 4th IOELV Directive requires Member States to establish, or amend, national occupational exposure limits for 31 hazardous substances taking into account the EU values.

7. There are currently IOELVs for 115 substances listed in three directives which have been adopted since 2000 (2000/39/EC, 2006/15/EC and 2009/161). In the UK these limit values are transposed as Workplace Exposure Limits (WELs) via an amendment to the HSE publication EH40/2005 which has been approved for use in Northern Ireland.

8. The IOELVs listed in the Directive have been discussed by the Working Party on Chemicals (WPC), a sub-group of the EU's tripartite Advisory Committee on Safety and Heath at Work (ACSH), on which the UK is one of only four governments represented. The WPC opinions on appropriate exposure limit values for these substances were subsequently endorsed by the ACSH.

9. HSE officials consulted UK industry stakeholders throughout the WPC discussions on the IOELVs and the UK Government voted in favour of the proposals in September 2016.

THE OCCUPATIONAL EXPOSURE LIMIT SYSTEM

10. In 2005, HSENI, in line with the then Health and Safety Commission in Great Britain, introduced a new framework for setting occupational exposure limits (OELs) following an amendment to the Control of Substances Hazardous to Health Regulations (Northern Ireland) 2003 (S.R. 2003 No. 34) ("the COSHH Regulations"). The new system dispensed with the previous system of Maximum

Exposure Limits (MELs) and Occupational Exposure Standards (OESs) and replaced both with a single type of limit, the Workplace Exposure Limit or WEL.

11. The requirements for compliance with WELs are set out in regulation 7(7) of the COSHH Regulations as amended by the Control of Substances Hazardous to Health (Amendment) Regulations (Northern Ireland) 2005 (S.R. 2005 No. 165). In essence, the emphasis in the WEL system is on the need to control exposure to substances according to the principles of good practice. In addition to these general principles of good practice, control advice sheets laying out step-by-step instructions for specific tasks and processes, are available via the electronic system of COSHH Essentials (www.coshh-essentials.org.uk). These control guidance sheets represent good practice for the control of hazardous substances. COSHH Essentials is available as guidance only, and employers are free to use other sources of advice on good practice, if they wish.

12. In addition to the need to control substances according to good practice, it is a legal requirement that the WEL should not be exceeded. A WEL is defined as the concentration of a hazardous substance in the air that people breathe, averaged over a specified reference period referred to as a time-weighted average (TWA). Two periods are used: long-term exposure limit (8 hours) and short-term exposure limit (STEL) (15 minutes).

13. WELs are published in the HSE publication EH40 Workplace Exposure Limits, available on the HSENI website at https://www.hseni.gov.uk/publications/eh402005-workplace-exposure-limits.

14. In addition to the requirement to control exposure to the level of the WEL, employers must, if the substance is a carcinogen or a respiratory sensitizer, reduce exposure still further to a level which is as low as is reasonably practicable.

15. For more information on employers' duties under COSHH, you should refer to HSE's booklet ***"Working with Substances Hazardous to Health"*** - INDG136 (rev4), available on the HSE website at: www.hse.gov.uk/pubns/indg136.pdf

WHAT ARE IOELVs?

16. In accordance with Directive 98/24/EC, 'occupational exposure limit value' means, unless otherwise specified, the limit of the time-weighted average of the concentration of a chemical agent in the air within the breathing zone of a worker in relation to a specified reference period.

17. IOELVs are European health-based limits that are set to protect the health of workers in the European Union from the ill-health effects of hazardous substances in the workplace. Their legal status derives from Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work (the Chemical Agents Directive or CAD). The first European Commission Directive on Indicative Occupational Exposure Limit Values (1st IOELV Directive) (2000/39/EC), containing limits for 63 substances was implemented in the United Kingdom in December 2001. The 2nd IOELV Directive (2006/15/EC) introduced limits for 33 substances and was implemented

in October 2007. The 3rd IOELV Directive was implemented in December 2011(Directive 2009/161/EU) creating limits for a further 19 substances.

18. IOELVs are health-based occupational exposure limit values derived by the Scientific Committee on Occupational Exposure Limits for Chemical Agents (SCOEL) from the most recent scientific data available. They are adopted by the European Commission taking into account the availability of measurement techniques. They are threshold levels of exposure below which, in general, no detrimental effects are expected for any given chemical agent after short-term or daily exposure over a working lifetime. They constitute European Union objectives and are designed to assist employers in determining and assessing risks and in implementing preventive and protective measures in accordance with Directive 98/24/EC.

19. Member States are obliged to establish national occupational exposure limits for the chemical agents in question, taking into account the European values. In most cases this will mean that the Northern Ireland limit will be identical or very close to the IOELV. Only in very rare circumstances would HSENI consider establishing a WEL at a level substantially higher than the IOELV.

CURRENT LEGISLATIVE PROVISIONS FOR IOELVs IN THE UK

20. IOELVs are implemented in the UK by updating the HSE publication EH40. Table 1 of EH40 lists current workplace exposure limits and has special legal status in Northern Ireland under the Control of Substances Hazardous to Health Regulations (Northern Ireland) 2003 (as amended) and in GB under the Control of Substances Hazardous to Health Regulations 2002 (as amended).

TRANSPOSITION APPROACH

21. The Directive has been agreed by the 'comitology' procedure which provides for a flexible approach to transposition and allows for on-going administration and updating of existing legislation by a committee of representatives of the Member States, chaired by the Commission. The comitology procedure is often used to update 'technical/scientific' based legislation in response to changes in technology and the evolving scientific evidence.

22. In Great Britain, HSE plans to transpose the Directive by amending legally binding guidance – HSE publication: EH40/2005. HSENI plans to approve the amended EH40/2005 for use in Northern Ireland. This transposition approach takes account of existing policy on transposing EU Directives and a commitment not to go beyond the minimum requirements of the Directive. It also implements the Directive in a way that is proportionate to the risks and takes into account existing controls and therefore minimises the impact on businesses.

23. The Directive recognises that there may be technological challenges and associated costs for the underground mining and tunnelling industries across Europe in complying with the proposed limit values for nitrogen monoxide, nitrogen dioxide and carbon monoxide. In recognition of the challenges in these industries the Directive includes an extended transitional period until 21st August 2023 during

which Member States may continue to apply existing national limit values for these three substances in these industries.

24. Currently there is no workplace exposure limit for nitrogen monoxide (NO) listed in the HSE publication EH40/2005 - Workplace Exposure Limits.

25. In line with similar proposals in Great Britain and to ensure Northern Ireland is fully compliant with current EU requirements, a limit for NO of 30 mg/m^3 – 25 ppm as an 8 hr TWA is proposed as an interim limit for the underground mining and tunnelling industries only. This value will be applicable from **21st August 2018** and will remain in place until the end of the five year extended transitional period for the underground mining and tunnelling industries ending on **21st August 2023**, when the lower value of 2.5 mg/m^3 – 2ppm for NO will be applied.

26. The new lower value of 2.5 mg/m^3 – 2ppm for NO as established by the 4th Indicative Occupational Exposure Limit Values (IOELV) Directive will apply to **all** other sectors from **21st August 2018**.

27. The additional transitional period will provide time for the Northern Ireland industries concerned to make improvements in working practices in order to continue to comply with current legislation, and these improvements may result in achieving compliance with the new IOELVs. However, if the costs of implementing the new limits in underground mining and tunnelling industries are disproportionate to the benefits, consideration may be given to introducing limit values that are achievable for these industries and this will be explored during the transposition period**.**

RELATIONSHIP WITH GREAT BRITAIN

28. The proposals set out in this CD do not differ in any significant way from the proposals on the corresponding GB consultation (see the acknowledgement on page 1 of this CD). Such differences as do occur relate only to Northern Ireland legislation and institutions. As the GB and Northern Ireland proposals, taken together, are intended to implement a European Directive, it is essential that the same requirements apply throughout the United Kingdom.

COSTS AND BENEFITS

Great Britain

29. An impact assessment (IA) prepared for the corresponding GB proposals is attached at **Annex B**. This concluded that, for most of the substances, no additional costs would arise, and that implementation of the Directive would have no adverse effects on British Industry. However technological challenges and associated costs for the underground mining and tunnelling industries has been recognised.

30. Benefits include compliance with Directive 2017/164/EU and the avoidance of infraction proceedings by the European Commission. Implementation will also provide employers with clarity in relation to widely recognised formal limits

published as WELs and the same health protection for British workers comparative to the rest of the EU

Northern Ireland

31. HSENI is of the opinion that the analysis and considerations as set out in the GB IA can be applied to Northern Ireland on a proportionate basis where appropriate.

32. Before finalising its proposals HSENI will take into account any further evidence provided from the consultation process and the conclusions reached in the GB Final Stage Impact Assessment.

33. **Comments on these conclusions would be welcome.**

EQUALITY IMPACT

34. The proposals to implement the 4th IOELV Directive have been screened for any possible impact on equality of opportunity affecting the groups listed in section 75 of the Northern Ireland Act 1998 and no adverse or, with the exception of age, differential impacts were identified. As the proposals relate primarily to workplaces they will have a justified differential impact on those of a working age. There is no evidence to suggest that the proposals will impact disproportionately on any other Section 75 group. A copy of the screening document is at **Annex C.**

HUMAN RIGHTS

35. The Department has considered the matter of Convention rights and is satisfied that there are no matters of concern.

RURAL PROOFING

36. Rural proofing is the process by which policies, strategies and plans are assessed to determine whether they have a differential impact on rural areas and, where appropriate, adjustments are made to take account of particular rural circumstances, ensuring the fair and equitable treatment of rural communities.

37. HSENI has considered this matter as part of in the development of these proposals and concludes that they will not impact differentially on the needs of people in rural areas of Northern Ireland.

INVITATION TO COMMENT

38. HSENI would welcome your comments on the proposals in this CD. In particular, comment is invited on the assumption relating to costs relevant to Northern Ireland and the conclusion that the proposals would have no adverse effect on any section 75 groups.

39. Comments should be sent to: -

    IOELVconsultation@hseni.gov.uk

    or by post to:-

    Robert Greer
    Health and Safety Executive for Northern Ireland
    83 Ladas Drive, Belfast, BT6 9FR
    Tel: (028) 90 546 817;

    so as to arrive no later than noon on **Friday 11 May 2018.**

40. HSENI tries to make its consultation procedures as thorough and open as possible. Responses to this consultation will be kept at the office of HSENI at the above address after the close of this consultation period, where they can be inspected by members of the public or be copied to them. HSENI can only refuse to disclose information in exceptional circumstances. Before you submit your response, please read the paragraphs below on the confidentiality of information given by you in response to this consultation.

41. The Freedom of Information Act 2000 gives the public a right of access to any information held by a public authority, namely, HSENI in this case. This right of access to information includes information provided in response to a consultation. HSENI cannot automatically consider as confidential information supplied to it in response to a consultation. However, it does have the responsibility to decide whether any information provided by you in response to this consultation, including information about your identity, should be made public or be treated as confidential. If you do not wish information about your identity to be made public, please include an explanation in your response.

42. This means that information provided in response to the consultation is unlikely to be treated as confidential, except in very particular circumstances.

