

2010 No. 1001**ENVIRONMENTAL PROTECTION****The Air Quality Standards Regulations 2010**

Thomson Reuters (Legal) Limited.

UK Statutory Instruments Crown Copyright. Reproduced by permission of the Controller of Her Majesty's Stationery Office.

<i>Made</i>	<i>25th March 2010</i>
<i>Laid before Parliament</i>	<i>30th March 2010</i>
<i>Coming into force</i>	<i>11th June 2010</i>

The Secretary of State, having been designated¹ for the purposes of section 2(2) of the European Communities Act 1972 in relation to the environment, makes the following Regulations under the powers conferred by that section.

Notes

¹ S.I 2008/301.

Extent

Preamble: United Kingdom

PART 1**General**

 Law In Force

1.— Citation, commencement, application and extent

(1) These Regulations may be cited as the Air Quality Standards Regulations 2010 and come into force on 11th June 2010.

(2) They apply in England, except regulations 3(a), 23, 24, 25(4) and 32 which extend to the United Kingdom¹.

Notes

¹ In relation to Scotland, the Secretary of State relies on section 57(1) of the Scotland Act 1998 (c. 46); in relation to Northern Ireland, the Secretary of State relies on section 23(1) of the Northern Ireland Act 1998 (c. 47); in

relation to Wales, the Secretary of State relies on article 2(3) of the European Communities (Designation) (No 3) Order 2000 (S.I. 2000/2812).

Commencement

Pt 1 reg. 1(1)-(2): June 11, 2010

Extent

Pt 1 reg. 1(1)-(2): England

✓ Law In Force

2. Definitions

In these Regulations—

“ambient air” means outdoor air in the troposphere, excluding workplaces where members of the public do not have regular access;

“AOT 40” (expressed in $\mu\text{g}/\text{m}^3 \cdot \text{hours}$) means the sum of the difference between hourly concentrations greater than $80 \mu\text{g}/\text{m}^3$ (=40 parts per billion) and $80 \mu\text{g}/\text{m}^3$ over a given period using only the one-hour values measured between 08.00 hours and 20.00 hours Central European Time (CET) each day;

“arsenic”, “cadmium”, “nickel” and “benzo(a)pyrene” mean the total content of those elements and compounds within the PM_{10} present in ambient air;

[“Directive 2008/50/EC” means Directive 2008/50/EC of the European Parliament and of the Council on ambient air quality and cleaner air for Europe;]¹

[“Directive 2004/107/EC” means 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;]²

“fixed measurements” means measurements taken at fixed locations, either continuously or by sampling from time to time, to determine levels of pollutants in accordance with the relevant data quality objectives;

“indicative measurement” means measurements which meet data quality objectives that are less strict than those required for fixed measurements;

“margin of tolerance” means the percentage of the limit value by which that value may be exceeded in a given year;

“oxides of nitrogen” means the sum of the volume mixing ratio (ppbv) of nitrogen monoxide (nitric oxide) and nitrogen dioxide expressed in units of mass concentration of nitrogen dioxide ($\mu\text{g}/\text{m}^3$);

“ozone precursor substances” means substances which contribute to the formation of ground level ozone;

“ PM_{10} ” means particulate matter which passes through a size-selective inlet as defined in the reference method for the sampling and measurement of PM_{10} , EN 12341, with a 50% efficiency cut-off at $10 \mu\text{m}$ aerodynamic diameter;

“ $\text{PM}_{2.5}$ ” means particulate matter which passes through a size-selective inlet as defined in the reference method for the sampling and measurement of $\text{PM}_{2.5}$, EN 14907, with a 50% efficiency cut-off at $2.5 \mu\text{m}$ aerodynamic diameter;

“particulate matter” means $\text{PM}_{2.5}$ and PM_{10} ;

“pollutant” means any of the following—

- (a) sulphur dioxide,
- (b) nitrogen dioxide,
- (c) oxides of nitrogen,
- (d) particulate matter,
- (e) lead,
- (f) benzene,
- (g) carbon monoxide,
- (h) arsenic,
- (i) cadmium,
- (j) mercury,
- (k) nickel,
- (l) benzo(a)pyrene or other polycyclic aromatic hydrocarbons,
- (m) ozone;

“polycyclic aromatic hydrocarbons” means those organic compounds composed of at least two fused aromatic rings made entirely from carbon and hydrogen;

“relevant administration” means—

- (a) the Welsh Ministers for Wales;
- (b) the Scottish Ministers for Scotland; and
- (c) the Department of the Environment for Northern Ireland;

Notes

¹ Definition substituted by Air Quality Standards (Amendment) Regulations 2016/1184 reg.2(1) (December 31, 2016)

² Definition substituted by Air Quality Standards (Amendment) Regulations 2016/1184 reg.2(2) (December 31, 2016)

Commencement

Pt 1 reg. 2 definition of "ambient air"- definition of "relevant administration" (c): June 11, 2010

Extent

Pt 1 reg. 2 definition of "ambient air"- definition of "relevant administration" (c): England

 Law In Force

[2A.— Interpretation

- (1) When interpreting Directive 2008/50/EC for the purposes of these Regulations—
- (a) Article 3(f) is to be read as if for "other Member States" there were substituted "member States";
 - (b) in Annex 1—
 - (i) in section A, footnote (1) is to be read as if—
 - (aa) for "Member States" there were substituted "the Secretary of State";
 - (bb) for "they" there were substituted "the Secretary of State";
 - (cc) the words "to the Commission" were omitted;
 - (ii) section C is to be read as if—

