

**EXPLANATORY MEMORANDUM TO
THE AIR QUALITY STANDARDS REGULATIONS 2007**

2007 No. 64

1. This explanatory memorandum has been prepared by the Department for Environment, Food and Rural Affairs and is laid before Parliament by Command of Her Majesty.

2. Description

2.1 The Air Quality Standards Regulations 2007 (*“new Regulations”*):

- a) transpose Directive 2004/107/EC of the European Parliament and of the Council of 15 December 2004 relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air (*also known as the Fourth Daughter Directive*); and
- b) replace the existing Air Quality Limit Values Regulations 2003 (*“existing Regulations”*) to consolidate the provisions of those Regulations so that, in addition to the Fourth Daughter Directive, the new Regulations also transpose the following Directives:

- Air Quality Framework Directive (96/62/EC);
- First Daughter Directive (1999/30/EC);
- Second Daughter Directive (2000/69/EC); and
- Third Daughter Directive (2002/3/EC).

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

3.1 None

4. Legislative Background

4.1 The Fourth Daughter Directive was adopted 15 December 2004 and aims to reduce pollution to levels which minimise harmful effects on human health, paying particular attention to sensitive populations, and the environment as a whole, to improve the monitoring and assessment of air quality including the deposition of pollutants and to provide information to the public.

4.2 The objective of the Fourth Daughter Directive is to:

- establish a target value for the concentration of arsenic, cadmium, nickel, and benzo(a)pyrene in ambient air so as to avoid, prevent or reduce harmful effects of arsenic, cadmium, nickel and polycyclic aromatic hydrocarbons on human health and the environment as a whole;
- ensure, with respect to arsenic, cadmium, nickel and polycyclic aromatic hydrocarbons, that ambient air quality is maintained where it is good and that it is improved in other cases;

- determine common methods and criteria for the assessment of concentrations of arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air as well as of the deposition of arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons;
- ensure that adequate information on concentrations of arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air as well as depositions of arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons is obtained and ensure that it is made available to the public.

4.3 The transposition deadline for the Fourth Daughter Directive is 15 February 2007.

4.4 Transposition Notes are attached to this Explanatory Memorandum that set out how the new Regulations transpose each of the Directives referred to at paragraph 2.1.

4.5 Proposal for a Directive of the European Parliament and of the Council relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air was debated in the Scrutiny Committee in the Commons - Debated in ESC(A) - on 25 February 2004; and the Lords - Cleared by Sub-Committee D at meeting of 28 April. The summary of the conclusions were: *“Subject to certain points, EP colleagues agree to your suggested UK negotiating position on the proposed air quality Directive on arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air. These points relate to costs to industry, effect on the vehicle fleet and traffic management, the long term effects of implementation on crematoria and level of exposure of the public to the pollutants covered by the proposed Directive.”*

5. Territorial Extent and Application

5.1 This instrument applies to England with the exception of Regulation 29 (relating to transboundary pollution) that extends to all of the United Kingdom. Similar instruments covering Scotland, Wales and Northern Ireland will be published by the devolved administrations and the territory of Gibraltar.

6. European Convention on Human Rights

The instrument is subject to negative resolution procedure and does not amend primary legislation, so no statement is required.

7. Policy background

Policy

7.1 The purpose of the Air Quality Framework and the First, Second and Third Daughter Directives cited above is to set air quality standards across the European Union to protect human health and the environment. The Air Quality Framework and the First, Second and Third Daughter Directives give effect to European Union obligations for benzene, carbon monoxide, lead, nitrogen dioxide and oxides of nitrogen, ozone, particles (as PM₁₀), and sulphur dioxide in ambient air. These Directives have been transposed into English law by existing Regulations.

7.2 The Fourth Daughter Directive is linked to the Air Quality Framework Directive which required proposals from the European Commission for regulating arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air. With a view to streamlining air quality legislation, in transposing the Fourth Daughter Directive we are taking the opportunity to consolidate the existing provisions in the existing Regulations with the new provisions within one set of new Regulations. Therefore, the new Air Quality Standards Regulations 2007 aim to provide a new transposition of the four different Directives cited above and also transpose the Fourth Daughter Directive.

Consultation

7.5 A consultation on these proposals was undertaken between the period of 1 September to 24 November 2006. The consultation was posted on the Department's web site and more than three hundred and forty organisation were directly consulted. Copies were placed in Department's library and also the libraries of both the Houses of Parliament. The Department's Press Office made contact with specialist press. It is our conclusion that because the new Regulations do not propose any new obligations or burdens there was only a light response. Of the few responses sent there were no dissenting voices against the legislation. A list of organisation consulted and a copy of the summary of response can be found at the following Department web link: <http://www.defra.gov.uk/corporate/consult/air-4daughter2006/index.htm>.

Guidance

7.6 As the legislation does not create any new obligations or burdens on stakeholders and the only new obligations created fall upon the Secretary of State no guidance, apart from the consultation document that already sets out obligations and proposals, was produced for users and stakeholders.

Consolidation

7.7 The new Regulations amend the existing Regulations that give effect to the provisions of the Fourth Daughter Directive and consolidate the provisions of the existing Regulations that give effect to the Air Quality Framework Directive, First Daughter Directive, Second Daughter Directive and the Third Daughter Directive. In doing this the Department aims to simplify air quality legislation.

8. Impact

8.1 A Final Regulatory Impact Assessment is attached to this memorandum.

8.2 There is negligible impact on the public sector from the new obligations. The new obligations mainly fall upon the Secretary of State.

9. Contact

Kay Sadanand at the Department for Environment, Food and Rural Affairs. Tel: 020 7082 8406 or e-mail: kay.sadanand@defra.gsi.gov.uk can answer any queries regarding the instrument.