February 2018 Health and Safety Executive for Northern Ireland

Text of the Commission Directive 2017/164 of 31st January 2017 establishing a 4th list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC and amending Commission Directives 91/322/EEC, 2000/39/EC and 2009/161/EU

COMMISSION DIRECTIVE (EU) 2017/164

of 31 January 2017

establishing a fourth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC, and amending Commission Directives 91/322/EEC, 2000/39/EC and 2009/161/EU

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Council Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work (1) ('Directive 98/24/EC'), and in particular Article 3(2),

Whereas:

(1) Pursuant to Directive 98/24/EC, the Commission is to propose Union objectives in the form of indicative occupational exposure limit values (IOELVs) to be set at Union level, in order to protect workers from risks arising from exposure to hazardous chemicals.
(2) Article 3(2) of Directive 98/24/EC empowers the Commission to establish or revise IOELVs, taking into account the availability of measurement techniques by means of measures adopted in accordance with the procedure laid down in Article 17 of Council Directive 89/391/EEC (2).
(3) The Commission is assisted in this task by the Scientific Committee on Occupational Exposure Limits for Chemical Agents (SCOEL), set up by Commission Decision 2014/113/EU (3).
(4) In accordance with Directive 98/24/EC, 'occupational exposure limit value' means, unless otherwise specified, the limit of the time-weighted average of the concentration of a chemical agent in the air within the breathing zone of a worker in relation to a specified reference period.
(5) IOELVs are health-based occupational exposure limit values that are derived by SCOEL from the most recent scientific data available and adopted by the Commission taking into account the availability of measurement techniques. They are threshold levels of exposure below which, in general, no detrimental effects are expected for any given chemical agent after short-term or daily exposure over a working lifetime. They constitute Union objectives and are designed to assist employers in determining and assessing risks and in implementing preventive and protective measures in accordance with Directive 98/24/EC.
(6) In accordance with SCOEL recommendations, IOELVs are established in relation to a reference period of 8 hours time-weighted average (long-term exposure limit values) and, for certain chemical agents, to shorter reference periods, in general 15 minutes time-

weighted average (short-term exposure limit values), to take account of the effects arising from short-term exposure.

(7)For any chemical agent for which an IOELV has been set at Union level, Member States are required to establish a national occupational exposure limit value. In doing so, they are required to take into account the Union limit value, determining the nature of the national limit value in accordance with national legislation and practice.

(8)IOELVs are an important part of the general arrangements for the protection of workers against the health risks arising from exposure to hazardous chemicals.

(9)In accordance with Article 3 of Directive 98/24/EC, SCOEL has assessed the relationship between the health effects of the chemical agents listed in the 31 entries in the Annex to this Directive and the level of occupational exposure and recommended for all those chemical agents, the establishment of IOELVs for the inhalation route of exposure in relation to a reference period of 8 hours time-weighted average. It is therefore appropriate to establish long-term exposure limit values for all those agents in the Annex to this Directive.

(10)For some of those chemical agents, SCOEL also recommended the establishment of such limit values in relation to shorter reference periods and/or of skin notations.

(11)Four of those chemical agents — nitrogen monoxide, calcium dihydroxide, lithium hydride and acetic acid — are currently listed in the Annex to Commission Directive 91/322/EEC (4).

(12)One of those chemical agents, 1,4-dichlorobenzene, is currently listed in the Annex to Commission Directive 2000/39/EC (5).

(13)Another, bisphenol A, is currently listed in the Annex to Commission Directive 2009/161/EU (6).

(14)SCOEL has recommended for those agents the establishment of new IOELVs. It is therefore appropriate to include revised limit values for those six chemical agents in the Annex to this Directive and to delete the entries for those chemical agents from the Annexes to Directives 91/322/EEC, 2000/39/EC and 2009/161/EU.

(15)For 1 of the chemical agents listed in the 31 entries in the Annex to this Directive, acrylic acid, SCOEL recommended a short-term exposure limit value in relation to a reference period of 1 minute. It is therefore appropriate to establish such a short-term exposure limit value for this chemical agent in the Annex to this Directive.

(16)For certain substances, it is necessary to take into account the possibility of penetration through the skin in order to ensure the best possible level of protection. Among the chemical agents listed in the 31 entries in the Annex to this Directive, SCOEL identified the possibility of significant uptake through the skin for glycerol trinitrate, carbon tetrachloride, hydrogen cyanide, methylene chloride, nitroethane, 1,4-dichlorobenzene, methyl formate, tetrachloroethylene, sodium cyanide and potassium cyanide. It is therefore appropriate to set in the Annex to this Directive notations indicating the possibility of significant uptake through the skin for these chemical agents, in addition to the IOELVs.

(17)The Advisory Committee on Health and Safety at Work (7), consulted in accordance with Article 3(2) of Directive 98/24/EC, recognised that there were concerns regarding the technical feasibility of the proposed IOELVs for nitrogen monoxide and nitrogen dioxide in underground mining and tunnelling, and for carbon monoxide in underground mining. The committee also acknowledged that there are currently challenges relating to the availability of measurement methodologies that could be used to demonstrate compliance with the proposed limit value for nitrogen dioxide in underground mining and tunnelling environments. It is therefore appropriate to allow the Member States to make use of a transitional period in respect of the implementation in underground mining and tunnelling of the limit values set for nitrogen monoxide, nitrogen dioxide and carbon monoxide in the Annex to this Directive, and for the Commission to review the aforementioned issues

before the end of the transitional period. During that transitional period, Member States may continue to apply the existing limit values, instead of applying those established in the Annex to this Directive.

(18) In accordance with the Joint Political Declaration of 28 September 2011 of Member States and the Commission on explanatory documents (8), Member States have undertaken to accompany, in justified cases, the notification of their transposition measures with one or more documents explaining the relationship between the components of a directive and the corresponding parts of national transposition instruments.

(19) With regard to this Directive, the Commission considers the transmission of such documents in the form of a table showing the correlation between the national measures and this Directive to be justified, given that for some agents national occupational exposure limit values already exist in national legislation, and given the variety and the technical nature of the legal instruments at national level for the establishment of occupational exposure limit values.

(20) The Advisory Committee on Safety and Health at Work gave its opinions on 27 November 2014 and 21 May 2015.

(21) The measures provided for in this Directive are in accordance with the opinion of the Technical Progress Committee established under Article 17 of Council Directive 89/391/EEC,

HAS ADOPTED THIS DIRECTIVE:

Article 1

A fourth list of Union indicative occupational exposure limit values is hereby established for the chemical agents listed in the Annex.

Article 2

Member States shall establish national occupational exposure limit values for the chemical agents listed in the Annex, taking into account the Union limit values.

Article 3

In the Annex to Directive 91/322/EEC, the references to acetic acid, calcium dihydroxide, lithium hydride and nitrogen monoxide are deleted with effect from 21 August 2018, subject to Article 6(2)(a).

Article 4

In the Annex to Directive 2000/39/EC, the reference to 1,4-dichlorobenzene is deleted with effect from 21 August 2018.

Article 5

In the Annex to Directive 2009/161/EU, the reference to bisphenol A is deleted with effect from 21 August 2018.

Article 6

1. In underground mining and tunnelling, Member States may benefit from a transitional period ending at the latest on 21 August 2023, as regards the limit values for nitrogen monoxide, nitrogen dioxide and carbon monoxide.

2. During the transitional period referred to in paragraph 1, Member States may continue to apply the following, instead of applying the limit values established in the Annex:

(a) in respect of nitrogen monoxide: the existing limit values established in accordance with the Annex to Directive 91/322/EEC;
(b) in respect of nitrogen dioxide and carbon monoxide: national limit values in force on 1 February 2017.

Article 7

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 21 August 2018 at the latest.

They shall forthwith communicate to the Commission the text of those provisions and shall accompany their notification with one or more explanatory documents in the form of tables showing the correlation between the provisions and this Directive.

When Member States adopt those provisions, they shall contain a reference to this Directive or be accompanied by such a reference on the occasion of their official publication. Member States shall determine how such reference is to be made.

2. Member States shall communicate to the Commission the text of the main provisions of national law which they adopt in the field covered by this Directive.

Article 8

This Directive shall enter into force on the 20th day following that of its publication in the Official Journal of the European Union.

Article 9

This Directive is addressed to the Member States.

Done at Brussels, 31 January 2017.

For the Commission

The President

Jean-Claude JUNCKER

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(1) OJ L 131, 5.5.1998, p. 11.

(2) Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work (OJ L 183, 29.6.1989, p. 1).

(3) Commission Decision 2014/113/EU of 3 March 2014 on setting up a Scientific Committee on Occupational Exposure Limits for Chemical Agents and repealing Decision 95/320/EC (OJ L 62, 4.3.2014, p. 18).

(4) Commission Directive 91/322/EEC of 29 May 1991 on establishing indicative limit values by implementing Council Directive 80/1107/EEC on the protection of workers from the risks related to exposure to chemical, physical and biological agents at work (OJ L 177, 5.7.1991, p. 22).

(5) Commission Directive 2000/39/EC of 8 June 2000 establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work (OJ L 142, 16.6.2000, p. 47).

(6) Commission Directive 2009/161/EU of 17 December 2009 establishing a third list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Commission Directive 2000/39/EC (OJ L 338, 19.12.2009, p. 87).

(7) Council Decision 2003/C 218/01 of 22 July 2003 setting up an Advisory Committee on Safety and Health at Work (OJ C 218, 13.9.2003, p. 1).

(8) OJ C 369, 17.12.2011, p. 14.

ANNEX I

EC No (1)	CAS No (2)	NAME OF THE CHEMICAL AGENT	LIMIT VALUES				Notation (3)
			8 hours (4)		Short-term (5)		
			mg/m3 (6)	ppm (7)	mg/m3 (6)	ppm (7)	
—	—	Manganese and inorganic manganese compounds (as manganese)	0,2 (8) 0,05 (9)	—	—	—	—
200-240-8	55-63-0	Glycerol trinitrate	0,095	0,01	0,19	0,02	skin
200-262-8	56-23-5	Carbon tetrachloride; Tetrachloromethane	6,4	1	32	5	skin
200-521-5	61-82-5	Amitrole	0,2	—	—	—	—
200-580-7	64-19-7	Acetic acid	25	10	50	20	—
200-821-6	74-90-8	Hydrogen cyanide (as cyanide)	1	0,9	5	4,5	skin
200-838-9	75-09-2	Methylene chloride; Dichloromethane	353	100	706	200	skin
200-864-0	75-35-4	Vinylidene chloride; 1,1-Dichloroethylene	8	2	20	5	—
201-083-8	78-10-4	Tetraethyl orthosilicate	44	5	—	—	—
201-177-9	79-10-7	Acrylic acid; Prop-2-enoic acid	29	10	59 (10)	20 (10)	—
201-188-9	79-24-3	Nitroethane	62	20	312	100	skin
201-245-8	80-05-7	Bisphenol A; 4,4′-Isopropylidenediphenol	2 (8)	—	—	—	—
202-981-2	101-84-8	Diphenyl ether	7	1	14	2	—
203-234-3	104-76-7	2-ethylhexan-1-ol	5,4	1	—	—	—
203-400-5	106-46-7	1,4-Dichlorobenzene; p-Dichlorobenzene	12	2	60	10	skin
203-453-4	107-02-8	Acrolein; Acrylaldehyde; Prop-2-enal	0,05	0,02	0,12	0,05	—
203-481-7	107-31-3	Methyl formate	125	50	250	100	skin
203-788-6	110-65-6	But-2-yne-1,4-diol	0,5	—	—	—	—
204-825-9	127-18-4	Tetrachloroethylene	138	20	275	40	skin
205-500-4	141-78-6	Ethyl acetate	734	200	1 468	400	—
205-599-4	143-33-9	Sodium cyanide (as cyanide)	1	—	5	—	skin
205-792-3	151-50-8	Potassium cyanide (as cyanide)	1	—	5	—	skin
207-069-8	431-03-8	Diacetyl; Butanedione	0,07	0,02	0,36	0,1	—
211-128-3	630-08-0	Carbon monoxide	23	20	117	100	—
215-137-3	1305-62-0	Calcium dihydroxide	1 (9)	—	4 (9)	—	—
215-138-9	1305-78-8	Calcium oxide	1 (9)	—	4 (9)	—	—

231-195-2	7446-09-5	Sulphur dioxide	1,3	0,5	2,7	1	—
231-484-3	7580-67-8	Lithium hydride	—	—	0,02 (8)	—	—
233-271-0	10102-43-9	Nitrogen monoxide	2,5	2	—	—	—
233-272-6	10102-44-0	Nitrogen dioxide	0,96	0,5	1,91	1	—
262-967-7	61788-32-7	Terphenyl, hydrogenated	19	2	48	5	—

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(1) EC No: European Community (EC) number, the numerical identifier for substances within the European Union.

(2) CAS No: Chemical Abstract Service Registry Number.

(3) A skin notation assigned to the occupational exposure limit value indicates the possibility of significant uptake through the skin.

(4) Measured or calculated in relation to a reference period of 8 hours time-weighted average (TWA).

(5) Short-term exposure limit (STEL). A limit value above which exposure should not occur and which is related to a 15-minute period unless otherwise specified.