- (aa) at each place it occurs, a reference to "harmonised" there were substituted a reference to "designated";
 - (bb) in paragraph 1, for "appropriate competent authorities and bodies designated pursuant to Article 3" there were substituted "the Secretary of State";
 - (cc) in point (i), the words "pursuant to Articles 6 and 9" were omitted;
 - (dd) in point (iii), the words from "and that institutions" to the end of that point were omitted;
 - (ee) in point (iv), in the first sentence, the words from "by the appropriate" to "Article 3" were omitted;
 - (ff) in point (iv), in the first sentence, the words from "the reference to" to "the European Union" were omitted;
 - (gg) in point (iv), the second sentence, the words from "for the coordination" to "be responsible" were omitted;
 - (hh) points (v) and (vi) were omitted;
 - (ii) in paragraph 2 for "All reported data under Article 27" there were substituted "all data";
- (c) in Annex 2, in section B, the second paragraph is to be read as if for "Member States" there were substituted "the Secretary of State";
 - (d) in Annex 3, in section A, paragraph 2(b) is to be read as if the words "In accordance with Article 2(1)" were omitted;
 - (e) in Annex 5, in section A, footnotes (1) and (2) are to be read as if for "Member State", in each place where the words occur, there were substituted "the United Kingdom";
 - (f) in Annex 6, section B is to be read as if—
 - (i) in point 1—
 - (aa) for "A Member State" there were substituted "the Secretary of State";
 - (bb) for "it" there were substituted "the Secretary of State";
 - (cc) for "the Member State concerned" there were substituted "the Secretary of State";
 - (ii) points 2, 3 and 4 were omitted;
 - (g) in Annex 8, in section A, the paragraph after the table is to be read as if after the words "in the Community" there were inserted "in so far as it forms part of retained EU law".
- (2) When interpreting Directive 2004/107/EC for the purposes of these Regulations—
- (a) in Annex 2, in section 2 (determination of exceedances of upper and lower assessment thresholds), the second paragraph is to be read as if for "Member States" there were substituted "the Secretary of State";
 - (b) in Annex 3, in section 4, point (b) is to be read as if the words "as defined by Article 2(11) of Directive 96/61/EC" were omitted;
 - (b) in Annex 4—
 - (i) in section I (data quality objectives), the fifth and sixth paragraphs are to be read as if—
 - (aa) for "Member State", in each place where the words occur, there were substituted "the Secretary of State";
 - (bb) for "they", in each place where the words occur, there were substituted "the Secretary of State";
 - (c) Annex 5 is to be read as if—

- (i) in section 1 (reference method for the sampling and analysis of arsenic, cadmium and nickel in ambient air), in the second paragraph, for "A Member State" there were substituted "The Secretary of State";
- (ii) in section 2 (reference method for the sampling and analysis of polycyclic aromatic hydrocarbons in ambient air)—
 - (aa) in the first paragraph, for "Member States are allowed to" there were substituted "the Secretary of State may";
 - (bb) in the second paragraph, for "A Member State" there were substituted "The Secretary of State";
- (iii) in section 3 (reference method for the sampling and analysis of mercury in ambient air), in the second paragraph, for "A Member State" there were substituted "The Secretary of State";
- (iv) section 5 were omitted.

]¹

Notes

- ¹ Added by Air Quality (Amendment of Domestic Regulations) (EU Exit) Regulations 2019/74 Pt 3 reg.4(2) (December 31, 2020: shall come into force on IP completion day not exit day as specified in 2020 c.1 s.39(1) and Sch.5 para.1)

Extent

Pt 1 reg. 2A(1)-(2)(c)(iv): England

✓ Law In Force

3. Designation of competent authority

The Secretary of State is designated as the competent authority—

- (a) for the United Kingdom for the purposes of article 3(f) of Directive 2008/50/EC, and
- (b) save as set out in paragraph (a), in England for the purposes of Directive 2008/50/EC and for the purposes of Directive 2004/107/EC.

Commencement

Pt 1 reg. 3(a)-(b): June 11, 2010

Extent

Pt 1 reg. 3(a): United Kingdom

Pt 1 reg. 3(b): England

✓ Law In Force

4.— Zones and agglomerations

(1) The Secretary of State must, for the purposes of these Regulations, divide the territory of England into zones and agglomerations.

(2) A zone will be classified as an agglomeration if it is a conurbation with a population in excess of 250,000 inhabitants.

(3) In these Regulations references to a zone include a zone which has been classified as an agglomeration.

(4) Zones are identified on a map published by the Secretary of State in January 2010.¹

Notes

¹ The map is deposited at the Defra Information and Resource Centre, Lower Ground Floor, Ergon House, Horseferry Road, London SW1P 2AL.

Commencement

Pt 1 reg. 4(1)-(4): June 11, 2010

Extent

Pt 1 reg. 4(1)-(4): England

PART 2**Assessment of ambient air quality****CHAPTER 1**

Sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter, lead, benzene and carbon monoxide

 Law In Force

5.— Assessment thresholds

(1) The Secretary of State must classify each zone according to whether or not the upper or lower assessment thresholds specified in Section A of Annex II to Directive 2008/50/EC are exceeded in relation to sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter, lead, benzene and carbon monoxide.

(2) The Secretary of State must review the classification of zones carried out in accordance with paragraph (1) at least every five years, and must do so more frequently than every five years if there are significant changes in the activities which may affect levels of sulphur dioxide, nitrogen dioxide or oxides of nitrogen, particulate matter, lead, benzene or carbon monoxide in ambient air.

(3) When reviewing the classification of zones in accordance with assessment thresholds, the Secretary of State must comply with Section B of Annex II to Directive 2008/50/EC.