TRANSPOSITION NOTE

Directive 2004/107/EC of the European Parliament and of the Council relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air (OJ No L 23, 26.01.05, p.3)

The Secretary of State for Environment, Food and Rural Affairs relies, from the transposition deadline of 15th February 2007, on the provisions of the Air Quality Standards Regulations 2007 set out in the Table below in respect of the transposition of the above Directive within England.

<i>Directive Article</i>	<i>Transposition provision</i>	<i>Comments</i>
Article 1 (Objectives)		Objectives of the Directive are achieved by the Regulations as a whole
Article 2 (Definitions)	Regulation 2 and other relevant regulations	
Article 3 (Target values)		
Article 3(1) <i>Target values</i> <i>Compliance measures</i>	Regulation 6(1)(b)/(3) Schedule 1 Part 3 Regulation 7(2)	
Article 3(2) <i>List of zones in compliance</i> <i>Maintaining compliance</i>	Regulation 22(b) Regulation 10(1)(b)/(2)	
Article 3(3) <i>List of zones in exceedance</i> <i>Remedial measures</i>	Regulation 22(b) Regulation 9(1)(a)/(2)	
Article 4 (Assessment of concentrations etc)		
Article 4(1) <i>Duty to assess air quality</i>	Regulation 12	
Article 4(2): <i>Mandatory measurement</i> <i>Modelling supplements</i>	Regulation 13(4)-(6) Regulation 14(2)	
Article 4(3): <i>Combined measurement</i>	Regulation 13(5)/(6)	
Article 4(4) <i>Air quality modelling</i>	Regulation 13(5)(c)/(6)	
Article 4(5) <i>Fixed measurement duties</i>	Regulation 14(1)	
Article 4(6): <i>Assessment thresholds</i> <i>Classification and review</i>	Schedule 4 Part 2 Regulation 13(7) Regulation 22(d)	
Article 4(7): <i>Location sampling points</i> <i>Number sampling points</i>	Regulation 15(3) Schedule 6 Parts 2, 4, 5 Regulation 15(1)	

	Schedule 5 Part 3	
Article 4(8) <i>Monitoring polycyclic aromatic hydrocarbons</i>	Regulation 19	
Article 4(9) <i>Background sampling</i>	Regulation 20	
Article 4(10) <i>Use of bio indicators</i>		Transposition not required
Article 4(11) <i>Supplementing fixed measurement</i>	Regulation 15(2)	
Article 4(12): <i>Data quality objectives</i> <i>Air quality models</i>	Regulations 16(2), 19(4), 20(4) Schedule 8 Part 2 Regulation 16(1)(a) Schedule 7 Part 2	
Article 4(13) <i>Reference methods</i>	Regulations 16(3), 19(4), 20(4) Schedule 9 Parts 2, 4	
Article 5 (Transmission of information and reporting)		Transposition not required
Article 6 (Committee)		Transposition not required
Article 7 (Public information)		
Article 7(1) <i>General requirements</i> <i>Concentrations</i> <i>Deposition rates</i>	Regulation 21(1)(a)/(2)-(3) Regulation 23(1)(b)/(d)(i) Regulation 23(1)(d)(ii)	
Article 7(2) <i>Annual exceedance of target values</i>	Regulation 25(3) Regulation 21(3)	
Article 7(3) <i>Means of dissemination</i>	Regulation 21(2)(b)	
Article 8 (Report and review)		Transposition not required
Article 9 (Penalties)		Regulations rely on public law remedies in relation to breach by the Secretary of State. Penalties in relation to specific pollutants are set out in applicable sectoral legislation
Article 10 (Implementation)	Regulation 1(1)	
Article 11 (Entry into force)		Transposition not required

Article 13 (Addressees)		Transposition not required
Annex I (Target values)	Schedule 1 Part 3	
Annex II (Determination of requirements)	Schedule 4 Parts 2, 3	
Annex III (Sampling points)		
Parts I-III (location)	Schedule 6 Parts 2, 4, 5	
Part IV (number)	Schedule 5 Part 3	
Annex IV (Data quality objectives etc)		
Part I	Schedule 8 Part 2	
Parts II-IV	Schedule 7 Part 2	
Annex V (Reference methods)	Schedule 9 Parts 2, 4	

TRANSPOSITION NOTE

Council Directive 96/62/EC on ambient air quality assessment and management (OJ No L 296, 21.11.96, p.55)

The Secretary of State for Environment, Food and Rural Affairs relies, from 15th February 2007, on the provisions of the Air Quality Standards Regulations 2007 set out in the Table below in respect of the transposition of the above Directive in England. These Regulations replace the Air Quality Limit Values Regulations 2003 (S.I. 2003/2121 as amended by S.I. 2004/2888).

<i>Directive Article</i>	<i>Transposition provision</i>	<i>Comments</i>
Article 1 (Objectives)		The objectives of the Directive are achieved by the Regulations as a whole.
Article 2 (Definitions)	Regulation 2	
Article 3 (Implementation and responsibilities)	Regulation 3	The Secretary of State is designated as the competent authority for implementation.
Article 4 (Setting of limit values and alert thresholds)		This Article requires the Commission to make proposals for limit values. These have been made and resulted in Directives 1999/30/EC, 2000/69/EC, 2002/3/EC and 2004/107/EC which are also transposed by these Regulations. Readers are referred to the Transposition Note for each of those Directives.
Article 5 (Preliminary assessment)		This Article requires the taking of representative measurements of pollutants in time for the implementation of the Daughter Directives, and is thus only now relevant for Directive 2004/107/EC, in relation to which the Secretary of State confirms that preliminary measurements have been taken.
Article 6 (Assessment of ambient air quality)		The transposition of this Article is set out in detail below. It has to be read together with Articles 7 of Directive 1999/30/EC and Article 5 of Directive 2000/69/EC.
Article 6(1) <i>General duty</i>	Regulation 12	
Article 6(2) <i>Mandatory</i>	Regulation 13(1)-(2)	