(6) mg/m3 : milligrams per cubic metre of air. For chemicals in gas or vapour phase the limit value is expressed at 20 °C and 101,3 kPa.

(7) ppm: parts per million by volume in air (ml/m3).

(8) Inhalable fraction.

(9) Respirable fraction.

(10) Short-term exposure limit value in relation to a reference period of 1 minute.

Impact Assessment

Title: Implementation of the 4th Indicative Occupational Exposure Limit Values (IOELV) Directive **IA No:** **RPC Reference No:** **Lead department or agency:** Health and Safety Executive **Other departments or agencies:**	**Impact Assessment (IA)** **Date:** **Stage:** Consultation **Source of intervention:** EU **Type of measure:** Secondary Legislation **Contact for enquiries:** Gill Smart Anna Barnes

Summary: Intervention and Options

RPC Opinion:

Cost of Preferred (or more likely) Option				
Total Net Present Value	**Business Net Present Value**	**Net cost to business per year**	**One-In, Three-Out**	**Business Impact Target Status**
Not quantified	Not quantified	Not quantified	N/A	Non-qualifying provision

What is the problem under consideration? Why is government intervention necessary?

The 4th Indicative Occupational Exposure Limit Values Directive (Directive 164/2017/EU) was adopted on 31st January 2017. The Directive introduces new or revised occupational exposure limits for 31 substances harmful to human health. The limits have been agreed by the Scientific Committee on Occupational Exposure Limits (SCOEL) as threshold limits of exposure below which, in general, no detrimental effects are expected for any given chemical agent after short-term or daily exposure over a working lifetime.

What are the policy objectives and the intended effects?

- To improve worker protection from hazardous substances.
- To ensure, where possible, consistency of application with other Government Departments.
- To bring the UK regime in line with the latest recommendations from SCOEL and to fulfil the UK's obligations under EU law.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

HSE plans to transpose the Directive by amending the statutory table 1 in the HSE publication EH40/2005. No new legislation or other amendment to existing HSE legislation is required as the legal base is already covered by the Control of Substances Hazardous to Health Regulations 2002 (COSHH).

Some minor changes to the 'Merchant Shipping and Fishing Vessels (Health and Safety at Work) (Chemical Agents) Regulations will be required by the Department for Transport (DfT) and a short guidance document will be produced. HSE officials will work with DfT colleagues to agree a coordinated approach.

Will the policy be reviewed? It will be not be reviewed. **If applicable, set review date:**

Does implementation go beyond minimum EU requirements?		No		
Are any of these organisations in scope?	**Micro** Yes	**Small** Yes	**Medium** Yes	**Large** Yes
What is the CO_2 equivalent change in greenhouse gas emissions? (Million tonnes CO_2 equivalent)		**Traded:** N/A	**Non-traded:** N/A	

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible Date:

Summary: Analysis & Evidence

Policy Option 1

Description: Do Minimum – update table 1 of the HSE publication EH40

FULL ECONOMIC ASSESSMENT

Price Base Year 2016	PV Base Year 2017	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: not quantified	**High:** not quantified	**Best Estimate:** not quantified

COSTS (£m)	Total Transition (Constant Price) Years		Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	Optional		Optional	**Optional**
High	Optional	1	Optional	**Optional**
Best Estimate	**not quantified**		**not quantified**	**not quantified**

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

For 25 of the 31 substances for which exposure limits are to be revised, initial engagement with industry indicates that there would be no costs impacts.

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

For 6 of the 31 substances for which exposure limits are to be revised, there is anticipated to be a potential cost impact. These costs have not been quantified at this stage, as not enough information is currently available, despite the substantial consultation (formal consultation across the EU and informal consultation with UK industry) which has informed this assessment. HSE will engage further with industry and undertake scientific research during the formal public consultation period to quantify the likely cost impact and the number of businesses that will be affected by the changes.

BENEFITS (£m)	Total Transition (Constant Price) Years		Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	Optional		Optional	**Optional**
High	Optional		Optional	**Optional**
Best Estimate	**Not quantified**		**Not quantified**	Not quantified

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

No monetised benefits have been assessed

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

It is possible that a health benefit will be experienced for workers using substances where a cost impact is anticipated. This is because if a cost is incurred then this will be to put in place additional control measures to comply with the new exposure limit, therefore reducing worker exposure to the substance. However, due to difficulties in measurement and an uncertainty in the baseline level of health, it would not be possible to quantify any improvement in health, beyond saying a health improvement is likely for these substances to some degree.

Key assumptions/sensitivities/risks **Discount rate (%)** 3.5

The main assumption in this consultation stage IA is that a nil response to the EU-wide and informal HSE consultation means that there is going to be no impact associated with that substance. It is assumed that if the introduction / reduction of an exposure limit for a substance has not been raised so far as an issue by industry, then it is unlikely there will be costs for industry. However, these assumptions will be tested during consultation via further engagement with industry.

BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual) £m:			Score for Business Impact Target (qualifying provisions only) £m: N/A
Costs: Not quantified	**Benefits:** Not Quantified	**Net:** Not quantified	**N/A**

Problem under consideration

1. On 31st January 2017 the European Commission, advised by SCOEL (Scientific Committee on Occupational Exposure Limits), published a proposal to introduce new or amended Indicative Occupational Exposure Limit Values (IOELVs) for 31 substances harmful to human health. The Directive was adopted on 1st February 2017 and must be transposed into UK law by 21st August 2018.

2. IOELVs are concentration limits for hazardous substances present in a workplace atmosphere where ill-health effects are likely to occur.

3. There are currently IOELVs for 115 substances listed in three directives which have been adopted since 2000 (2000/39/EC, 2006/15/EC and 2009/161EU). In the UK these limit values are transposed as Workplace Exposure Limits (WELs) via an amendment to statutory table 1 in the Health and Safety Executive (HSE) publication EH40/2005. No new legislation or other amendment to existing regulation is required as the legal base is already covered by the Control of Substances Hazardous to Health Regulations 2002 (COSHH).

4. The underground mining and tunnelling industries across the European Union raised issues throughout the negotiation process about the feasibility of complying with the limits for nitrogen monoxide, nitrogen dioxide and carbon monoxide, (which largely arise from Diesel Engine Exhaust Emissions (DEEE) from machinery used in underground mines and tunnels) and the potential costs which may be associated with this, for example, replacing machinery. Taking these concerns into account the EU have granted an extended transitional period for these industries, for the above three substances only. In the interim (2018-2023) the current EU limit values for nitrogen monoxide set out in Directive 91/322/EEC will apply in these industries. There are currently no UK WELs for nitrogen dioxide and carbon monoxide, so no WELs for those substances will apply during the transition period.

5. The IOELVs listed in the Directive have been discussed by the Working Party on Chemicals (WPC), a sub-group of the EU's tripartite Advisory Committee on Safety and Health at Work (ACSH), on which the UK is one of only four governments represented. The WPC opinions on appropriate exposure limit values for these substances were subsequently endorsed by the ACSH.

6. On 23 June 2016, the EU referendum took place and the people of the United Kingdom voted to leave the European Union. Until exit negotiations are concluded, the UK remains a full member of the European Union and all the rights and obligations of EU membership remain in force. During this period, the Government will continue to negotiate, implement and apply EU legislation. The assumptions used in this impact assessment have been chosen accordingly.

Background Information

7. Exposure to hazardous substances at work can have a wide range of damaging effects on human health. There are many ways that humans can be exposed to hazardous substances at work, which are influenced by the physical form of the substances themselves, whether they readily evaporate or create dust, how they are used, and a number of other factors.

8. Great Britain – and the rest of the United Kingdom – has a well-established regulatory environment for the control of workplace risks associated with use of hazardous substances in the system of WELs and the COSHH Regulations. A WEL is based on the concentration of a hazardous substance present in the air that people breathe, averaged over a specified reference period, referred to as a 'time-weighted average' (TWA). Two periods are used: long-term exposure limit (8 hours) and short-term exposure limit (STEL) (15 minutes).

9. With the development of the COSHH/WEL system, UK policy shifted from domestic limit setting to the adoption of European limits (IOELVs). This reflected the increasing efforts at a European level to develop and apply similar levels of control across the EU, avoided duplication of risk assessment work at the domestic level, and helps ensure that British business benefits from a level playing field with other EU member states.

10. The hazards to human health, and the level of exposure at which each could cause harm to health, have been examined by SCOEL. SCOEL is a body of experts drawn from throughout the European Union, including from the UK. IOELVs, proposed by SCOEL are scientific limits set at a level at which, as a result of repeated exposure throughout their working lifetime, no harmful effects would be predicted to occur to workers or their progeny. Implementation of limits can therefore be deemed protective of the health of British workers.

11. There are a limited number of ways that exposure to substance hazards can be controlled, namely: elimination of the substance from the workplace; changing the physical form of the substance (e.g. fine powder converted to granules), dilution of the substance to lower the effect of concentrated exposure; extraction of the hazardous substance from the workplace atmosphere, for example by using ventilation hoods; containment of the hazardous substance; and use of personal protection, such as appropriate protective gloves and/or respiratory equipment.

12. Small changes in a WEL are unlikely to lead to a new control measure being necessary, as the same method of exposure control is likely to be already providing the necessary protection.

13. Other factors such as customer pressure, developing technologies, and shifting market forces - as well as a general drive on the part of industry to move away from use of hazardous substances – have in the past, and continue to result in changing use patterns for these substances

Rationale for intervention

14. The rationale for the approach to transposition follows the UK Government's Guiding Principles for EU Legislation. Whilst ensuring that standards are maintained, we will ensure that the UK does not go beyond the minimum requirements of the Directive.

15. Where possible, the UK will use copy-out from the Directive, except where doing so would adversely affect UK interests.

16. Member states are required by Treaty commitments to set legally binding national limits for all thirty one substances, taking into account the level of the IOELV.

Implementation date

17. Member states are required to transpose the Directive by 21st August 2018.

18. The UK intends to take advantage of an extended transitional period for the underground mining and tunnelling industry until 21st August 2023. The extended period for these industries is in relation to the limits for carbon monoxide, nitrogen dioxide and nitrogen monoxide only. As already noted in paragraph 4, during the interim period, the EU limit values for nitrogen monoxide set out in Directive 91/322/EEC will apply. There are currently no UK WELs for nitrogen dioxide and carbon monoxide, so no WELs for those substances will apply during the transition period.

19. This extended period is granted in recognition of the particular technological challenges faced by these industries (see further explanation in paragraphs 4, 65, 67 and 68). Effective implementation as proposed above will ensure the UK avoids infraction proceedings and associated costs for failure to fully implement the Directive.

Policy objectives

20. In considering the most appropriate method to transpose the requirements of the Directive, the policy objectives are to:

- To improve worker protection from hazardous substances.
- To ensure, where possible, consistency of application with other Government Departments.
- To bring the UK regime in line with the latest recommendations from SCOEL and to fulfil the UK's obligations under EU law.

Description of options considered

Do nothing

21. When considering options for transposition of the Directive within the impact assessment, the 'do nothing' option was not considered viable as it would not

deliver the policy objective and the UK's obligations under EU law. Therefore, the 'do nothing' or status quo option has not been analysed further in this IA, in accordance with Better Regulation guidance on IAs. It appears in this impact assessment only as the notional baseline against which the other options are assessed.

Option 1: Do minimum – update table 1 of the HSE publication EH40, and take advantage of the extended transitional period for the underground mining and tunnelling industry

22. Option 1 is presented as the 'do minimum' option, which assesses the costs and benefits of implementing the Directive in a way that does not introduce new requirements which go beyond the scope of the Directive. In this option, HSE would implement the Directive by updating statutory table 1 of the HSE publication EH40/2005 Workplace Exposure Limits, allowing a transitional period for the mining and tunnelling industry until 21st August 2023.

23. Implementing the Directive in this way would minimise changes to existing arrangements, so this option is the least burdensome to duty holders who are already familiar with current requirements and the legislative framework. This option meets the requirement to implement the Directive and is achievable within the implementation timescale.

24. This 'do minimum' option will fully implement the Directive and limits burdens on businesses. It also maintains current standards, and in some cases offers additional protection for workers.