Commencement

Pt 2(1) reg. 5(1)-(3): June 11, 2010

Extent

Pt 2(1) reg. 5(1)-(3): England

✔ Law In Force

6.— Assessment criteria

- (1) The Secretary of State must assess the level of sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter, lead, benzene and carbon monoxide in ambient air in all zones.
- (2) In all zones where the level of those pollutants exceeds the upper assessment threshold referred to in regulation 5, fixed measurements must be used, but may be supplemented by modelling or indicative measurements or both in order to provide adequate information on the spatial distribution of the ambient air quality.
- (3) In all zones where the level of those pollutants is below the lower assessment threshold referred to in regulation 5, modelling or estimation techniques or both may be used instead of measurement.
- (4) In all other zones a combination of fixed measurements together with modelling or indicative measurements or both may be used.
- (5) In addition to the measurements referred to in paragraphs (1) to (4), the Secretary of State must measure PM_{2.5} at rural background locations away from significant sources of air pollution, in order to provide information on an annual average basis on the total mass concentration and chemical speciation concentrations of that pollutant.
- (6) For the purposes of paragraphs (1) to (4), measurements must be carried out in accordance with the criteria set out in sections A and C of Annex I to Directive 2008/50/EC, and for the purposes of paragraph (5), measurements must be carried out in accordance with the criteria set out in Annex IV to the same Directive.
- (7) Save as provided for in paragraph (8), measurements for the purposes of this regulation must be taken in accordance with the reference measurement methods specified in Section A and Section C of Annex VI to Directive 2008/50/EC.
- (8) Alternative methods to those referred to in paragraph (7) may be used provided the conditions set out in Section B of that Annex are complied with.
- (9) Where measurements are supplemented by modelling or indicative measurement then the Secretary of State must take account of the results of those supplementary methods in assessing ambient air quality for the purposes of these Regulations.
- (10) In this Regulation, “chemical speciation concentrations” means the concentrations of different chemical components or species of PM_{2.5}.

Commencement

Pt 2(1) reg. 6(1)-(10): June 11, 2010

Extent

Pt 2(1) reg. 6(1)-(10): England

 Law In Force

7.— Location and number of sampling points

(1) The Secretary of State must install sampling points in accordance with Schedule 1 for the assessment of sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter, lead, benzene and carbon monoxide.

(2) In zones where fixed measurement is the sole source of information for the assessment of air quality, the number of sampling points must be more than or equal to the minimum number specified in Section A of Annex V to Directive 2008/50/EC for the purpose of assessing compliance with limit values and alert thresholds.

(3) In zones other than agglomerations where fixed measurement is the sole source of information for the assessment of air quality, the number of sampling points must be more than or equal to the minimum number specified in Section C of Annex V to Directive 2008/50/EC for the purpose of assessing compliance with critical levels for the protection of vegetation.

(4) In zones where the information from fixed measurement is supplemented by information from modelling or indicative measurement or both, the number of sampling points in either Section A or C of Annex V, or both, may be reduced by up to 50% provided that the following conditions are met—

- (a) the supplementary methods provide sufficient information for the assessment of air quality in relation to limit values or alert thresholds,
- (b) the supplementary methods provide sufficient information to inform the public as to the state of ambient air quality, and
- (c) the number of sampling points to be installed and the spatial resolution of other techniques are sufficient for the concentration of the relevant pollutant to be established in accordance with the data quality objectives specified in Section A of Annex I to Directive 2008/50/EC and enable assessment results to meet the criteria in Section B of the same annex.

(5) For the measurement of PM_{2.5} in rural background locations, the Secretary of State must install a sampling point for every 100,000 km².

Commencement

Pt 2(1) reg. 7(1)-(5): June 11, 2010

Extent

Pt 2(1) reg. 7(1)-(5): England

CHAPTER 2

Ozone

✓ Law In Force

8.— Assessment criteria

- (1) The Secretary of State must assess the levels of ozone in ambient air in all zones.
- (2) The Secretary of State must ensure that fixed measurements are taken in any zone where the concentrations of ozone have exceeded the long-term objectives specified in Schedule 4 during any of the five years preceding those measurements.
- (3) Save as provided in paragraph (4), for the purposes of paragraph (2), measurements must be taken in accordance with the reference measurement methods specified in point 8 of Section A of Annex VI to Directive 2008/50/EC.
- (4) Alternative methods to those referred to in paragraph (3) may be used provided the conditions set out in Section B of that Annex are complied with.

Commencement

Pt 2(2) reg. 8(1)-(4): June 11, 2010

Extent

Pt 2(2) reg. 8(1)-(4): England

✓ Law In Force

9.— Location and number of sampling points

- (1) The Secretary of State must install sampling points in accordance with the criteria set out in Annex VIII to Directive 2008/50/EC.
- (2) In zones where fixed measurement is the sole source of information for the assessment of air quality, the number of sampling points must be more than or equal to the minimum number specified in Section A of Annex IX to Directive 2008/50/EC.
- (3) In zones where the concentrations of ozone have been below the long-term objectives for each of the previous five years of measurement, the number of sampling points must be determined in accordance with the criteria set out in Section B of Annex IX to Directive 2008/50/EC.
- (4) In zones where the information from fixed measurement is supplemented by information from modelling or indicative measurement or both, the number of sampling points referred to in paragraph (2) may be reduced provided that the following conditions are met—
 - (a) the supplementary methods provide sufficient information for the assessment of air quality in relation to target values, long-term objectives, information and alert thresholds,

- (b) the number of sampling points to be installed and the spatial resolution of supplementary methods are sufficient for the concentration of ozone to be established in accordance with the data quality objectives set out in Section A of Annex I to Directive 2008/50/EC and to enable assessment results to meet the criteria specified in Section B of the same Annex;
- (c) there is at least one sampling point in each zone, with a minimum of one sampling point per two million inhabitants or one sampling point per 50,000 km², whichever produces the greater number of sampling points; and
- (d) nitrogen dioxide is measured at all remaining sampling points except at rural background stations referred to in Section A of Annex VIII to Directive 2008/50/EC
- (5) The Secretary of State must ensure that nitrogen dioxide is measured at no less than 50% of the sampling points required under Section A of Annex IX to Directive 2008/50/EC.
- (6) The measurement referred to in paragraph (5) must be continuous except at rural background locations.
- (7) The Secretary of State must ensure that concentrations of the ozone precursor substances listed in Annex X to Directive 2008/50/EC are measured at at least one sampling point.
- (8) The Secretary of State may choose the location and number of sampling points for measurements of ozone precursor substances and must take into account the objectives and methods set out in Annex X to Directive 2008/50/EC.