<i>measurement</i>		
Article 6(3) <i>Combined measurement</i>	Regulation 13(3)(a)-(b)	
Article 6(4) <i>Air quality modelling</i>	Regulation 13(3)(c)	
Article 6(5) <i>Requirements for fixed measurement</i>	Regulation 14(1)	
Article 7 (Improvement of ambient air quality)		
Article 7(1) <i>Compliance measures</i>	Regulation 7(1)	
Article 7(2) <i>General requirements</i>	Regulation 4(2)	Article 7(2)(b) requiring that measures to achieve the aims of the Directive shall not contravene Community legislation on the protection of safety and health of workers is not specifically transposed as the relevant Community legislation is in any event transposed into UK law (as required) and is thus binding on the Secretary of State.
Article 7(3) <i>Action Plans</i>	Regulation 11	
Article 8 (Measures in zones where levels higher than the limit value)		
Article 8(1) <i>List of zones exceeding limit value and the margin of tolerance</i>	Regulation 22(c)(i)	
Article 8(2) <i>List of zones between limit value and the margin of tolerance</i>	Regulation 22(c)(ii)	
Article 8(3) <i>Improvement Plan</i>	Regulation 8(1)(a)/(2)/(6)(a)	
Article 8(4) <i>Integrated Improvement Plan</i>	Regulation 8(5)	
Article 8(6)		

<i>Duty to consult other Member States</i>	Regulation 29(3)	
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TRANSPOSITION NOTE

Council Directive 1999/30/EC relating to limit values for sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter and lead (OJ No L 163, 29.06.99, p.41)

The Secretary of State for Environment, Food and Rural Affairs relies, from 15th February 2007, on the provisions of the Air Quality Standards Regulations 2007 set out in the Table below in respect of the transposition of the above Directive in England. These Regulations replace the Air Quality Limit Values Regulations 2003 (S.I. 2003/2121 as amended by S.I. 2004/2888).

<i>Directive Article</i>	<i>Transposition provision</i>	<i>Comments</i>
Article 1 (Objectives)		Objectives of the Directive are achieved by the Regulations as a whole
Article 2 (Definitions)	Regulation 2 and other relevant regulations	
Article 3 (Sulphur dioxide)		
Article 3(1) <i>Limit value</i> <i>Compliance measures</i>	Regulation 6(1)(a)/(2) Schedule 1 Part 1 Regulation 7(1)	
Article 3(2) <i>Alert threshold</i>	Regulation 11(7) Schedule 3 Part 1	
Article 4 (Nitrogen dioxide and oxides of nitrogen)		
Article 4(1): <i>Limit values</i> <i>Margins of tolerance</i>	Same as Article 3(1) Regulation 6(4) Schedule 1 Part 2	
Article 5 (Particulate matter)		
Article 5(1) <i>Limit values/measures</i>	Same as Article 3(1)	
Article 5(2) <i>Measuring PM2.5</i>	Regulation 17	
Article 6 (Lead)	Same as Article 3(1)	
Article 7 (Assessment of concentrations): <i>General</i>	Regulation 12	
Article 7(1): <i>Assessment thresholds</i> <i>Review of classification</i>	Schedule 4 Part 1 Regulation 13(7)-(8)	
Article 7(2): <i>Location of sampling points</i> <i>Number of sampling points</i>	Regulation 15(3) Schedule 6 Parts 1, 4, 5 Regulation 15(1)	

	Schedule 5 Parts 1, 2	
Article 7(3) <i>Supplementing fixed measurement</i>	Regulation 15(2)	
Article 7(4) <i>Air quality modelling</i>	Regulation 13(3)(c)	
Article 7(5) <i>Reference methods</i>	Regulation 16(3) Schedule 9	
Article 8 (Public information)		
Article 8(1) <i>General requirements</i> <i>Concentrations</i> <i>Updating information</i> <i>Exceedance of limit values</i> <i>Exceedance of alert thresholds</i>	Regulation 21 Regulation 23(1)(a)/(d)(i) Regulation 23(2)(c)/(d)/(4) Regulation 25(2) Regulation 24(1)(a)	
Article 8(2) <i>Availability of improvement plans</i>	Regulations 27(1) and 21	
Article 8(4) <i>Clarity of information</i>	Regulation 21(2)(a)	
Article 9 (Repeals)		Transposition not required
Article 10 (Report and review)		Transposition not required
Article 11 (Penalties)		Regulations rely on public law remedies in relation to breach by the Secretary of State. Penalties in relation to specific polluters are set out in applicable sectoral legislation
Article 12 (Implementation)	Regulations 1(1) and 32	
Article 13 (Entry into force)		Transposition not required.
Annex I (Sulphur dioxide)		
Part I	Schedule 1 Part 1	
Part II	Schedule 3 Part 1	
Part III	Schedule 11 Part 1	
Annex II (Nitrogen dioxide and oxides of nitrogen)		
Part I	Schedule 1 Parts 1, 2.	
Part II	Schedule 3 Part 1	
Part III	Schedule 11 Part 1	
Annex III (Particulate matter)	Schedule 1 Part 1	
Annex IV (Lead)	Schedule 1 Part 1	

Annex V (Determination of requirements) ¹	Schedule 4 Parts 1, 3	
Annex VI (Location of sampling points)	Schedule 6 Parts 1, 4, 5	
Annex VII (Number of sampling points)	Schedule 5 Parts 1, 2	
Annex VIII (Data-quality objectives etc)		
Part I	Schedule 8 Part 1	
Part II	Schedule 7 Part 1	
Part III	Regulation 16(4)	
Annex IX (Reference methods)	Schedule 9 Part 1	

¹ Part II of Annex V substituted by Commission Decision 2001/744/EC amending Annex V to Council Directive 99/30/EC (OJ No L 278, 23.10.01, p.35).