Option considered but not being taken forward

25. The option not to have an additional period for the underground mining and tunnelling industry was considered initially. However, this was discounted at an early stage due to concerns regarding the technical feasibility of the three proposed IOELVs. The exposures of concern arise from the diesel emissions from machinery that is integral to current processes in the mining and tunnelling industry. There are also challenges relating to the availability of measurement methodologies that could be used to demonstrate compliance with the proposed limit value for nitrogen dioxide in underground mining and tunnelling environments. Failure to grant the transitional period would undoubtedly cause difficulties for the industries.

HSE's preferred Option

26. Option 1 is HSE's preferred option, as it implements the requirements of the Directive and places the minimum burden on UK business.

Summary of Proposed changes to substances

27. The 4th IOELV Directive establishes IOELVs for thirty one substances. In the UK IOELVs are transposed as workplace exposure limits (WELs) and short term exposure limits (STELs).

28. A WEL is defined as the concentration of a hazardous substance in the air that people breathe, averaged over a specified reference period referred to as a time-weighted average (TWA). Two periods are used: long-term exposure limit (8 hours) and short-term exposure limit (STEL) (15 minutes). The 31 substances can be split into four categories: those where no change is needed; those for which a WEL needs to be established; those for which the current WEL needs to be reduced; and those where currently there is only a UK 8 hour time weighted average and so a short term exposure limit (STEL) needs to be established. The impacts of the changes in exposure limits are discussed for each substance from paragraph 41 to 69.

Monetised and non-monetised costs and benefits of each option (including administrative burden)

Risks and assumptions

Time Horizon, discounting and rounding

29. The standard appraisal period suggested by HM Treasury guidance for when there is no more appropriate time period to use is 10 years. There is no reason why another time period would be more appropriate and so the standard period of 10 years will be used in this analysis when impacts are quantified.

30. We will apply a discount rate of 3.5% per annum, consistent with HM Treasury's (HMT) Green Book[1]

31. For discounting purposes, we will assume that the first year of the appraisal period is time zero, i.e. 2017. The 10th year of the appraisal period, 2026, will therefore be time period nine. Any on-going costs and savings will be borne from time period zero to time period nine, unless otherwise stated.

Cost of time

32. We will assume a working week of 37.5 hours with 7.5 hours in a working day.

33. For any cost impacts that are associated with the cost of time, we will assume that the value of employee or a self-employed person's time is equal to the opportunity cost of that time to the employer or the self-employed person. This will be equal, at the margin, to the cost of labour to the employer; that is the gross wage rate plus any non-wage labour costs that the firm faces, such as national insurance and pension contributions. The rationale for this is that the

[1] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/220541/green_book_complete.pdf

firm will hire workers up until the point at which the cost of doing so (i.e. wages plus various nonwage costs paid on employed labour) is equal to the value the firm receives for the output of the additional worker.

Research already undertaken

34. At the start of this process, details of manufacturers, importers, formulators, and other users for all of the substances in question were obtained from relevant trade associations, literature and internet sources

35. HSE specialists made contact with the relevant industries throughout the negotiation process and ensured that, where possible, their views were taken in to account at an early stage. A full list of the industry representatives contacted is provided in Annex 1. Following the adoption of the Directive, further contact was made with welding trade associations in relation to the proposed limit for manganese, and the food and drink industry in relation to the proposed limit for diacetyl. This was to confirm that the proposed limits would not prove an additional cost burden, and that further control methods would not be required. These discussions with industry during and after negotiations have meant that the impact on UK business has been limited wherever possible. In addition, during the SCOEL process the draft recommendations undergo a stakeholder consultation to allow interested parties to submit health-based scientific comments and further data. The information we did and didn't receive from that consultation has helped us to understand which substances might lead to cost impacts on industry.

36. The section on "Plans for future evidence-gathering", starting at paragraph 71, sets out how we intend to fill in the remaining gaps in evidence.

Costs

Do nothing

37. While this is not a valid option, this proposal relating to the transposition of a European Directive, 'do nothing' is used as the notional baseline.

Policy Option 1 - implement the Directive by establishing a WEL at the same value as each IOELV

38. Option 1 satisfies the requirement that new legally binding limits be established in UK law for each substance for which an IOELV is listed in the 4th IOELV Directive.

39. An assessment of whether each new WEL would impose costs is presented below. Each assessment of cost is based upon evidence supplied both by industry (through an early initial consultation during the SCOEL process) and HSE's Occupational Hygienists. The information on costs presented reflects our best possible estimates given the information that is currently available, and will be subject to further revision following the receipt of information to be gained

during consultation. The table below provides an impact summary of the 31 substances for ease of reference.

Table 1 – Assessment of costs and substance overview

Substance	No Known Impact	Known Impact
1,4-Dichlorobenzene; *p*-Dichlorobenzene	X	
2-ethylhexan-1-ol		X
Acetic acid	X	
Acrolein; Acrylaldehyde; Prop-2-enal	X	
Acrylic acid; Prop-2-enoic acid	X	
Amitrole	X	
Bisphenol A; 4,4'-Isopropylidenediphenol	X	
But-2-yne-1,4-diol	X	
Calcium dihydroxide	X	
Calcium oxide	X	
Carbon monoxide		X
Carbon tetrachloride; Tetrachloromethane	X	
Diacetyl; Butanedione	X	
Diphenyl ether	X	
Ethyl acetate	X	
Glycerol trinitrate	X	
Hydrogen cyanide (as cyanide)	X	
Lithium hydride	X	
Manganese and inorganic manganese compounds (as manganese)		X
Methyl formate	X	
Methylene chloride; Dichloromethane	X	
Nitroethane	X	
Nitrogen dioxide		X
Nitrogen monoxide		X
Potassium cyanide (as cyanide)	X	
Sodium cyanide (as cyanide)	X	
Sulphur dioxide		X
Terphenyl, hydrogenated	X	
Tetrachloroethylene	X	
Tetraethyl orthosilicate	X	
Vinylidene chloride; 1,1-Dichloroethylene	X	

No known Impact

40. For the substances listed below, information from the informal consultation indicates that no additional costs are expected. In some cases this is because current practices already lead to compliance with the new limits (e.g. because the substance is already used within closed systems), in other cases no manufacture or use are known of in the UK. For all of these substances, informal consultation prompted no responses from businesses indicating additional costs might arise, and information from HSE specialists confirms that this is likely to be the case. The formal consultation period will be used to gather further evidence and information to confirm this assessment (see the section starting at paragraph 71 for a description of the evidence-gathering plan).

41. **Ethyl Acetate** is used in coating products, cosmetics and personal care products, adhesives and sealants, fillers, putties, plasters, modelling clay, inks and toners and plant protection products. It is manufactured and/or imported in the EU in quantities of 100,000 – 1,000,000 tonnes per year. The proposed 8 hour TWA WEL is identical to the existing WEL with which industry is already required to comply and so no costs or benefits are expected for industry.

42. **Methylene Chloride**: (dichloromethane) is used in washing & cleaning products, coating products, adhesives and sealants and extraction agents. It is also used in printing and recorded media reproduction, manufacture of: chemicals, textile, leather or fur, rubber products, plastic products, mineral products (e.g. plasters, cement), machinery and vehicles and furniture. Its use as a paint stripper is restricted under the Registration, Evaluation, Authorisation & restriction of Chemicals (REACH) Regulations. Methylene chloride is manufactured and/or imported in the EU in quantities of 100,000 – 1,000,000 tonnes per year. The proposed 8 hour TWA WEL is identical to the existing WEL with which industry is already required to comply and so no costs or benefits are expected for industry. The STEL is reducing from 250ppm to 200ppm; however, this is not expected to result in any additional costs. Industry enquiries in relation to the reduction in the STEL for methylene chloride did not highlight any issues. Most industries indicated that they were moving away from using the substance, or that the substance was used in an enclosed process. No additional costs to industry are expected as a result of a reduction in the STEL.

43. **Amitrole** is a colourless to white, crystalline powder. It is used as a herbicide and growth regulator for plants. A WEL needs to be established for this substance. Industry enquiries found no UK manufacture or use; therefore no costs or benefits are expected as a result of implementing the proposed limits.

44. **Methyl Formate** is a clear, colourless liquid with an agreeable odour. It is used in the formulation of mixtures and / or re-packaging and for the manufacture of chemicals. A WEL needs to be established for this substance. Methyl formate is manufactured and/ or imported in the EU in quantities of 100,000 – 1,000,000 tonnes per year; however, industry enquiries found no user or manufacturer in

the UK and therefore no costs or benefits are expected as a result of implementing the proposed limits.

45. **Acetic acid** is used in the manufacture of organic compounds such as acetic anhydride, acetic esters and chloroacetic acid, of synthetic fibre materials such as cellulose acetate and acetate rayon. It is also used in the production of plastics, pharmaceuticals, dyes, insecticides, and photographic chemicals. It is further used as a food additive; as a natural latex coagulant; and in textile dyeing and printing. It is manufactured and/or imported in the EU in quantities of 1,000,000 – 10,000,000 tonnes per year. A WEL needs to be established for this substance. Industry enquiries regarding the use of acetic acid identified no issues; those companies that responded did not envisage having to make any changes to current processes in order to comply with the new WEL, therefore no additional costs to industry are expected.

46. **Tetraethyl orthosilicate** is a colourless liquid which degrades in water. It is used in coating products, adhesives and sealants, fillers, putties, plasters, modelling clay, non-metal-surface treatment products, anti-freeze products, polymers, laboratory chemicals and metal surface treatment products. It is manufactured and/or imported in the EU in quantities of 1,000 – 10,000 tonnes per year. A WEL needs to be established for this substance. The UK suppliers contacted raised no issues with the proposed limits. Industry enquiries regarding the use of tetraethyl orthosilicate identified no issues; those companies that responded did not envisage having to make any changes to current processes in order to comply with the new WEL, therefore no additional costs to industry are expected.

47. **Carbon tetrachloride** is manufactured and / or imported in the EU in quantities of 1,000 – 10,000 tonnes per year. The current WEL will be reduced for this substance. A single UK manufacturer is known of, and they have confirmed they do not supply the substance to UK industry. No further information was provided by other businesses in the informal consultation, so no costs are expected to arise from the proposed WEL.

48. **Potassium cyanide (as cyanide), hydrogen cyanide (as cyanide) and sodium cyanide (as cyanide)** are used in the electroplating, surface engineering plastics and textile industries. The current WEL will be reduced for this substance. Industry enquiries identified no use in the UK, and so HSE do not expect the proposal to introduce any costs on business.

49. **Bisphenol A** is a colourless solid, used predominantly as a chemical intermediate in the manufacture of resins, flame retardants, and rubber chemicals. It is manufactured and/or imported in the EU in quantities of 1,000,000 to 10,000,000 tons per year. It is manufactured by 4 companies in the EU but not in the UK. The current WEL will be reduced for this substance. In a previous public consultation relating to WELs for bisphenol A (for the 3rd IOELV Directive in 2011) no responses were received for the substance. HSE does not therefore anticipate any cost implications for bisphenol A.

50. **Tetrachloroethylene** is a colourless liquid. It was widely used for dry cleaning of fabrics and is commonly known as 'dry-cleaning fluid.' Tetrachloroethylene is also used as a degreasing agent in manufacturing, to degrease metal parts in the automotive and other metalworking industries (usually as a mixture with other chlorocarbons). The current WEL will be reduced for this substance. Initial enquiries suggest that control in the UK is already very good, and exposures are already controlled below the proposed WEL and STEL. In addition, in relation to its use in the dry cleaning industry, machinery and advances in both technology and garment care have also contributed to reducing use, and therefore exposures. No additional costs are expected as a result of the change.

51. **Lithium Hydride** is an odourless, off-white to grey crystalline solid or a white powder. It is proposed that a short term exposure limit (STEL) will be introduced where currently there is only a UK 8 hour time weighted average (TWA). Industry enquiries have found no apparent use of this substance in the UK, and therefore no costs or benefits are expected as result of implementing the proposed limit.