Commencement

Pt 2(2) reg. 9(1)-(8): June 11, 2010

Extent

Pt 2(2) reg. 9(1)-(8): England

CHAPTER 3

Arsenic, cadmium, nickel, mercury, benzo(a)pyrene and other polycyclic aromatic hydrocarbons

 Law In Force

10.— Assessment thresholds

- (1) The Secretary of State must classify each zone according to whether or not the upper and lower assessment thresholds specified in Section I of Annex II to Directive 2004/107/EC are exceeded in relation to arsenic, cadmium, nickel and benzo(a)pyrene.
- (2) The Secretary of State must review the classification of zones in paragraph (1) every five years, and must do so more frequently than every five years if there are significant changes in the activities which may affect levels of the pollutants referred to in paragraph (1) in ambient air.
- (3) When classifying zones in accordance with assessment thresholds, the Secretary of State must comply with Section II of Annex II to Directive 2004/107/EC.

Commencement

Pt 2(3) reg. 10(1)-(3): June 11, 2010

Extent

Pt 2(3) reg. 10(1)-(3): England

✔ Law In Force

11.— Assessment criteria

(1) The Secretary of State must assess concentrations of arsenic, cadmium, nickel and benzo(a)pyrene in ambient air in all zones.

(2) In zones where the levels of arsenic, cadmium, nickel and benzo(a)pyrene are above the upper assessment threshold referred to in regulation 10, measurement is mandatory but may be supplemented by modelling techniques to provide an adequate level of information on ambient air quality.

(3) In zones where the levels of those pollutants are between the upper and lower assessment thresholds referred to in regulation 10, measurement is mandatory but may be supplemented by indicative measurements as referred to in Section I of Annex IV to Directive 2004/107/EC or modelling, or both.

(4) In zones where the levels of those pollutants are below the lower assessment thresholds, modelling or objective estimation techniques may be used instead of measurement.

Commencement

Pt 2(3) reg. 11(1)-(4): June 11, 2010

Extent

Pt 2(3) reg. 11(1)-(4): England

✔ Law In Force

12. Data quality objectives

When assessing levels of arsenic, cadmium, nickel, benzo(a)pyrene, other polycyclic aromatic hydrocarbons or gaseous mercury, the Secretary of State must apply the data quality objectives and other standards contained in Annex IV to Directive 2004/107/EC.

Commencement

Pt 2(3) reg. 12: June 11, 2010

Extent

Pt 2(3) reg. 12: England

✓ Law In Force

13. Location and number of sampling points

The location and number of sampling points for the assessment of arsenic, cadmium, nickel and benzo(a)pyrene must be determined in accordance with Annex III to Directive 2004/107/EC.

Commencement

Pt 2(3) reg. 13: June 11, 2010

Extent

Pt 2(3) reg. 13: England

✓ Law In Force

14.— Monitoring of polycyclic aromatic hydrocarbons

(1) The Secretary of State must monitor concentrations of other relevant polycyclic aromatic hydrocarbons in addition to benzo(a)pyrene as the Secretary of State thinks fit, including at least the following—

- (a) benzo(a)anthracene,
- (b) benzo(b)fluoranthene,
- (c) benzo(j)fluoranthene,
- (d) benzo(k)fluoranthene,
- (e) indeno(1,2,3-cd)pyrene,
- (f) dibenz(a,h)anthracene.

(2) Monitoring sites must be located together with sampling points for benzo(a)pyrene.

(3) Monitoring sites must be selected so that geographical variations and long term trends in the concentrations of polycyclic aromatic hydrocarbons can be identified.

(4) Monitoring sites must be selected in accordance with the criteria in Sections I to III of Annex III to Directive 2004/107/EC.

Commencement

Pt 2(3) reg. 14(1)-(4): June 11, 2010

Extent

Pt 2(3) reg. 14(1)-(4): England

✓ Law In Force

15.— Background monitoring

(1) The Secretary of State must operate background sampling points to provide indicative measurements of—

- (a) concentrations of—
 - (i) arsenic, cadmium, nickel and benzo(a)pyrene,
 - (ii) the polycyclic aromatic hydrocarbons in paragraph (1) of regulation 14,
 - (iii) total gaseous mercury.
- (b) total depositions of—
 - (i) arsenic, cadmium, nickel and benzo(a)pyrene within the PM₁₀ fraction;
 - (ii) the polycyclic aromatic hydrocarbons in paragraph (1) of regulation 14,
 - (iii) mercury.

(2) For the purposes of paragraph (1) the Secretary of State must ensure that—

- (a) at least one sampling point is installed for every 100,000 km² ; and
- (b) each sampling point is located in accordance with Annex III to Directive 2004/107/EC.

(3) In this Regulation “total gaseous mercury” means elemental mercury vapour (Hg⁰) and reactive gaseous mercury, that is, water-soluble mercury species with sufficiently high vapour pressure to exist in the gas phase.

Commencement

Pt 2(3) reg. 15(1)-(3): June 11, 2010

Extent

Pt 2(3) reg. 15(1)-(3): England

✓ Law In Force

16. Reference methods for sampling and analysis

Measurements of arsenic, cadmium, mercury, nickel, benzo(a)pyrene and other polycyclic aromatic hydrocarbons in ambient air and deposition of those pollutants must be made in accordance with the reference measurement methods set out in Annex V to Directive 2004/107/EC.