TRANSPOSITION NOTE

Directive 2000/69/EC of the European Parliament and of the Council relating to limit values for benzene and carbon monoxide in ambient air (OJ No L 313, 13.12.00, p.12)

The Secretary of State for Environment, Food and Rural Affairs relies, from 15th February 2007, on the provisions of the Air Quality Standards Regulations 2007 set out in the Table below in respect of the transposition of the above Directive in England. These Regulations replace the Air Quality Limit Values Regulations 2003 (S.I. 2003/2121 as amended by S.I. 2004/2888).

<i>Directive Article</i>	<i>Transposition provision</i>	<i>Comments</i>
Article 1 (Objectives)		Objectives of the Directive are achieved by the Regulations as a whole
Article 2 (Definitions)	Regulation 2 and other relevant regulations	
Article 3 (Benzene)		
Article 3(1): <i>Limit values</i> <i>Compliance measures</i> <i>Margins of tolerance</i>	Regulation 6(1)(a)/(2) Schedule 1 Part 1 Regulation 7(1) Regulation 6(4) Schedule 1 Part 2	
Article 4 (Carbon monoxide) <i>Limit values</i> <i>Compliance measures</i>	Regulation 6(1)(a)/(2) Schedule 1 Part 1 Regulation 7(1)	
Article 5 (Assessment of concentrations): <i>General</i>	Regulation 12	
Article 5(1): <i>Assessment thresholds</i> <i>Review of classification</i>	Schedule 4 Part 1 Regulation 13(7)-(8)	
Article 5(2): <i>Location of sampling points</i> <i>Number of sampling points</i>	Regulation 15(3) Schedule 6 Parts 1, 4, 5 Regulation 15(1) Schedule 5 Part 1	
Article 5(3) <i>Supplementing fixed measurement</i>	Regulation 15(2)	
Article 5(4) <i>Air quality modelling</i>	Regulation 13(3)	
Article 5(5) <i>Reference methods</i>	Regulation 16(3) Schedule 9	

Article 6 (Committee)		Transposition not required
Article 7 (Public information)		
Article 7(1) <i>General requirements</i> <i>Concentrations</i> <i>Updating information</i> <i>Exceedance of limit values</i>	Regulation 21 Regulation 23(1)(a) Regulation 23(2)(a)/(b) Regulation 25(2)	
Article 7(2) <i>Availability of improvement plans</i>	Regulations 27(1) and 21	
Article 7(3) <i>Clarity of information</i>	Regulation 21(2)(a)	
Article 8 (Report and review)		Transposition not required
Article 9 (Penalties)		Regulations rely on public law remedies in relation to breach by the Secretary of State. Penalties in relation to specific polluters are set out in applicable sectoral legislation
Article 10 (Implementation)	Regulations 1(1) and 32	
Article 11 (Entry into force)		Transposition not required
Annex I (Limit value for Benzene)	Schedule 1 Parts 1, 2	
Annex II (Limit value for Carbon monoxide)	Schedule 1 Part 1	
Annex III (Determination of requirements)	Schedule 4 Parts 1, 3	
Annex IV (Location of sampling points)	Schedule 6 Parts 1, 4, 5	
Annex V (Number of sampling points)	Schedule 5 Part 1	
Annex VI (Data-quality objectives etc)		
Part I	Schedule 8 Part 1	
Part II	Schedule 7 Part 1	
Part III	Regulation 16(4)	
Annex VII (Reference methods)	Schedule 9 Part 1	

TRANSPPOSITION NOTE

Directive 2002/3/EC of the European Parliament and of the Council relating to ozone in ambient air (OJ No L 67, 09.03.02, p.14)

The Secretary of State for Environment, Food and Rural Affairs relies, from 15th February 2007, on the provisions of the Air Quality Standards Regulations 2007 set out in the Table below in respect of the transposition of the above Directive in England (and, in respect of Article 8, throughout the UK). These Regulations replace the Air Quality Limit Values Regulations 2003 (S.I. 2003/2121 as amended by S.I. 2004/2888).

<i>Directive Article</i>	<i>Transposition provision</i>	<i>Comments</i>
<i>Article 1 (Objectives)</i>		Objectives of the Directive are achieved by the Regulations as a whole
Article 2 (Definitions)	Regulation 2 and other relevant regulations	
Article 3 (Target values)		
Article 3(1) <i>Target values</i>	Regulation 6(1)(c)/(3) Schedule 1 Part 4	
Article 3(2) <i>List of zones in exceedance</i>	Regulation 22(b)(ii)	
Article 3(3) <i>Improvement Plans</i>	Regulation 8(1)(b)/(3)/(5)/(6)	
Article 3(4): <i>Contents of Plan</i> <i>Availability to public</i>	Regulation 8(4) Schedule 2 Regulation 27 Regulation 21(1)(a)/(3)	
Article 4 (Long-term objectives)		
Article 4(1) <i>Long-term objectives</i>	Regulation 6(1)(c) Schedule 1 Part 4	
Article 4(2) <i>List of zones in exceedance</i> <i>Remedial measures</i>	Regulation 22(b)(ii) Regulation 9(3)/(4)	
Article 5 (Requirements where ozone levels meet the long-term objectives) <i>List of zones in compliance</i> <i>Maintaining compliance</i>	Regulation 22(b) Regulation 10(1)(c)/(3)	
Article 6 (Information to the public):		
Article 6(1)(a): <i>General requirements</i> <i>Concentrations</i>	Regulation 21 Regulation 23(1)(c)	