52. **Acrolein** is a colourless liquid with an acrid odour. Acrolein is used in the synthesis of other chemicals such as acrylic acid derivatives, glycerol, methionine, glutaric aldehyde and a number of chemicals used in the surface treatment of textiles and paper. It occurs after combustion of organic materials such as plastics, glycerol-containing compounds, fats and cooking oils, wood and vegetation, gasoline and diesel. Acrolein is also present in cigarette smoke. Acrolein is manufactured and/or imported in the EU in quantities of 100 – 1,000 tonnes per year. The current WEL will be reduced for this substance. No responses were received to industry enquiries in relation to Acrolein.[2]

53. **But-2-yne-1, 4-diol** is a white to light-brown solid or brownish-yellow aqueous solution. It is used for the manufacture of: metals, fabricated metal products and electrical, electronic and optical equipment and it is also used in washing and cleaning products, coating products, metal surface treatment products, water treatment chemicals, pH regulators and water treatment products and laboratory chemicals. But-2-yne-1,4-diol is manufactured and/or imported in the EU in quantities of 100+ tonnes per year. A WEL will be established for this substance. HSE made wide ranging enquiries of industry in relation to but-2-yne-1,4-diol but this prompted no responses.

54. **Nitroethane** is a colourless oily liquid with a pleasant odour. It is used in adhesives and sealants, anti-freeze products, coating products, fillers, putties, plasters, modelling clay, lubricants and greases and polishes and waxes. It is manufactured and / or imported in the EU in quantities of 100 – 1,000 tonnes per year. A WEL will be established for this substance. HSE made wide ranging enquiries of industry in relation to nitroethane but received no response relating to the new proposed limits.

55. **Acrylic Acid** – pure acrylic acid is a clear, colourless liquid with an irritating acrid odour. It is an industrial intermediate used to produce polyacrylate directly

[2] A single response from industry was received in relation to measurement methodology. Further enquiries to the Health and Safety Laboratory indicate that suitable measurement methods are available.

or polymerised via the intermediate stage of an acrylate ester. Also used in adhesives, paints, binding agents and printing inks. Acrylic acid is manufactured and / or imported in the EU in quantities of 1,000,000 to 10,000,000 tonnes per year. A WEL will be established for this substance. HSE has made wide-ranging enquiries of industry in relation to acrylic acid but received no response relating to the new proposed limits.

56. **Glycerol trinitrate** is a colourless to pale yellow, viscous liquid, used in the production of dynamite and other explosives. It is also used in medicine for the treatment of angina and hypertension. It is manufactured and / or imported in the EU in quantities of 1,000 to 100,000 tonnes per year. A WEL will be established for this substance. HSE made wide ranging enquiries of industry in relation to glycerol trinitrate and calcium oxide but received no response relating to the new proposed limits.

57. **Hydrogenated terphenyl** is a pale-yellow liquid with a slight odour. It is manufactured and / or imported in the EU in quantities of 1,000 – 10,000 tonnes per year. It is used in adhesives and sealants, coating products, fillers and putties, plasters, modelling clay, polymers, laboratory chemicals and heat transfer fluids. No information was received from industry or trade associations to indicate that the introduction of WEL and STEL is likely to cause additional costs for UK industry

58. **Diphenyl ether** is used as a heat transfer agent, as an intermediate in the production of surface agent and high temperature lubricant's and in perfumery. The current WEL will be reduced for this substance. Initial enquiries received no response from industry.

59. **Calcium dihydroxide and calcium oxide** can also be known as quick lime, lime, un-slaked lime, hydrated lime, slaked lime, lime milk and milk of lime. These substances are manufactured and / or imported in the EU in quantities of 1,000,000 + tonnes per year. The current WEL will be reduced for this substance. HSE made wide ranging enquiries in relation to calcium dihydroxide and calcium oxide but received no response relating to the new proposed limits.

60. **1,4 – Dichlorobenzene (P-dichlorobenzene)** is a white crystalline solid with a penetrating camphoraceous odour. It is used in fillers, putties, plasters, modelling clay, metal surface treatment products, non-metal-surface treatment products, air care products, heat transfer fluids and polymers. It is also used in the manufacture of: chemicals, mineral products (e.g. plasters, cement) and plastic products. It is manufactured and/or imported in the EU in quantities of 10,000 – 100,000 tonnes per year. The current WEL will be reduced for this substance. HSE made wide ranging enquiries of industry in relation to 1.4 - Dichlorobeneze but received no response relating to the new proposed limits.

61. **Vinylidene chloride** is a clear, colourless volatile liquid with a characteristic sweet odour. It is primarily used in co-polymers for packing materials, adhesives and synthetic fibres. It is used in the manufacture of chemicals, rubber products and plastic products. Vinylidene chloride is manufactured and / or imported in the EU in quantities of 10,000 – 100,000 tonnes. The current WEL will be

reduced for this substance. HSE made wide ranging enquiries of industry in relation to vinylidene chloride but received no response relating to the new proposed limits.

62. **Diacetyl** is a yellow/green liquid with a buttery flavour. It is a naturally occurring substance found in plant oils and food products. It is widely used as a flavouring in food products, although its use appears to be decreasing as initial industry enquiries elicited few responses. None of these responses indicated additional costs might arise. A WEL will be established for this substance. The inclusion of diacetyl in the 4th list of IOELV's was raised by HSE at three separate industry meetings, the Food and Drink Manufacturers Forum, the Federation of Bakers and the Food and Drink Federation and no concerns were raised.

Known Impact

63. For the 6 substances listed below, information from the SCOEL consultation and the informal consultation by HSE suggests the new limits are likely to lead to additional costs. As explained in paragraph 11, there are a limited number of ways that exposures to substances can be reduced. All of the businesses using these 6 substances will already have exposure control measures in place under COSHH. However, they will experience additional costs if the control measures they currently have in place do not already take them below the proposed WEL and they need to implement new controls. In order to estimate if there are costs to business as a result of the new exposure limits, HSE needs to understand what the current exposures are in these industries, and in some cases, that information is not available. The following paragraphs explain how the substances are used and, if the information is available, what the scale might be of the likely cost impacts. Details of how HSE plans to gather the further evidence necessary to monetise the costs associated with the new limits is provided in the section starting at paragraph 71.

64. **2-ethylhexan-1-ol** is a dark brown liquid with an aromatic odour. It is used in lubricants and greases, coating products, hydraulic fluids, fillers and putties, plasters, modelling clay, fuels, anti-freeze products and washing & cleaning products. It is manufactured and/or imported in the EU in quantities of 100,000 – 1,000,000 tonnes per year. For this substance, a WEL will need to be established. One company responded to HSE's enquiries about the proposed limits for 2-ethylhexan-1-ol. They indicated a cost of approximately £100k to install new systems if the WEL is reduced. HSE intends to gather further evidence during consultation to support this anecdotal evidence and will estimate the number of such businesses that might be affected.

65. **Carbon monoxide** is a colourless, odourless, and tasteless gas. It is produced as a by-product, not manufactured or used. In occupational settings, it is found primarily in mines and also in foundries. For this substance, a reduction in the WEL is required. It is one of the substances of concern to the underground mining and tunnelling industry (see paragraph 4), as it is a by-product of the diesel engines used in equipment that is integral to the mine, tunnel and/or foundry. The information provided by the mining industry suggests that these new limits for carbon monoxide could lead to additional costs, although lack of

information about current exposure levels makes it impossible at this stage to estimate the scale of such costs. There are currently 71 mines in GB, and this is expected to remain constant over the appraisal period. HSE will work to estimate the number of tunnelling projects, foundries and associated cost impacts during consultation. As explained earlier, an extended transitional period has been agreed for this substance in relation to underground mines and tunnels, so any costs would be incurred by these industries only after 2023.

66. **Manganese and inorganic manganese compounds (as manganese**) Manganese is a hard, brittle metallic element. It is brilliant white in colour with a reddish tinge. Manganese occurs naturally, most commonly as oxides and as sulphide, carbonate and silicate. It occurs in most iron ores. Most manganese compounds are water-soluble. Manganese is used in the production of ferrous and non-ferrous metal alloys, including those essential to steel making. Iron and steel production account for 85–95% of the manganese market. Occupational exposure occurs in mining, production of manganese metal and metal alloys, chemical production of manganese-based chemicals and six main manganese user sectors comprising: steel production, other metal smelting processes, fabrication (including welding), battery manufacture, agricultural products (production and use) and pigments, paints and glass making. Manganese is manufactured and/or imported in the EU in quantities of 1,000,000+ tonnes per year. For this substance, the current WEL will be reduced. It is possible that costs will be incurred as additional exposure monitoring may be required by some industries, which may include additional costs for sampling, filters and analysis. However, informal consultation with the welding industry has indicated that exposure to manganese only arises because it is a constituent of welding fume. Exposure to welding fumes should already be controlled under COSHH, but additional costs could result from the monitoring and sampling to check compliance with the WEL. HSE intends to gather further evidence during consultation to quantify any costs and will estimate the number of businesses that might be affected.

67. **Nitrogen dioxide (NO2)** is found in ambient air as a product of natural as well as human activities. Production of NO2 as the final product is limited. Production as a chemical intermediate, particularly in nitric acid and fertiliser production is widespread throughout the EU. Occupational exposure may occur in the chemical industry, during gas welding, in agriculture (silos), in mining (explosives) and from exhaust from combustion engines in confined areas. It is also produced by various industrial emissions and in tobacco smoke. For this substance, a WEL will need to be established. This is one of the substances of concern to the underground mining and tunnelling industry, arising from the exhaust fumes from diesel machinery (see paragraph 4), and the information they have provided suggests the new limits would lead to additional costs. The information provided by these industries so far does not currently allow us to provide an estimate of the likely scale of these costs. As explained earlier, an extended transitional period has been agreed for this substance for the underground mining and tunnelling industries so any costs would be incurred for these industries only after 2023. Apart from underground mining and tunnelling, the information currently available to HSE indicates the new WEL would not be a problem for the other industries where exposures occur. In welding, in

particular, current requirements for other substances should already lead to exposures to Nitrogen Dioxide that are below the new WEL. No costs are therefore expected in those industries.

68. **Nitrogen monoxide** (sometimes known as nitric oxide) is a colourless gas with a sharp, sweet odour. It is manufactured in the production of nitric acid for use in the synthesis of nitrate fertilisers. It is also used in nitration reactions and as a respiratory stimulant in hospital intensive care therapy. Occupational exposure to nitrogen monoxide can arise during its production and subsequent use, or where it is produced adventitiously as a product of incomplete combustion of fossil fuels, for example in motor vehicles (diesel and petrol fuels) and in power stations (coal). Exposure also occurs during welding and cutting processes, following explosions, during the use of heating appliances and during the heating of cooking oils, food etc. Nitrogen monoxide is one of the substances of concern to the underground mining and tunnelling industry (see paragraph 4), and the information they have provided suggests the new limits could lead to additional costs. The information provided by these industries so far does not currently allow us to provide an estimate of the likely scale of these costs. An extended transition period for the mining and tunnelling industries has been granted until 2023. During the transition period, the current EU workplace exposure limit for nitrogen monoxide set out in Directive 91/322/EEC will apply. Costs will only be incurred for these industries following 2023. Apart from underground mining and tunnelling, the information currently available to HSE indicates the new WEL would not be a problem for the other industries where exposures occur. In welding, in particular, current requirements for other substances should already lead to exposures to Nitrogen Monoxide that are below the new WEL. No costs are therefore expected in those industries.

69. **Sulphur Dioxide** is a gas with a pungent smell. It is used in pH regulators and water treatment products, paper chemicals and dyes, water treatment chemicals, metal surface treatment products, non-metal-surface treatment products and pharmaceuticals. Sulphur dioxide is used in the formulation of mixtures and/or re-packaging. It is also used for the manufacture of: chemicals, metals, food products, mineral products (e.g. plasters, cement), pulp, paper and paper products and fabricated metal products. It is manufactured and/or imported in the EU in quantities of 100,000 – 1,000,000 tonnes per year. For this substance, a WEL needs to be established. Both the steel production and cider industries mentioned potential costs when contacted regarding the proposed new WEL and STEL for sulphur dioxide, although they did not indicate the potential scale.