Commencement

Pt 2(3) reg. 16: June 11, 2010

Extent

Pt 2(3) reg. 16: England

PART 3

Duties of Secretary of State in relation to limit values etc.

✓ Law In Force

17.— Duty in relation to limit values

(1) The Secretary of State must ensure that levels of sulphur dioxide, nitrogen dioxide, benzene, carbon monoxide, lead and particulate matter do not exceed the limit values set out in Schedule 2.

(2) In zones where levels of the pollutants mentioned in paragraph (1) are below the limit values set out in Schedule 2, the Secretary of State must ensure that levels are maintained below those limit values and must endeavour to maintain the best ambient air quality compatible with sustainable development.

[(3) Where the Secretary of State considers that a limit value has been exceeded for a reason attributable to natural sources, that limit value will not be considered to be exceeded for the purposes of these Regulations.

(4) Where the Secretary of State considers that a limit value has been exceeded for a reason attributable to natural sources in accordance with paragraph (3), the Secretary of State must publish information, for the relevant zones and agglomerations, demonstrating that the exceedances are attributable to natural sources.]¹

Notes

¹ Reg.17(3)-(4) substituted for reg.17(3) by Air Quality (Amendment of Domestic Regulations) (EU Exit) Regulations 2019/74 Pt 3 reg.4(3) (December 31, 2020: shall come into force on IP completion day not exit day as specified in 2020 c.1 s.39(1) and Sch.5 para.1)

Commencement

Pt 3 reg. 17(1)-(2): June 11, 2010

Extent

Pt 3 reg. 17(1)-(4): England

✓ Law In Force

18.— Duty in relation to target values

(1) The Secretary of State must ensure that all necessary measures not entailing disproportionate costs are taken to ensure that concentrations of PM_{2.5}, ozone, arsenic, cadmium, nickel and benzo(a)pyrene do not exceed the target values in Schedule 3.

(2) The Secretary of State must draw up a list of all zones where the target values for arsenic, cadmium, nickel or benzo(a)pyrene are met and in relation to those zones, must maintain the levels of those pollutants below those target values and must endeavour to achieve the best ambient air quality compatible with sustainable development.

(3) The Secretary of State must draw up a list of all zones where the target value for arsenic, cadmium, nickel or benzo(a)pyrene is exceeded, and in relation to those zones, must identify the areas where those values are exceeded and the relevant sources of pollutants.

(4) In relation to the zones to which paragraph (3) applies, the measures in paragraph (1) must be directed at the predominant sources of emission which have been identified, and where applicable will entail the application of best available techniques in accordance with [the Environmental Permitting (England and Wales) Regulations 2016²]¹.

Notes

¹ Words substituted by Air Quality (Amendment of Domestic Regulations) (EU Exit) Regulations 2019/74 Pt 3 reg.4(4) (December 31, 2020: shall come into force on IP completion day not exit day as specified in 2020 c.1 s.39(1) and Sch.5 para.1)

² S.I. 2016/1154, to which there are amendments not relevant to these Regulations.

Commencement

Pt 3 reg. 18(1)-(4): June 11, 2010

Extent

Pt 3 reg. 18(1)-(4): England

 Law In Force

19.— Date of application for limit values and target values

(1) Limit values and target values—

- (a) apply from the date specified for each limit value or target value concerned; or
- (b) apply when these Regulations come into force, if no date is specified.

Commencement

Pt 3 reg. 19(1)-(1)(b): June 11, 2010

Extent

Pt 3 reg. 19(1)-(1)(b): England

 Law In Force

20.— Duty in relation to long-term objectives for ozone

(1) The Secretary of State must ensure that all necessary measures not entailing disproportionate cost are taken to attain the long-term objectives for ozone set out in Schedule 4.

(2) In zones where the long-term objectives for ozone have been attained, the Secretary of State must, insofar as factors including meteorological conditions and the transboundary nature of ozone pollution permit—

- (a) ensure that they continue to be met;

- (b) maintain the best ambient air quality compatible with sustainable development;
- (c) maintain a high level of protection for the environment and human health.

Commencement

Pt 3 reg. 20(1)-(2)(c): June 11, 2010

Extent

Pt 3 reg. 20(1)-(2)(c): England

✔ Law In Force

21. Duty in relation to information and alert thresholds

Where any of the information or alert thresholds in Schedule 5 are exceeded the Secretary of State must inform the public by means of radio, television, newspapers or the internet.

Commencement

Pt 3 reg. 21: June 11, 2010

Extent

Pt 3 reg. 21: England

✔ Law In Force

22. Duty in relation to critical levels for the protection of vegetation

The Secretary of State must ensure that the critical levels set out in Schedule 6 are not exceeded.

Commencement

Pt 3 reg. 22: June 11, 2010

Extent

Pt 3 reg. 22: England

PART 4**National Exposure Reduction for PM2.5**

✓ Law In Force

23.— Average exposure indicator

- (1) The Secretary of State must calculate the average exposure indicator for PM_{2.5} (“AEI”) for the United Kingdom for 2010, 2015 and 2020.
- (2) The AEI must be calculated as follows—
 - (a) an average annual measurement must be derived from measurements at all the sampling points in urban background locations which have been installed in accordance with Section B of Annex V to Directive 2008/50/EC;
 - (b) the average annual measurement in paragraph (a) must be averaged over three calendar years.
- (3) The AEI for 2010 must be based on measurements for the years 2009, 2010 and 2011.
- (4) The AEI for 2015 must be based on measurements for the years 2013, 2014 and 2015.
- (5) The AEI for 2020 must be based on measurements for the years 2018, 2019 and 2020.
- (6) The Secretary of State must ensure that the distribution and number of sampling points used for calculating the AEI adequately reflects the exposure of the general population.