<i>Information on exceedance</i>	Regulation 25(4)	
<i>Updating information</i>	Regulation 23(3)/25(5)	
<i>Alert and information thresholds</i>	Regulation 11(7) Schedule 3 Part 2	
Article 6(1)(b) <i>Annual report</i>	Regulation 26	
Article 6(1)(c) <i>Breach of alert threshold</i>	Regulation 24 Schedule 11 Part 2 Regulation 21(3)	
Article 6(2) <i>Details to be given to the public on breach of alert or information threshold</i>	Regulation 24 Schedule 11 Part 2	
Article 6(3) <i>Clarity of information</i>	Regulation 21(2)(a)	
Article 7 (Short-term action plans)		
Article 7(1)-(3)	Regulation 11(1)/(2)(c)/(3)-(6)	
Article 7(4) <i>Public information</i>	Regulation 27	
Article 8 (Transboundary pollution)	Regulation 29	
Article 8(1) <i>Joint plans or programmes</i>	Regulation 29(3)-(5)/(7)(a)	
Article 8(2) <i>Joint action plans</i>	Regulation 29(6)-(7)	
Article 8(3) <i>Exceedance of alert or information threshold in border areas</i>	Regulation 29(8)	
Article 8(4) <i>Cooperation with third countries</i>	Regulation 29(9)	
Article 9 (Assessment of concentrations) <i>General</i>	Regulation 12	
Article 9(1) <i>Mandatory measurement</i>	Regulation 13(9), 14(3)	
<i>Fewer than 5 years' data</i>	Regulation 13(10)	
<i>Location sampling points</i>	Regulation 15(8) Schedule 6 Parts 3-5	
<i>Number sampling points</i>	Regulation 15(4) Schedule 5 Part 4	
<i>Supplementing fixed measurement</i>	Regulation 15(6)	
<i>Nitrogen dioxide</i>	Regulation 15(7)	
Article 9(2)		

<i>Where concentrations are below long-term objective</i>	Regulation 15(5) Schedule 5 Part 5	
Article 9(3) <i>Measurement of ozone precursor substances</i>	Regulation 18 Schedule 10	
Article 9(4) <i>Reference methods</i>	Regulation 16(3) Schedule 9 Part 3	
Article 10 (Transmission of information)	Regulation 31 Schedule 12	Limited to the collection and collation of data; otherwise not required
Article 11 (Review and reporting)		Transposition not required
Article 12 (Guidance)		Transposition not required
Article 14 (Penalties)		Regulations rely on public law remedies in relation to breach by the Secretary of State. Penalties in relation to specific polluters are set out in applicable sectoral legislation
Article 15 (Transposition)	Regulations 1(1) and 32	
Article 16 (Repeal)		Transposition not required
Article 17 (Entry into force)		Transposition not required
Article 18 (Addressees)		Transposition not required
Annex I (Definitions, target values and long-term objectives)	Schedule 1 Part 4	
Annex II (Information and Alert thresholds)		
Part I	Schedule 3 Part 2	
Part II	Schedule 11 Part 2	
Annex III (Information submitted by Member States)	Schedule 12	
Annex IV (Criteria for classifying and locating sampling points)		
Part I	Schedule 6 Part 3	
Part II	Schedule 6 Part 4	
Part III	Schedule 6 Part 5	
Annex V (Number of sampling points)	Schedule 5 Parts 4, 5	
Annex VI (Measurement of ozone precursor substances)	Schedule 10	
Annex VII (Data quality)		

objectives etc)		
Part I	Schedule 8 Part 3	
Part II	Schedule 7 Part 3	
Part III	Regulation 16(4)	
Annex VIII (Reference methods)	Schedule 9 Part 3	

Final Regulatory Impact Assessment

Title of proposal

Implementation of Directive 2004/107/EC (Fourth Daughter Directive) relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air

Purpose and intended effect

Objective

The primary aim of this Directive is to reduce harmful effects on human health and the environment of airborne arsenic, cadmium, nickel and polycyclic aromatic hydrocarbons (PAHs), which are known carcinogens. This Directive is linked to the Air Quality Framework Directive (Directive 96/62/EC) which required the European Commission to come forward with proposals for regulating these pollutants.

The objectives of the Fourth Daughter Directive are as follows:

- (a) establish target values for the concentrations of arsenic, cadmium, nickel and benzo(a)pyrene in ambient air so as to avoid, prevent or reduce harmful effects of arsenic, cadmium, nickel and polycyclic aromatic hydrocarbons on human health and the environment as a whole;
- (b) ensure, with respect to arsenic, cadmium, nickel and polycyclic aromatic hydrocarbons, that ambient air quality is maintained where it is good and that it is improved in other cases;
- (c) determine common methods and criteria to assess concentrations of arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air as well as the deposition of arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons;
- (d) ensure that adequate information on concentrations of arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air as well as on the deposition of arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons is obtained and ensure that it is made available to the public.

The requirements of the Directive will be transposed into national legislation, by the Air Quality Standards regulations 2007 (see draft regulations in Annex II) by 15 February 2007, in accordance with the Directive's requirements and timetables. The Directive applies to the whole of the UK.