Summary of cost impacts

70. It is understood that a cost impact is likely for 6 of the 31 substances listed in the Directive, 2-ethylhexon-1-ol, carbon monoxide, manganese, nitrogen dioxide, nitrogen monoxide and sulphur dioxide. HSE has gathered some information from industry about cost impacts, but this is insufficient to allow cost impacts to be fully quantified and monetised at this stage. HSE will continue to work with industry during consultation to estimate the likely cost impacts.

Plans for future evidence-gathering

Number of duty holders

71. The number of duty holders will be different for each of the 31 substances. Paragraph 75 explains how we will estimate how many duty holders there are using the 6 substances we have identified a cost impact for. This work will be done during the consultation period. For the remainder of the 31 substances, evidence obtained so far indicates that there will not be a cost impact. Therefore, on the grounds of proportionality we will not attempt to estimate the number of duty holders using these substances in the UK, (some are not used at all in the UK, as detailed in paragraphs 40 to 62) as the estimate will not help with decision making and will not be needed for any comparative purposes. If any additional evidence comes to light during our consultation indicating that there will be cost impacts associated with any of the 25 substances for which the changes in IOELVs are not currently expected to have a cost impact, then further analysis will be undertaken for those substances to identify the number of dutyholders.

Impact per duty holder

72. During the formal public consultation period HSE plan to engage with those industries where there is likely to be an impact to ensure that they are aware of the proposed changes, and to discuss any issues which may arise and to understand the cost implications. We will also be using the formal consultation itself to gather information from stakeholders and to conduct research that would allow better assessment of potential impacts.

73. Initial enquiries have revealed that there could possibly be some cost impacts for a relatively small sector of UK industry associated with the WELs for 2-ethylhexon-1-ol, Manganese, Sulphur Dioxide, Nitrogen Dioxide, Nitrogen Monoxide and Carbon Monoxide. However, the information available to HSE at this point about the extent of those impacts is limited.

74. Part of the reason that information about potential impacts is limited in some areas, such as tunnelling and mining, where impacts could be most substantial, is because businesses themselves are not certain about the extent of current exposures. HSE is working on a research project with the mines industry to review exposure control of DEEEs in underground mine workings, and to determine the current levels of exposure to Nitrogen Dioxide, Nitrogen Monoxide and Carbon Monoxide. The research will conclude in January 2018 and will provide further information on the likelihood of cost implications for the industry. Based on these findings, HSE will work with industry, including underground mining and tunnelling, during consultation to obtain improved estimates of the likely impacts of the introduction of the WEL for the substances above.

75. In addition to that research, HSE intends to use the consultation period to gather information which will help to:

a) confirm that for the 25 substances where initial informal consultation indicated no impact is expected, (see paragraphs 40 to 62), this is correct. HSE will use the public consultation to ask questions about cost impacts for the specific changes in exposure limits. This will ensure that whoever reads the consultation will be made aware of the changes and have the opportunity to express concern about costs if these concerns exist. The public consultation will target both trade associations and individuals and will therefore be used to corroborate the findings from the previous consultation during the SCOEL recommendations and the informal HSE consultation, that no impact is expected.

b) fully understand the number of businesses affected for the 6 substances where an impact is expected (and if changes for any of the other 25 turn out to have an impact, for those as well). In order to estimate the number of businesses and/ or employees affected (whichever is most useful for the cost estimates), HSE specialists will work with HSE statisticians to identify the standard industry codes where each of the 6 substances is most likely to be used. These SIC codes can then be matched to the Annual Population Survey (APS) which will provide us with estimated number of employees in each SIC code and the Inter-Departmental Business Register (IDBR) will be used for the estimated premises / businesses for each of the identified SICs.

c) fully understand what businesses will have to do differently in the relevant industries to ensure exposure is controlled below the new limits.

d) fully understand the cost implications of the actions taken in c) above.

76.
77.
78.

79. **Table 2** below sets out how HSE will seek to gather this information for each of the 6 substances where costs are expected.

Table 2 – summary plan to gather information for the 6 substances with known impact.

Substance	Plan to gather evidence
2-ethylhexan-1-ol	As this is a cross-cutting substance with uses across the manufacturing sector, policy officials will work with government specialists and industry representatives to try to understand which industries are most likely to use this substance, what exposures are like now and what steps might have to be taken in order for business to be

	compliant. This, and the public consultation process, will improve understanding about potential cost impacts for business.
Carbon monoxide, nitrogen monoxide and nitrogen dioxide[3]	HSE is working on a research project with the mines industry to review exposure control of DEEEs in underground mine workings, and to determine the current levels of exposure to Nitrogen Dioxide, Nitrogen Monoxide and Carbon Monoxide. The research will conclude in January 2018 and will provide further information on the likelihood of cost implications for the industry. Policy officials and specialists will work with industry representatives to understand what steps might have to be taken for the businesses to be compliant and understand what the cost impacts might be for those businesses. HSE specialists in these industries are in close contact with the industry so both sides can work together to understand the impacts. Although these substances are generated in other industries no additional costs are anticipated in these areas. This assumption will be tested via the public consultation.
Manganese and inorganic compounds of manganese	Policy officials and specialists will work with the British Compressed Gases Association (BCGA) to understand what exposures are like now, to try to understand what steps might have to be taken in order for the businesses to be compliant and the cost implications of this.
Sulphur dioxide	Policy officials and specialists will work with the Scotch Whisky Association, the Wine and Spirits Trade Association and the National Association of Cider Makers to try to understand what steps might have to be taken in order for the businesses to be compliant and the cost implications of this.

Familiarisation costs

80. An amendment of the HSE publication EH40/Workplace Exposure Limits is normally launched with a press release, notifications to trade press and an announcement on the HSE website. The WEL system is already well established. However, businesses affected will have to spend some time understanding the changes proposed. HSE will work during consultation to estimate the number of businesses likely to be affected (see paragraph 75) for substances that have a use in the UK, and will use the consultation period to get

[3] These three substances are grouped together because all three involve exposures that occur during mining and tunnelling and will be investigated as part of the same research project into current exposures.

a better understanding about how the familiarisation process will take place and the likely costs that will arise as a result.

Proportionality of approach

81. This is an impact assessment for a European Directive which must be implemented in the UK. Industry across Europe has already been consulted during the SCOEL recommendation process, and this revealed there are a limited number of substances (we estimate 6) for which there could be a cost impact. This initial consultation has therefore enabled HSE to take a proportionate approach and concentrate effort on those substances where an impact is anticipated.

82. As explained in paragraph 74, HSE with the support of the Health and Safety Laboratory (HSL) has started a research project to better understand the current levels of exposure in the mining industry and therefore, the likely cost implications. HSE has therefore not quantified any of the cost impacts that might fall to the mines industry in this consultation stage IA because the most robust estimate will be that which is informed by this research which will only be available at final stage.

83. A plan is in place for gathering the necessary information to fully quantify likely costs in the final stage IA (see above). Most of that information for monetising costs is not available to us at the point of drafting this consultation stage IA, and so costs have been described where possible and any anecdotal information we have received about costs is referenced. This is a proportionate approach at consultation and monetised costs will be provided in the final stage IA.

Health and Safety Benefits

84. The 6 substances where we expect some behaviour change (and therefore cost impacts) as a result of the proposed changes are known to cause occupational lung diseases such as Chronic Obstructive Pulmonary Disease (COPD) and asthma. The consequences of such health conditions can be severe. The European Federation of Allergy and Airways Diseases Patients' Associations (EFA) commissioned a telephonic survey to capture the views of people who are living with severe asthma in Europe[4]. A total of 1300 patients from across Europe who reported a diagnosis of asthma and reported receiving asthma medication took part in the survey. Most patients reported limitations on their lifestyle, with 70% reporting that physical activity was restricted, 50% reported having pets was restricted, 30% reported going on holiday was restricted and many felt their job prospects were limited. COPD is a chronic inflammatory disease characterized by progressive and persistent airflow obstruction. Patients will experience a progressive shortening of breath (dyspnea). This can make activities such as walking, washing and eating more difficult and it is one of the most debilitating symptoms of COPD. Such activities are essential to a patient's independence and so COPD will begin to impair the patient's quality of life[5].

85. Health-based exposure limits are set to protect workers from the potential ill-health effects of hazardous substances at work, so we would expect reduced exposure limits to prevent some of the ill health effects caused by these 6 substances.

86. Definitive information regarding ill health resulting from present exposure levels is generally not available, and consequently it is difficult to quantify or monetise the benefits of controlling exposure to a comparatively lower level. However, we do know that preventing cases of occupational ill health, including lung conditions, has benefits to the individuals who would have suffered the ill health (both financial, from preventing lost income, and in terms of preserving their quality of life), to business (associated with reduced absenteeism) and to government. More details about the financial implications of work-related ill health can be found in HSE's published estimates of the "Costs to Britain of workplace injuries and new cases of work-related ill health"[6].

Other benefits

[4] Dockrell, M; Partridge, M.R; Valovirta, E. The limitations of severe asthma: the results of a European Survey. European Journal of Allergy and Clinical Immunology, 15th January 2007. Available at: http://onlinelibrary.wiley.com/doi/10.1111/j.1398-9995.2006.01304.x/abstract;jsessionid=F225654F3328368BE033A26EDBF36950.f04t04

[5] Information taken from research article: Barusso, M, S; Gianjoppe-Santos, J; Basso-Vanellie, R,P; Regueiro, E, M G; Panin, J C; Pires Di Lorenzo, V A: Limitation of Activities of Daily Living and Quality of Life Based on COPD Combined Classification. Respiratory Care, March 2015, 60 (3) 388-398. Available at: http://rc.rcjournal.com/content/60/3/388

[6] See: http://www.hse.gov.uk/statistics/cost.htm

87. Failure to establish exposure limits in national law which take the new IOELVs into account would be a breach of Treaty obligations, with the resulting likelihood of infraction proceedings being brought against the Government by the European Commission.

88. The proposed IOELVs should result in a similar level of health protection comparative to the rest of the EU.

Direct costs and benefits to business calculations (following BIT methodology);

89. It is not possible to quantify any of the cost impacts in this consultation stage IA. However, HSE understands that there are 6 out of 31 substances where a cost impact is likely. HSE will work with the industry during consultation to try to quantify these impacts and get a clearer picture of which of the substances with possible cost impacts will in fact have an impact.

90. These costs will not be in scope of One In, Three Out or the Business Impact Target because the changes result from a European Directive and there are no areas in which the UK will go beyond the scope of the Directive.

Wider impacts

91. Wider impacts have been considered and no impacts have been identified for:

- Statutory Equality Duties;
- Human Rights;
- Justice System;
- Rural Proofing;
- Social Impacts;
- Environmental impacts; and
- Sustainable development

92. We have considered the criteria for wider competition and health and wellbeing impacts and do not consider that there is anything that needs to be addressed.

Summary and preferred option

90.HSE's preferred option is to implement the Directive by updating statutory table 1 of the HSE publication EH40/2005 Workplace Exposure Limits. The costs of this option have not been quantified at consultation stage, but HSE will work with industry during consultation to better understand the cost impacts of the proposed limits.