Commencement

Pt 4 reg. 23(1)-(6): June 11, 2010

Extent

Pt 4 reg. 23(1)-(6): United Kingdom

✓ Law In Force

24. National exposure reduction target

Based on the AEI for 2010, the Secretary of State must establish the national exposure reduction target for the United Kingdom in accordance with the table in Schedule 7.

Commencement

Pt 4 reg. 24: June 11, 2010

Extent

Pt 4 reg. 24: United Kingdom

✓ Law In Force

25.— Duty of the Secretary of State to limit exposure to PM2.5

- (1) The Secretary of State must ensure that all necessary measures not entailing disproportionate costs are taken in relation to England with a view to attaining the national exposure reduction target by 2020.

- (2) The Secretary of State must base assessment of compliance with paragraph (1) on a comparison of the AEI for 2020 with the AEI for 2010.
- (3) The Secretary of State must ensure that all appropriate measures are taken in relation to England with a view to ensuring that the AEI for 2015 does not exceed $20 \mu\text{g}/\text{m}^3$.
- (4) Where it appears necessary and after consultation with the relevant administrations as appropriate, the Secretary of State must take measures in relation to the United Kingdom to—
- (a) attain the national exposure reduction target;
 - (b) ensure that the AEI for 2015 does not exceed $20 \mu\text{g}/\text{m}^3$.

Commencement

Pt 4 reg. 25(1)-(4)(b): June 11, 2010

Extent

Pt 4 reg. 25(1)-(3): England

Pt 4 reg. 25(4)-(4)(b): United Kingdom

PART 5**Plans**

 Law In Force

26.— Air quality plans

(1) Where the levels of sulphur dioxide, nitrogen dioxide, benzene, carbon monoxide, lead and PM_{10} in ambient air exceed any of the limit values in Schedule 2 or the level of $\text{PM}_{2.5}$ exceeds the target value in Schedule 3, the Secretary of State must draw up and implement an air quality plan so as to achieve that limit value or target value.

[(1A) Where [...] ² the Secretary of State has designated zones within which limit values for PM_{10} are exceeded due to the re-suspension of particulates following winter sanding or salting of roads, the Secretary of State's duty under paragraph (1) applies to those zones only in so far as the excess is attributable to other sources of PM_{10} .] ¹

(2) The air quality plan must include measures intended to ensure compliance with any relevant limit value within the shortest possible time.

(3) Between the date when these Regulations come into force and 31st December 2014, the Secretary of State must draw up and implement an air quality plan if levels of $\text{PM}_{2.5}$ in ambient air exceed a level calculated by applying the margin of tolerance set out in Schedule 2 to the limit value.

(4) Air quality plans must include the information listed in Schedule 8.

(5) Wherever possible, air quality plans must be consistent with [relevant environmental plans] ³.

[(5A) The air quality plan must include an assessment of the need to apply lower emission limit values for individual medium combustion plants than those set out in Directive 2015/2193/EU of the European Parliament and of the Council of 25 November 2015 on the limitation of emissions of certain pollutants into the air from medium combustion plants ("the Medium Combustion Plant Directive") provided that, in the opinion of the Secretary of State, applying such emission limit values would effectively contribute to a noticeable improvement of air quality.

(5B) In considering whether to impose lower emission limit values, the Secretary of State must take into account the results of the information exchange referred to in Article 6(10) of the Medium Combustion Plant Directive.]⁴

(6) Where an air quality plan is required in relation to more than one pollutant, the Secretary of State must, where appropriate, draw up and implement an integrated plan in relation to all pollutants concerned.

(7) Where the level of ozone in a zone exceeds the target value in Schedule 3, the Secretary of State must draw up and implement an air quality plan unless the measures necessary to achieve the target value would entail disproportionate cost.

[(8) In this regulation—

"emission limit values" has the meaning given in paragraph 5 of Schedule 25A to the Environmental Permitting (England and Wales) Regulations 2016, and
 "medium combustion plants" has the meaning given in paragraph 2(1) of Schedule 25A to those Regulations.

] ⁵

[(9) In paragraph (5) "relevant environmental plans" means—

- (a) the Transitional National Plan, which has the meaning given in regulation 2(1) of the Large Combustion Plants (Transitional National Plan) Regulations 2015⁷;
- (b) a national air pollution control programme drawn up in accordance with regulation 9 of the National Emission Ceilings Regulations 2018;
- (c) an action plan drawn up in accordance with Part 4 of the Environmental Noise (England) Regulations 2006⁸.

] ⁶

Notes

¹ Added by Air Quality (Amendment of Domestic Regulations) (EU Exit) Regulations 2019/74 Pt 2 reg.3(3) (February 11, 2019)

² Words revoked by Air Quality (Amendment of Domestic Regulations) (EU Exit) Regulations 2019/74 Pt 3 reg.4(5)(a) (December 31, 2020: shall come into force on IP completion day not exit day as specified in 2020 c.1 s.39(1) and Sch.5 para.1)

³ Words substituted by Air Quality (Amendment of Domestic Regulations) (EU Exit) Regulations 2019/74 Pt 3 reg.4(5)(b) (December 31, 2020: shall come into force on IP completion day not exit day as specified in 2020 c.1 s.39(1) and Sch.5 para.1)

⁴ Added by Environmental Permitting (England and Wales) (Amendment) Regulations 2018/110 Pt 3 reg.18(2)(a) (January 30, 2018)

⁵ Added by Environmental Permitting (England and Wales) (Amendment) Regulations 2018/110 Pt 3 reg.18(2)(b) (January 30, 2018)

⁶ DRAFTING ERROR: SI 2010/1001 reg.26(8) purportedly inserted after reg.26(7); however, it should read as reg.26(9) to be inserted after reg.26(8), therefore SI 2010/1001 reg.26(9) inserted instead by Air Quality (Amendment of Domestic Regulations) (EU Exit) Regulations 2019/74 Pt 3 reg.4(5)(c) (December 31, 2020: shall come into force on IP completion day not exit day as specified in 2020 c.1 s.39(1) and Sch.5 para.1)

⁷ S.I. 2015/1973, to which there are amendments not relevant to these Regulations.