Background

The existing Air Quality Framework Directive (96/62/EC) provides the framework for a series of Daughter Directives (1999/30/EC, 2000/69/EC, 2002/3/EC and 2004/107/EC), each setting specific air quality limit and threshold values for the pollutants sulphur dioxide, nitrogen dioxide, particulate matter, lead, ozone, benzene, and carbon monoxide; target values for polycyclic aromatic hydrocarbons, cadmium, and arsenic, nickel; and a requirement to monitor mercury.

The Fourth Daughter Directive 2004/107/EC relates to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons (using benzo(a)pyrene as a marker) in ambient air. The Directive sets ‘target values’ from 31 December 2012 so as to avoid, prevent or reduce harmful effects on human health and the environment as a whole. These are outlined in Table 1 below.

Table 1 – Summary of target values and assessment thresholds

Pollutant	Limit values (ng/m³)¹	Upper assessment threshold in % of the target value²	Lower assessment threshold in % of the target value²
Arsenic	6	60% (3.6 ng/m ³)	40% (2.4 ng/m ³)
Cadmium	5	60% (3 ng/m ³)	40% (2 ng/m ³)
Nickel	20	70% (14 ng/m ³)	50% (10 ng/m ³)
Benzo(a)pyrene	1	60% (0.6 ng/m ³)	40% (0.4 ng/m ³)

Notes

¹ Applicable to the total content of the specified pollutant in the PM₁₀ fraction.

² Assessment thresholds will be considered as exceeded if concentrations have been exceeded during at least three calendar years out of the previous five years where sufficient data are available.

It is noted that the target values are not intended to be considered as ‘Environmental Quality Standards’ (EQSs) like the limit values in the other air quality Daughter Directives and as defined in Article 2(7) of Directive 96/61/EC. Target value requirements do not require any measures entailing disproportionate costs and under Article 3(3) industrial installations covered by the IPPC Directive are not mandated to go beyond the application of best available techniques (BAT).

Based on best current information available (both from the latest measurements (in 2005) of ambient concentrations and provisional modelling, via a dispersion model) the target value requirements, set out in the Directive, are not likely to require additional emission reduction measures beyond those implemented, under existing UK policy commitments and trends, taking into account that measures entailing disproportionate costs are not required under the Directive. Key existing policy commitments and trends include the Pollution Prevention and Control (PPC) system (including Local Air Pollution Prevention and Control) for industrial sources, Sulphur Content of Marine Fuels Directive for shipping sources, and fuel switching trends to gas away from solid fuels for domestic, commercial and industrial sources.

Target values are also used, however, as the basis of the requirement for Member States to assess levels of the specified pollutants throughout their territories. The Directive sets out two concentration thresholds in relation to this as proportions of the target values (which are also shown in Table 1 above). Measurement is mandatory in zones (as defined in Directive 96/62/EC) and agglomerations where levels exceed the ‘upper’ assessment threshold and where levels are between the ‘upper’ and the ‘lower’ assessment threshold, a combination of measurements and modelling techniques can be used.

The assessment of costs and benefits in the RIA is based on the best current available information. While there is a risk some exceedences of target value requirements may not be met by existing UK policy commitments or trends (such as the application of BAT under PPC regulations) – due to uncertainty in the current analysis and concentrations data – further

assessments will be undertaken when better quality information becomes available. This risk is also discussed further in the Small Firms Impact Test below.

Rationale for government intervention

The implementation of the Directive would help ensure that adequate information is obtained on levels in ambient air of key pollutants that pose risks to human health (including carcinogenic risks) and the environment, and would demonstrate that health and environmental effects of these pollutants are reduced through meeting target value requirements, taking all necessary measures not entailing disproportionate costs.

Member States must also transpose the Fourth Daughter Directive into national law by 15 February 2007. Therefore, the UK is required to implement the Directive. Failure to implement the Directive could trigger infraction proceedings and the UK could be subject to substantial penalties.

Consultation

In addition to the 12-week public consultation², conducted in accordance with the Cabinet Office consultation code, industry, environmental groups and stakeholders were involved in the detailed preparation of the Fourth Daughter Directive – along with Member States – through the European Commission’s Air Quality Steering Group and the sub-groups set up to provide reports on each of the pollutants. These groups played an important role in establishing the framework requirements and levels at which the Directive’s target values have been set.

Options

The following options have been assessed in this RIA:

- **Option 1: Do nothing** Under this option the UK would not do anything beyond existing policy commitments to meet its obligations under the Directive. As such no new monitoring will be undertaken (or additional new investments made). This risks triggering infraction proceedings and the UK could then be subject to substantial penalties.
- **Option 2: Implement the Directive as currently proposed** Under this option the UK would implement the Directive as it currently stands, with the text of the Directive being transposed directly into the (proposed) Air Quality Standards Regulations 2007. This would create mandatory requirements primarily relating to additional monitoring requirements as set out in the Directive. Target values are also set out by the Directive although these do not require additional measures to be implemented that entail disproportionate costs (for industrial installations this would not involve measures beyond the application of best available techniques (BAT) under the PPC regulations). Based on best current information available, target values are likely to be met under existing UK policy commitments and trends, and as a result no additional emission reduction measures are anticipated to be required, beyond those implemented under existing UK policy commitments. The Directive does not set specific obligations for industry and therefore the regulations do not have any additional direct regulatory effect on industry.

² Summary of stakeholders’ responses to the consultation is available from:
<http://www.defra.gov.uk/environment/airquality/eu-int/eu-directives/airqual-directives/daughter4/index.htm>

Sectors and groups affected

To meet the requirements of this Directive, a relatively small number of sectors and groups are expected to be affected, as follows:

- Any sectors and groups that are involved with monitoring levels of relevant pollutants in ambient air and assessing compliance with the Directive will be affected, for instance providers of monitoring equipment, companies that maintain monitoring networks, and providers of environmental and analytical services.
- The UK government will be affected by the obligation to transpose the Directive into UK Regulations (Regulations attached), assess levels of relevant pollutants (through purchase, operation and maintenance of monitoring equipment), and administer and report on the implementation of the Directive. The UK government will also bear the additional monitoring costs (both capital and annual operating costs) associated with this Directive.