Annex 1: Trade associations and consultants contacted for information on the use and exposure to substances on the 4th IOELV Directive list

Absolute solvents

Adhesives.org
Air Products and Chemicals Inc.
Aluminium Federation Ltd
Association for Petroleum and Explosives Administration (APEA)
Association for Professionals in Infection Control and Epidemiology
Association of British Pharmaceutical Industries
Baker Hughes
Banner Chemicals
BASF
BCIRA
BioIndustry Association
BP
Bristol Laboratories
British Adhesives and sealants Association (BASA)
British Aerosol Manufacturers Association
British Association of Chemical Specialties
British Battery Manufacturing Association
British Coatings Federation
British Electrotechnical and Allied Manufacturers Association
British Footwear Association
British Fragrance Association
British Frozen Food Federation
British Generics Manufacturers' Association
British Lead
British Metals Recycling Association
British Non-Ferrous Metals Federation
British Plastics federation
British Plastics Federation
British Printing Industry Federation
British Pyrotechnics Association (BPA)
British Rubber and Polyurethane Products Association
British Stainless Steel Association
British Textile Machinery Association
British Tunnelling Society
BWA Water Additives
Cast Metals Federation
Caswell Adhesives
CBI explosives industry group
Chemical Business Association
Chemical Industry Association
Cleveland Potash
Confederation of Paper Industries
CONIAC
Cornpoppers
Cosmetics Toiletry and Perfumery Association
CTI
Empire popcorn
Engineering Employers Federation
EPC UK
ESSAR

Ester Chemicals
Ethical Medicines Industry Group
European Snacks Association / SNACMA
EXXON
Exxon Mobil
Feralco (UK) Ltd
Food and Drink Federation
GEA Farm Technologies (UK) Ltd
Global Heat Transfer
Hodgson Sealants
Holchem Laboratories Ltd
Horizon Products
Hub Chemical Limited
INEOS
Institute of Metal Finishing
Institution of Cast Metal Engineers
Institution of Engineering and Technology
Largo
Mac Corns
MARCO
Materials, Metals and Mining
Medicines and Health Care Regulatory Agency
Mines Inspectorate
Momentive Specialty Chemicals
Mortar industry association
National Association of Agricultural Contractors
National association of cider makers
National Metals Technology Centre
NBS Biologicals Ltd.
NFU
Office of Nuclear Regulation
Oil and Colours Chemists Association
Paper Industries Association
Paper Industry Technical Association
Pipe Jacking Association
Plastics and Board Industries Federation
Polyflor Ltd
Rexodan International Limited
Road Haulage Association
SABIC UK Petrochemicals Ltd
Safic - Alcan UK Ltd
Shell
Society of Dyers and Colourists
Solutia
Solvay Interox Ltd
Solvent.org
Solvents Industry Association (SIA)
Special Metals Ltd
Surface Engineering Association
Tata

Textile Services Association
The Proprietary Association of Great Britain
The Rubber Industry Safety Advisory Group
The Welding Institute
TOTAL
UK Chemical Supply Chain
UK Cleaning Products Industry Association
UK Fashion and Textile Association
UKPIA
UNITE
United Utilities
Valero
Wine and spirits trade association

ANNEX C

DfE EQUALITY SCREENING FORM

Part 1. Policy scoping

The first stage of the screening process involves scoping the policy under consideration. The purpose of policy scoping is to help prepare the background and context and set out the aims and objectives for the policy, being screened. At this stage, scoping the policy will help identify potential constraints as well as opportunities and will help the policy maker work through the screening process on a step by step basis.

Public authorities should remember that the Section 75 statutory duties apply to internal policies (relating to people who work for the authority), as well as external policies (relating to those who are, or could be, served by the authority).

Information about the policy

Name of the policy - Proposals to Implement the Fourth List of Indicative Occupational Exposure Limit Values (Commission Directive (EU) 2017/164).

Is this an existing, revised or a new policy?

Revised.

What is it trying to achieve? (intended aims/outcomes)

The main aims and objectives are to:

- fully implement, for Northern Ireland, Directive (EU) 2017/164; and
- improve worker protection from hazardous substances.

The Health and Safety Executive in Great Britain (HSE) plans to transpose the Directive in GB by amending the statutory table 1 in the HSE publication EH40/2005. HSENI plans to approve this document for use in Northern Ireland.

Are there any Section 75 categories which might be expected to benefit from the intended policy?
If so, explain how.

The policy is to improve worker protection from hazardous substances. The proposed measures will have a justified differential impact in respect of age as they relate primarily to workplaces and those of working age. All other Section 75 groups are expected to benefit equally from the proposed measures.

Who initiated or wrote the policy?

The document “EH40/2005 – Workplace Exposure Limits” is owned by HSE. However, HSENI plans to approve it for use in Northern Ireland.

Who owns and who implements the policy?

Subject to approval for use in Northern Ireland, the policy is owned and implemented by HSENI.

Implementation factors

Are there any factors which could contribute to/detract from the intended aim/outcome of the policy/decision?

If yes, are they

☐ financial

☐ legislative

☐ other, please specify _____

Main stakeholders affected

Who are the internal and external stakeholders (actual or potential) that the policy will impact upon?

☐ staff

☐ service users

☑ other public sector organisations

☐ voluntary/community/trade unions

☑ other, please specify - private employers

Other policies with a bearing on this policy

• what are they?

None

• who owns them?

N/A

ANNEX C

Available evidence

Evidence to help inform the screening process may take many forms. Public authorities should ensure that their screening decision is informed by relevant data.

What evidence/information (both qualitative and quantitative) have you gathered to inform this policy? Specify details for each of the Section 75 categories.

Section 75 category	Details of evidence/information
Religious belief	While there is no available data the implementation of Directive (EU) 2017/164 will apply equally beneficially to all religious beliefs.
Political opinion	Although there is no available data the policy changes apply equally beneficially to all political opinions.
Racial group	Although there is no available data the policy changes apply equally beneficially to all racial groups.
Age	As the proposals relate primarily to workplaces they will have a justified *differential* impact on those of working age.
Marital status	Although there is no available data the policy changes apply equally beneficially irrespective of marital status
Sexual orientation	Although there is no available data the policy changes apply equally beneficially irrespective of sexual orientation
Men and women generally	Although there is no available data the policy changes apply equally beneficially to men and women generally.
Disability	Although there is no available data the policy changes apply equally beneficially to those with and without a disability.
Dependants	Although there is no available data the policy changes apply equally beneficially to those with and without dependants.

Needs, experiences and priorities

Taking into account the information referred to above, what are the different needs, experiences and priorities of each of the following categories, in relation to the particular policy/decision? Specify details for each of the Section 75 categories

Section 75 category	**Details of needs/experiences/priorities**
Religious belief	The proposals aim to ensure that occupational exposure limit values are in place to protect workers from hazardous substances. Although there is no available data the policy changes apply equally beneficially to all religious beliefs.
Political opinion	Although there is no available data the policy changes apply equally beneficially to all political opinions.
Racial group	Although there is no available data the policy changes apply equally beneficially to all racial groups.
Age	As the proposals relate primarily to workplaces they will have a justified *differential* impact on those of working age. The main aims and objectives of the proposals are ensure that occupational exposure limit values are in place to protect workers from hazardous substances.
Marital status	Although there is no available data the policy changes apply equally beneficially irrespective of marital status.
Sexual orientation	Although there is no available data the policy changes apply equally beneficially irrespective of sexual orientation.
Men and women generally	Although there is no available data the policy changes apply equally beneficially to men and women generally.

Disability	Although there is no available data the policy changes apply equally beneficially to those with and without a disability.
Dependants	Although there is no available data the policy changes apply equally beneficially to those with and without dependants.

Part 2. Screening questions

Introduction

In making a decision as to whether or not there is a need to carry out an equality impact assessment, the public authority should consider its answers to the questions 1-4 detailed below.

If the public authority's conclusion is **none** in respect of all of the Section 75 equality of opportunity and/or good relations categories, then the public authority may decide to screen the policy out. If a policy is 'screened out' as having no relevance to equality of opportunity or good relations, a public authority should give details of the reasons for the decision taken.

If the public authority's conclusion is **major** in respect of one or more of the Section 75 equality of opportunity and/or good relations categories, then consideration should be given to subjecting the policy to the equality impact assessment procedure.

If the public authority's conclusion is **minor** in respect of one or more of the Section 75 equality categories and/or good relations categories, then consideration should still be given to proceeding with an equality impact assessment, or to:

- measures to mitigate the adverse impact; or
- the introduction of an alternative policy to better promote equality of opportunity and/or good relations.

In favour of a 'major' impact

a) The policy is significant in terms of its strategic importance;
b) Potential equality impacts are unknown, because, for example, there is insufficient data upon which to make an assessment or because they are complex, and it would be appropriate to conduct an equality impact assessment in order to better assess them;
c) Potential equality and/or good relations impacts are likely to be adverse or are likely to be experienced disproportionately by groups of people including those who are marginalised or disadvantaged;

d) Further assessment offers a valuable way to examine the evidence and develop recommendations in respect of a policy about which there are concerns amongst affected individuals and representative groups, for example in respect of multiple identities;
e) The policy is likely to be challenged by way of judicial review;
f) The policy is significant in terms of expenditure.

In favour of 'minor' impact

a) The policy is not unlawfully discriminatory and any residual potential impacts on people are judged to be negligible;
b) The policy, or certain proposals within it, are potentially unlawfully discriminatory, but this possibility can readily and easily be eliminated by making appropriate changes to the policy or by adopting appropriate mitigating measures;
c) Any asymmetrical equality impacts caused by the policy are intentional because they are specifically designed to promote equality of opportunity for particular groups of disadvantaged people;
d) By amending the policy there are better opportunities to better promote equality of opportunity and/or good relations.

In favour of none

a) The policy has no relevance to equality of opportunity or good relations.
b) The policy is purely technical in nature and will have no bearing in terms of its likely impact on equality of opportunity or good relations for people within the equality and good relations categories.

Taking into account the evidence presented above, consider and comment on the likely impact on equality of opportunity and good relations for those affected by this policy, in any way, for each of the equality and good relations categories, by applying the screening questions detailed below and indicate the level of impact on the group i.e. minor, major or none.

ANNEX C

Screening questions

1 What is the likely impact on equality of opportunity for those affected by this policy, for each of the Section 75 equality categories? minor/major/none		
Section 75 category	Details of policy impact	Level of impact? minor/major/none
Religious belief	No impact on equality of opportunity. The proposals aim to ensure that occupational exposure limit values are in place to protect workers from hazardous substances; they therefore apply equally to all religious beliefs.	None
Political opinion	No impact on equality of opportunity. The proposals aim to ensure that occupational exposure limit values are in place to protect workers from hazardous substances; they therefore apply equally to all political opinions.	None
Racial group	No impact on equality of opportunity. The proposals aim to ensure that occupational exposure limit values are in place to protect workers from hazardous substances; they therefore apply equally to all racial groups.	None
Age	No impact on equality of opportunity. The proposals aim to ensure that occupational exposure limit values are in place to protect workers from hazardous substances. As the proposals relate primarily to workplaces they will have a	None

	justified differential impact on those of working age.	
Marital status	No impact on equality of opportunity. The proposals aim to ensure that occupational exposure limit values are in place to protect workers from hazardous substances; they therefore apply equally irrespective of marital status.	None
Sexual orientation	No impact on equality of opportunity. The proposals aim to ensure that occupational exposure limit values are in place to protect workers from hazardous substances; they therefore apply equally irrespective of sexual orientation.	None
Men and women generally	No impact on equality of opportunity. The proposals aim to ensure that occupational exposure limit values are in place to protect workers from hazardous substances; they therefore apply equally irrespective of gender.	None
Disability	No impact on equality of opportunity. The proposals aim to ensure that occupational exposure limit values are in place to protect workers from hazardous substances; they therefore apply equally to those with or without a disability.	None
Dependants	No impact on equality of opportunity. The proposals aim to ensure that occupational exposure limit values are in place to protect workers from	None

	hazardous substances; they therefore apply equally to those with or without dependants.	

2 Are there opportunities to better promote equality of opportunity for people within the Section 75 equalities categories?		
Section 75 category	If **Yes**, provide details	If **No**, provide reasons
Religious belief		No adverse impact to any of the Section 75 Groups is anticipated and the policy has no relevance to the promotion of equality of opportunity.
Political Opinion		As above.
Racial Group		As above.
Age		As above.
Marital Status		As above.
Sexual Orientation		As above.
Men and women generally		As above.
Disability		As above.
Dependants		As above.

3 To what extent is the policy likely to impact on good relations between people of different religious belief, political opinion or racial group?		
Section 75 category	Details of policy impact	Level of impact minor/major/none
Religious belief	The proposals aim to ensure that occupational exposure limit values are in place to protect workers from hazardous substances and will not impact on good relations.	None
Political Opinion	As above.	None
Racial group	As above.	None

4 Are there opportunities to better promote good relations between people of different religious belief, political opinion or racial group?		
Good relations category	If **Yes**, provide details	If **No**, provide reasons.
Religious belief		The proposals will apply equally beneficially to all of the Section 75 Groups and to other groups and have no relevance to the promotion of good relations between people of different religious belief, political opinion or racial group.
Political opinion		As above.
Racial group		As above.