⁸ S.I. 2006/2238, Relevant amending instrument S.I. 2009/1610.

Commencement

Pt 5 reg. 26(1)-(7): June 11, 2010

Extent

Pt 5 reg. 26(1)-(9)(c): England

 Law In Force

27.— Short-term action plans

(1) Where, in any zone, there is a risk that levels of sulphur dioxide or nitrogen dioxide will exceed the alert thresholds set out in Schedule 5, the Secretary of State must draw up and implement a short-term action plan.

(2) A short-term action plan must set out the measures intended to reduce the risk of alert thresholds being exceeded, or in the event of the levels being exceeded, to reduce the duration of such an incident.

(3) Where, in any zone, levels of ozone exceed the alert threshold set out in Schedule 5 or there is a risk that they will exceed that threshold, the Secretary of State must draw up and implement a short-term action plan taking into account Decision 2004/279/EC, if of the opinion that it is reasonably likely that the risk of alert level being exceeded, or the severity or duration of such an incident can be reduced taking into account geographical, meteorological and economic conditions.

(4) For the purposes of paragraph (3), the threshold must be exceeded or be predicted to exceed the alert threshold for at least three consecutive hours.

(5) Short-term action plans may also be drawn up where there is a risk that any of the limit values or target values set out in Schedules 2 or 3 will be exceeded.

Commencement

Pt 5 reg. 27(1)-(5): June 11, 2010

Extent

Pt 5 reg. 27(1)-(5): England

 Law In Force

28.— Public participation in drawing up air quality and short-term action plans

(1) The Secretary of State must consult the public where the Secretary of State proposes to prepare, modify or review an air quality plan or a short-term action plan.

(2) Where paragraph (1) applies, the Secretary of State must—

- (a) inform the public as to the proposal, any relevant background information and the right of the public to participate in the drawing up of the plan;
- (b) specify the means by which the public can participate in the consultation, including an address for responses, and a reasonable timescale for the consultation;
- (c) take account of the results of the consultation in drawing up the plan.

(3) When the plan is published, the Secretary of State must also provide information to the public as to the reasons for the contents of the plan together with information about the public participation process that has been carried out.

Commencement

Pt 5 reg. 28(1)-(3): June 11, 2010

Extent

Pt 5 reg. 28(1)-(3): England

PART 6

Public information

 Law In Force

29.— Public information

(1) The Secretary of State must make the following available to the public and appropriate interested organisations—

- (a) up-to-date information given on at least a daily basis, and if possible on an hourly basis on concentrations of sulphur dioxide, nitrogen dioxide, PM₁₀ and if possible, PM_{2.5}, ozone and carbon monoxide;
- (b) up-to-date information on concentrations of benzene and lead, presented as an average over the last twelve months, and updated every three months or if possible every month;
- (c) up-to-date information as to any amendment to the attainment dates for limit values for nitrogen dioxide or PM₁₀;
- (d) up-to-date information on concentrations and deposition rates of arsenic, cadmium, nickel, mercury, benzo(a)pyrene and other polycyclic aromatic hydrocarbons;
- (e) information about cases where target values for arsenic, cadmium, nickel and benzo(a)pyrene are exceeded, together with reasons for such cases, the area concerned, and appropriate information regarding effects on health and the environment;
- (f) information on measures taken to achieve target values for arsenic, cadmium, nickel and benzo(a)pyrene;
- (g) information about actual or predicted instances where pollutants exceed alert or information thresholds;
- (h) air quality plans;
- (i) short-term action plans.

- (2) The information in paragraph (1)(g) must be made available in accordance with Schedule 9.
- (3) Information must be distributed free of charge in a clear and comprehensible manner [, including the applicable methodology in relation to that information where appropriate,]¹ via any easily accessible media including the internet or other appropriate means of telecommunication taking into account the requirements of Council Directive 2007/2/EC on establishing an infrastructure for spatial information in the European Community [in so far as it has been transposed into the law that applies in England]² .
- (4) For the purposes of this Part, “interested organisations” includes environmental organisations, consumer organisations, organisations representing sensitive populations, relevant healthcare bodies and industrial federations.

Notes

- ¹ Words inserted by Air Quality (Amendment of Domestic Regulations) (EU Exit) Regulations 2019/74 Pt 3 reg.4(6)(a) (December 31, 2020: shall come into force on IP completion day not exit day as specified in 2020 c.1 s.39(1) and Sch.5 para.1)
- ² Words inserted by Air Quality (Amendment of Domestic Regulations) (EU Exit) Regulations 2019/74 Pt 3 reg.4(6)(b) (December 31, 2020: shall come into force on IP completion day not exit day as specified in 2020 c.1 s.39(1) and Sch.5 para.1)

Commencement

Pt 6 reg. 29(1)-(4): June 11, 2010

Extent

Pt 6 reg. 29(1)-(4): England

 Law In Force

30.— Annual reports

- (1) The Secretary of State must publish annual reports for all the pollutants.
- (2) Annual reports must contain the following information—
- (a) details of all cases where levels of pollutants have exceeded limit values, target values, long term objectives, information and alert thresholds set out in Schedules 2 to 5 for the relevant averaging periods,
 - (b) a summary assessment of the effects of the cases referred to in paragraph (a).
- (3) Annual reports may contain further information where appropriate, including assessments on forest protection and information as to ozone precursor substances listed in section B of Annex X to Directive 2008/50/EC as the Secretary of State thinks appropriate.