Sectors emitting the relevant pollutants are unlikely to be affected by this Directive. A small number of additional installations which were not previously monitored will be monitored as a result of the thresholds and targets, however there will be no obligation on these companies or installations to spare resources to help the competent authority to carry out monitoring activities. In addition, the target value requirements, set out in the Directive, are unlikely to require additional emission reduction measures beyond those implemented in sector emitting the relevant pollutants, under existing UK policy commitments and trends. As such, it is assumed that additional emission reduction measures would not be required beyond those implemented under existing policy commitments.

Benefits

The benefits have been assessed for each option separately.

Option 1: Do nothing

Under this option no action to implement the Directive will take place and therefore no benefits will be accrued.

Option 2: Implement the Directive as currently proposed

Benefits under this option can be broken down to the following:

- Health and environmental benefits – According to the best information available at the current time, the target values, set out by the Directive, are likely to be met under existing UK policy commitments and trends. As such, the concentrations of arsenic, cadmium, nickel and benzo(a)pyrene are not expected to change directly in response to implementation of this Directive.

However the enhanced level of information on ambient concentrations and deposition of the pollutants covered by this Directive is of potential benefit to a number of stakeholder groups. For example, such information could be used in decision making regarding location of future housing developments, location of existing populations, types of farming practices etc. and may lead to some indirect health and environmental benefits. This has been seen, for example, by the influence of NO_x and PM₁₀ ambient concentration data on the past planning decisions of some developments. These

pollutants are subject to monitoring and control under the First Daughter Directive. Due to the high levels of uncertainty associated with the use of such information, and the subjective nature of the anticipated benefits, it is not possible to quantitatively estimate these benefits at this time.

- Financial benefits – There is potentially a positive impact on the businesses that manufacture, install and maintain the monitors required to assess pollutant levels. However, it is understood that there are very few UK based firms that produce such equipment and the main potential benefits to UK based firms will be restricted to the UK companies installing, operating and maintaining the monitors. Only a small number of additional monitors are expected to be required and therefore the financial benefits for a small number of UK firms, while positive, are anticipated to be limited.

Costs

The costs have been assessed for each option separately.

Option 1: Do nothing

Under this option, there would be no action required and hence no costs related to implementing any measures.

However, in the event that the UK is found to have failed to fulfil its obligations under the Directive, the matter may be brought before the European Court of Justice. This could lead to infraction proceedings against the UK. The penalties for non-compliance would depend upon the seriousness and duration of the failure but could include a ‘lump sum’ payment (minimum £8 million and up to perhaps £55 million) and, with a continued failure to comply, ‘penalty payments’ of around £3 million - £200 million per annum thereafter, following a second European Court of Justice judgment.

Option 2: Implement the Directive as currently proposed

This option would incur costs for the setting up and operation of additional monitoring sites that would be required at various locations across the UK to meet the requirements of the Directive. The additional monitoring requirements expected as a result of the Directive are based on estimations by Defra and their monitoring contractors.

Where possible additional monitoring requirements will be met by utilising existing monitoring sites, in order to minimise costs. The management and running costs associated with operating and maintaining monitoring are also subject to a competitive bidding process.

Table 2 sets out the estimated capital and ongoing operating costs of additional monitoring sites anticipated to be required in order to meet the Directive, based on best current available data. Costs have also been provided for Scotland, Wales and Northern Ireland. There is uncertainty around the number of additional sites required and also around estimated prices. As a result there is a risk additional monitoring costs (borne by government) may be higher than the current point estimate, should further additional sites be required and/or installation and equipment costs are higher. These uncertainties are, however, reflected as the range of costs presented below.

Table 2 – Estimated costs to Government of additional monitoring required under the Directive¹

Option	England	Scotland	Wales	N. Ireland	UK
One off capital costs (£k)	310-920	100-310	70-210	50-160	500-1,600
Annual operating Costs (£k) ²	300-890	100-300	80-230	50-150	500-1,600
Total annualised cost (£k)³	340-1,000	110-330	85-250	60-170	600-1,800

Notes

¹ Note that these costs incorporate an assumed uncertainty of $\pm 50\%$, and are presented as rounded costs.

² Includes costs to government relating to the analysis of results from monitoring sites and demonstration that any measures undertaken to meet the target values have not entailed disproportionate costs, as required by the Directive.

³ Capital costs have been annualised (based on a discount rate of 3.5% and an assumed economic life of equipment of 10 years) and combined with annual operating costs.

The total costs associated with additional monitoring and demonstration of compliance are estimated to be in the region of £0.6 million to £1.8 million per year. These will be costs to Government.

As discussed previously the target value requirements set by the Directive are likely to be met under existing UK policy commitments and trends, based on best current information available. As such, it is assumed that additional emission reduction measures would not be required beyond those implemented under existing policy commitments and therefore no additional costs would fall on industry as a result of this Directive. In the event that further measures might be required, industry is not mandated to take measures that go beyond BAT.

In relation to the requirements for mercury monitoring, the UK does not need to acquire additional monitors beyond those already operational in the network. Therefore no additional costs need to be quantified in relation to this pollutant.