Additional considerations

Multiple identity

Generally speaking, people can fall into more than one Section 75 category. Taking this into consideration, are there any potential impacts of the policy/decision on people with multiple identities? (*For example; disabled minority ethnic people; disabled women; young Protestant men; and young lesbians, gay and bisexual people).*

Provide details of data on the impact of the policy on people with multiple identities. Specify relevant Section 75 categories concerned.

While there is no available data, the proposals implement the 4th IOELV Directive and aim to ensure that occupational exposure limit values are in place to protect workers from chemical risk. No adverse impact to any of the Section 75 groups is anticipated including those with multiple identities.

Part 3. Screening decision

If the decision is not to conduct an equality impact assessment, please provide details of the reasons.

The proposals aim to ensure that Directive (EU) 2017/164 is fully implemented in Northern Ireland and that occupational exposure limit values are in place to protect workers from hazardous substances; they therefore address a need common to all the Section 75 groups.

If the decision is not to conduct an equality impact assessment the public authority should consider if the policy should be mitigated or an alternative policy be introduced.

As above. There are no grounds for mitigation or alternative policies.

If the decision is to subject the policy to an equality impact assessment, please provide details of the reasons.

All public authorities' equality schemes must state the authority's arrangements for assessing and consulting on the likely impact of policies adopted or proposed to be adopted by the authority on the promotion of equality of opportunity. The Commission recommends screening and equality impact assessment as the tools to be utilised for such assessments. Further advice on equality impact assessment may be found in a separate Commission publication: Practical Guidance on Equality Impact Assessment.

Mitigation

When the public authority concludes that the likely impact is ‘minor’ and an equality impact assessment is not to be conducted, the public authority may consider mitigation to lessen the severity of any equality impact, or the introduction of an alternative policy to better promote equality of opportunity or good relations.

Can the policy/decision be amended or changed or an alternative policy introduced to better promote equality of opportunity and/or good relations?

If so, give the **reasons** to support your decision, together with the proposed changes/amendments or alternative policy.

Timetabling and prioritising

Factors to be considered in timetabling and prioritising policies for equality impact assessment.

If the policy has been **'screened in'** for equality impact assessment, then please answer the following questions to determine its priority for timetabling the equality impact assessment.

On a scale of 1-3, with 1 being the lowest priority and 3 being the highest, assess the policy in terms of its priority for equality impact assessment.

Priority criterion	**Rating (1-3)**
Effect on equality of opportunity and good relations	
Social need	
Effect on people's daily lives	
Relevance to a public authority's functions	

Note: The Total Rating Score should be used to prioritise the policy in rank order with other policies screened in for equality impact assessment. This list of priorities will assist the public authority in timetabling. Details of the Public Authority's Equality Impact Assessment Timetable should be included in the quarterly Screening Report.

Is the policy affected by timetables established by other relevant public authorities?

If yes, please provide details

Part 4. Monitoring

Public authorities should consider the guidance contained in the Commission's Monitoring Guidance for Use by Public Authorities (July 2007).

The Commission recommends that where the policy has been amended or an alternative policy introduced, the public authority should monitor more broadly than for adverse impact (See Benefits, P.9-10, paras 2.13 – 2.20 of the Monitoring Guidance).

Effective monitoring will help the public authority identify any future adverse impact arising from the policy which may lead the public authority to conduct an equality impact assessment, as well as help with future planning and policy development.

Part 5. Disability Duties

Under the Disability Discrimination Act 1995 (as amended by the Disability Discrimination (Northern Ireland) Order 2006), public authorities, when exercising their functions, are required to have due regard to the need:

- **to promote positive attitudes towards disabled people; and**
- **to encourage participation by disabled people in public life.**

5. Does this policy/legislation have any potential to contribute towards promoting positive attitudes towards disabled people or towards encouraging participation by disabled people in public life? If yes, please give brief details.

_____

_____

_____

_____

_____

Names of Consultees

Action for Children
Action on Hearing Loss (AHL)
Action Mental Health (AMH)
Advice NI
AE Global (Allpipe Engineering Ltd.)
AES
Age NI
Age Sector Platform
Agency for the Legal Deposit Libraries
Alliance Party
An Munia Tober
Archbishop of Armagh and Primate of all Ireland
Ards Business Centre Ltd.
Argyle Business Centre Ltd.
Armagh Business Centre Ltd.
Aspergers Network NI
Attorney General (NI)
Autism NI
Ballymena Business Centre Ltd.
Banbridge Enterprise Centre
Bar Council
Barnardos
Belfast Butterfly Club
Belfast Centre for the Unemployed
Belfast City Centre Management
Belfast Harbour Commissioners
Belfast Health and Social Care Trust
Belfast Hebrew Congregation
Belfast Islamic Centre
Belfast MET
Belfast Solicitors Association
Bishop of Down and Connor
Board of Deputies of British Jews
BOC
Bombardier
British Council
Bryson House
Bryson Intercultural
Buildhealth NI
Business in the Community
Calor Gas (NI) Ltd.
Cancer Focus NI
Cara Friend
Carers NI
Carrickfergus Enterprise Agency Ltd.
Catholic Bishops of Ireland
Causeway Enterprise Agency Ltd

Cedar Foundation
Chartered Institute of Environmental Health NI
Chemical Business Association
Chief Constable, PSNI
Chief Officers 3rd Sector (CO3)
Children in Northern Ireland (CINI) *(inc. Participation Network)*
Children's Law Centre
Chinese Chamber of Commerce
Chinese Welfare Association
Church of Ireland
Citizens Advice
Commission for Victims and Survivors
Commissioner for Older People NI
Committee on the Administration of Justice
Communication Workers Union (CWU)
Community Foundation NI
Community NI
Community Relations Council
Construction Employers' Federation (CEF)
Construction Industry Training Board NI (CITB)
Consumer Council for NI
Cookstown Enterprise Centre Ltd.
Co-Operation Ireland
Council for Catholic Maintained Schools
Council of District Judges (NI)
Countryside Services
Craigavon Industrial Development Organisation Ltd.
Creggan Enterprises Ltd.
Dalradian Gold Ltd.
Democratic Unionist Party (DUP)
Disability Action
Disability Equality NI
District Councils in NI (11)
Driver and Vehicle Testing Agency
Du Pont (UK) Industrial Ltd.
Dungannon Enterprise Centre Ltd.
East Belfast Community Development Agency
East Belfast Enterprise Park Ltd.
East Belfast Partnership Board
Education Authority
Employers for Disability NI
Energy NI
Engineering Employers' Federation NI (EEF)
Equality Coalition
Equality Commission NI
European Commission Office in NI
Evangelical Alliance
Executive Council of the Inn of Court of NI
Falls Community Council
Federation of Small Businesses

Fermanagh Enterprise Ltd.
Fire Brigades Union
Firmus Energy
Focus: Identity Trust
Food Standards Agency NI
Forensic Science Agency of NI
Foyle Women's Information Network
Freight Transport Association
Galatas Irish Gold Ltd.
GEDA Construction
GMB
Grand Orange Order
Gray & Adams (Ireland) Ltd
Greater Shankill Partnership
Green Party
Guide Dogs
Harland and Wolff Heavy Industries Ltd.
Health and Safety Executive
Health and Social Care Board (inc Central Services Agency)
Heron Brothers Ltd.
HM Council of County Court Judges
HM Revenue and Customers
Include Youth
Inclusive Mobility and Transport Advisory Committee (IMTAC)
INCORE Conflict Resolutions Ltd.
Indian Community Centre
Industrial Court
Industrial Tribunal & Fair Employment Tribunal (NI)
Information Commissioner's Office
Institute of Directors (NI Division)
Institute of Quarrying
InterTrade Ireland
Invest NI
Irish National Teachers' Organisation (INTO)
Irish Salt Mining Company Ltd.
Kesh Development Association
Labour Relations Agency
Larne Development Forum
Law Centre (NI)
Law Society of NI
Local Government Staff Commission for NI
Lonmin (NI) Ltd
Lord Chief Justice Office
Magherafelt Womens Group
Mallusk Enterprise Park
Maritime and Coastguard Agency
McClay Library, QUB
MENCAP
Mens Health Forum
MEPs for NI (3)

Methodist Church
Mindwise
Ministry of Defence
MPs for NI (18)
Musicians Union
Mutual Energy Ltd.
NASUWT
National Library of Ireland
Newry and Mourne Enterprise Agency
NI Assembly – Clerk of the Economy Committee
NI Assembly - Library
NI Assembly – MLAs (90)
NI Assembly – The Speaker
NI Association for the Care and Resettlement of Offenders (NIACRO)
NI Association for Mental Health (NIAMH)
NI Audit Office
NI Authority for Utility Regulation
NI Centre for Competitiveness
NI Chamber of Commerce & Industry
NI Commissioner for Children and Young People (NICCY)
NI Committee/Irish Congress of Trade Unions (NIC/ICTU)
NI Council for Voluntary Action (NICVA)
NI Court Service
NI Courts and Tribunal Service
NI Electricity
NI Environment Link
NI Executive Ministers (12) *(c/o Private Offices)*
NI Fire and Rescue Service (NIFRS)
NI Gay Rights Association (NIGRA)
NI Government Departments (9)
NI Housing Executive (NIHE)
NI Human Rights Commission
NI Judicial Appointments Commission
NI Law Commission
NI Local Government Association (NILGA)
NI Prison Service
NI Public Service Alliance (NIPSA)
NI Public Service Ombudsman (NIPSO)
NI Rural Womens Network
NI Safety Group (NISG)
NI Screen
NI Statistics and Research Agency (NISRA)
NI Water
NI Women's European Platform (NIWEP)
North City Business Centre Ltd.
North Down Development Organisation Ltd.
North / South Ministerial Council (NSMC)
North West Community Network
North West Regional College
Northern Group

Northern Health and Social Care Trust
Northern Regional College
NSPCC, Northern Ireland Regional Office
NUS/USI (NI Student Centre)
Occupational Health Service (OHS)
Omagh Enterprise Co. Ltd.
Open University
Ormeau Enterprises Ltd.
Participation and the Practice of Rights (PPR)
PCM Associates – Training & Consultancy Services
People Before Profit Alliance (PBPA)
Pharmaceutical Society of NI
Phoenix Natural Gas
POBAL
Police Federation for NI
Police Service of Northern Ireland (PSNI)
PRAXIS
Presbyterian Church
Prince's Trust
Progressive Unionist Party (PUP)
Prospect
Quarry Products Association NI
Queen's University
Rainbow Project
Relate
Roy Coulter Consulting Ltd.
Royal College of Midwives
Royal Institution of Chartered Surveyors (RICS)
Royal National Institute for the Blind (NI) (RNIB)
Rural Community Network
Rural Development Council
St. Marys University College
St. John Ambulance NI
Save the Children
Scotia Gas Networks (SGN)
Scotts Electrical
Seagate Technology (Ireland)
Sense
Services Industrial Professional Technical Union (SIPTU)
Sinn Fein (SF)
Social Democratic & Labour Party (SDLP)
South Belfast Partnership Board
South Eastern College
South Eastern Health and Social Care Trust
South West College
South West Fermanagh Development Organisation
Southern Health and Social Care Trust
Southern Regional College
SSE Airtricity Energy Supply (NI) Ltd
Strabane Industrial Properties Ltd.

Stranmillis University College
Tennants Textile Colours Ltd.
Tourism Ireland
Tourism NI
Townsend Enterprise Park Ltd.
Traditional Unionist Voice (TUV)
Training for Women Network
Trans Forum
Translink
Transport Salaried Staff Association
UK Independence Party (UKIP)
UK National Committee of UN Women
Ulster Farmers' Union (UFU)
Ulster Scots Agency
Ulster Teachers' Union
Ulster Unionist Party (UUP)
Union of Construction, Allied Trades and Technicians (UCATT)
UNISON
Unite the Union
University & College Union
University of Ulster
Visual Access NI
Volunteer Now
West Belfast Development Trust Ltd.
West Belfast Partnership Board
Western Health and Social Care Trust
Westlink Enterprise Ltd.
William Keown Trust
Women's Forum
Women's Information Group
Women's Resource and Development Agency
Women's Support Network
Women's Training, Enterprise and Childcare
Workers' Party
Workspace