Small Firms Impact Test

It is not anticipated that the Directive will have a significant impact on small businesses as the key cost burden as a result of the mandatory requirements of the Directive in expanding the monitoring network will fall on Government. The best information available at the current time is that existing UK policy commitments will be sufficient to meet the target value requirements set out in the Directive and, as such, no additional beyond 'business as usual' activities and investment are anticipated to occur for the key emission source sectors of interest to this Directive. Therefore potential impacts on small firms in these sectors in the UK are concluded to be insignificant. However should abatement equipment be needed there is a risk the cost of installing it may be disproportionate to small businesses. If this is the case such abatement measures would not take place as the Directive does not require any measures entailing disproportionate costs to be undertaken³.

³ Article 3(3) of Directive 2004/107/EC.

The impact on small firms producing monitoring equipment in the UK is also concluded to be insignificant as is understood that the UK has very few air quality monitoring manufacturers and, the UK will be sourcing the equipment from international suppliers to monitor the pollutants in question for this Directive.

There is anticipated to be a small net benefit for UK firms that install, operate and maintain the additional monitors required by the Directive. The number of monitors is relatively small therefore the additional benefit for these companies is expected to form a small proportion of their total turnover and profit.

Competition assessment

The competition filter has been applied to the options considered in this RIA and it is not anticipated that the implementation of the proposed Directive will have any significant competitiveness impacts between UK and rest of EU markets and between the UK and rest of the world markets. As noted earlier, the best information available at the current time is that existing UK policy commitments will be sufficient to meet the target value requirements set out in the Directive. As such no impacts or requirements to change operations are anticipated to arise for the emission source sectors of interest to this Directive thus resulting in negligible or no competitiveness impacts for these sectors.

Any competitiveness impacts are only expected to be related to firms involved in the manufacture, supply, installation, operation and maintenance of monitoring equipment. There are very few UK based firms that manufacture air quality monitoring equipment and therefore a proportion of these potential benefits will be for overseas companies providing such equipment. A small net benefit for UK firms that install, operate and maintain the additional monitors is anticipated, although the number of additional monitors is relatively small and likely to form a small element of the turnover and operating profits of the relevant companies. The management and running costs associated with operating and maintaining monitoring are also subject to a competitive bidding process. As installation and operation of the air quality networks is assumed to be completed domestically by Member States it is not considered likely that this Directive creates additional opportunities for UK companies internationally. For these reasons no significant competitiveness impacts are expected for UK firms in this sector.

Enforcement, sanctions and monitoring

The Secretary of State for the Environment, Food and Rural Affairs will assess compliance with the proposed regulations, target values and obligations in Directive 2004/107/EC, through the UK's national monitoring network and system of Local Air Quality Management provided by the Environment Act 1995. The European Commission will review progress on implementing Directive 2004/107/EC in light of scientific progress and emerging evidence on health effects.

Implementation and delivery plan

Implementation will be carried out through transposition of Directive (2004/107/EC) (*fourth Daughter Directive*) into the new Air Quality Standards Regulations 2007.⁴ The new

⁴ These new regulations also consolidate the existing Air Quality Limit Values Regulations 2003, which transposed the Air Quality Framework Directive (96/62/EC); First Daughter Directive (1999/3330/EC),

Regulations do *not* create any new or additional obligations on industry in relation to the fourth Daughter Directive (or existing legislation. Any obligations arising from the Directive are instead intended to fall upon the Secretary of State for Environment, Food and Rural Affairs, who will carry out the requirements of this Directive.

The Department has consulted industry and other stakeholders on the transposition of Directive (2004/107/EC) and no concerns of substance have been raised related to this intended implementation route.

Post-implementation review

Verification that the requirements of Directive 2004/107/EC are being met will be carried out by Defra and the devolved administrations. The Directive places requirements on Member States to monitor and assess air quality and deposition rates in relation to the pollutants of interest as well as to provide information to the public and relevant organisations. In practice, Defra already provides data on air quality on its website⁵ and intends to continue to do so. The Directive also requires Member States to report to the Commission (on an annual basis) data on air quality for the pollutants of interest.

Summary and recommendation

Table 3 below summarises the costs and benefits of the options presented in this RIA.

Table 3 – Summary of costs and benefits for the proposed options

	Total benefits per annum: economic; environmental; social	Total cost per annum: - economic, environmental, social - policy and administrative
Option 1 – Do nothing	-	£8 – 55m lump sum cost (£3 – 200m per annum thereafter) ¹
Option 2 – Implement Directive as proposed	Small benefits; not monetised ²	£0.6 – 1.8m per annum ³

Notes

¹ Cost of possible infraction proceedings and of not complying with the Directive.

² Benefits relate to enhanced level of information on ambient concentrations and deposition of the pollutants covered by this Directive as well as potential positive impact on the businesses that manufacture, install and maintain the monitors required to assess pollutant levels.

³ Annualised additional costs of monitoring – including both one-off capital costs and ongoing annual operating costs.

Second Daughter Directive (2000/69/EC); and Third Daughter Directive (2002/3/EC).

⁵ Available at: <http://www.airquality.co.uk>

It is recommended that the Directive is implemented as proposed (Option 2). Target value requirements, set out by the Directive, are likely to be met under existing UK policy commitments and trends, based on best current information available. As such, it is assumed that additional emission reduction measures would not be required beyond those implemented under existing policy commitments and therefore no costs would fall on industry as a result of this Directive.

Ministerial declaration

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

Ben Bradshaw

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Signature: Mr Ben Bradshaw

Date: 15 January 2007

Contact details

Comments or enquiries regarding this RIA should be directed to:

Kay Sadanand
Policy Advisor
Air and Environment Quality Division
Defra
Ashdown House, 123 Victoria Street
London SW1E 6DE

Tel: 020 7082 8406
Fax: 020 7082 8379
e-mail: kay.sadanand@defra.gsi.gov.uk