Commencement

Pt 6 reg. 30(1)-(3): June 11, 2010

Extent

Pt 6 reg. 30(1)-(3): England

PART 7

General

✓ Law In Force

31.— Power to give directions

(1) For the purposes of implementing any obligations [under these Regulations or under Commission Decision 2011/850/EC as regards the reciprocal exchange of information and reporting on ambient air quality]¹, the Secretary of State has the same power to give directions under these Regulations to—

- (a) local authorities in Greater London; and
- (b) the Mayor of London,

as the Secretary of State has under section 85(5)(a) of the Environment Act 1995 in relation to local authorities outside Greater London.

(2) The provisions of subsections (6) and (7) of section 85 of the Environment Act 1995 apply to directions given under this regulation as they apply to directions given under section 85(5)(a) and in the case of paragraph (1)(b) of this regulation, as if the Mayor of London were a local authority.

Notes

¹ Words substituted by Air Quality (Amendment of Domestic Regulations) (EU Exit) Regulations 2019/74 Pt 3 reg.4(7) (December 31, 2020: shall come into force on IP completion day not exit day as specified in 2020 c.1 s.39(1) and Sch.5 para.1)

Commencement

Pt 7 reg. 31(1)-(2): June 11, 2010

Extent

Pt 7 reg. 31(1)-(2): England

✓ Law In Force

32.— Transboundary air pollution

(1) For the purpose of this Regulation a transboundary pollution issue arises when any of the following is exceeded within any part of [the United Kingdom or]¹ a member State due to significant transport of air pollutants or their precursor substances from [any other part of those territories]² —

- (a) a limit value or target value together with any relevant margin of tolerance;
- (b) an alert threshold;
- (c) a long-term objective.

(2) The relevant administration must notify the Secretary of State where any transboundary pollution issue affects their territory.

(3) Where the Secretary of State—

(a) considers that a transboundary pollution issue has arisen in England;

(b) is notified under paragraph (2); or

(c) is notified by [a]³ member state as to a transboundary pollution issue in their territory which arises from the United Kingdom,

the Secretary of State must consult the relevant [administration and may consult the relevant]⁴ member State as to any remedial action that might be appropriate.

(4) The Secretary of State must inform any relevant administration affected of any notification from [a]⁵ member State and consult the relevant administration about any action he proposes to take.

(5) Where information or alert thresholds are exceeded in locations close to the border of the United Kingdom—

(a) any relevant administration affected must inform the Secretary of State,

(b) the Secretary of State must provide prompt information in relation to England or as provided by the relevant administration under paragraph (a), as the case may be, to [any other relevant administration;]⁶

[(c) the Secretary of State may provide information provided under this paragraph to any member State as is considered appropriate.]⁷

Notes

¹ Words inserted by Air Quality (Amendment of Domestic Regulations) (EU Exit) Regulations 2019/74 Pt 3 reg.4(8)(a)(i) (December 31, 2020: shall come into force on IP completion day not exit day as specified in 2020 c.1 s.39(1) and Sch.5 para.1)

² Words substituted by Air Quality (Amendment of Domestic Regulations) (EU Exit) Regulations 2019/74 Pt 3 reg.4(8)(a)(ii) (December 31, 2020: shall come into force on IP completion day not exit day as specified in 2020 c.1 s.39(1) and Sch.5 para.1)

³ Word substituted by Air Quality (Amendment of Domestic Regulations) (EU Exit) Regulations 2019/74 Pt 3 reg.4(8)(b)(i) (December 31, 2020: shall come into force on IP completion day not exit day as specified in 2020 c.1 s.39(1) and Sch.5 para.1)

⁴ Words inserted by Air Quality (Amendment of Domestic Regulations) (EU Exit) Regulations 2019/74 Pt 3 reg.4(8)(b)(ii) (December 31, 2020: shall come into force on IP completion day not exit day as specified in 2020 c.1 s.39(1) and Sch.5 para.1)

⁵ Word substituted by Air Quality (Amendment of Domestic Regulations) (EU Exit) Regulations 2019/74 Pt 3 reg.4(8)(c) (December 31, 2020: shall come into force on IP completion day not exit day as specified in 2020 c.1 s.39(1) and Sch.5 para.1)

⁶ Words substituted by Air Quality (Amendment of Domestic Regulations) (EU Exit) Regulations 2019/74 Pt 3 reg.4(8)(d)(i) (December 31, 2020: shall come into force on IP completion day not exit day as specified in 2020 c.1 s.39(1) and Sch.5 para.1)

⁷ Added by Air Quality (Amendment of Domestic Regulations) (EU Exit) Regulations 2019/74 Pt 3 reg.4(8)(d)(ii) (December 31, 2020: shall come into force on IP completion day not exit day as specified in 2020 c.1 s.39(1) and Sch.5 para.1)

Commencement

Pt 7 reg. 32(1)-(5)(b): June 11, 2010

Extent

Pt 7 reg. 32(1)-(5)(c): United Kingdom

✔ Law In Force

33. Revocations

The Air Quality Standards Regulations 2007 are revoked.

Commencement

Pt 7 reg. 33: June 11, 2010

Extent

Pt 7 reg. 33: England

✔ Law In Force

Jim Fitzpatrick
Minister of State

Department for Environment, Food and Rural Affairs

25th March 2010

SCHEDULE 1

Sampling points for measurement of sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter, lead, benzene and carbon monoxide in ambient air

Regulation 7(1)

PART 1**General**

✔ Law In Force

1.

Ambient air quality must be assessed at sampling points located in accordance with this Schedule, except at locations set out in paragraph 2.

Commencement

Sch. 1(1) para. 1: June 11, 2010

Extent

Sch. 1(1) para. 1: England

✔ Law In Force

2.

Compliance with limit values directed at the protection of human health does not need to be assessed at the following locations—

- (a) any location situated within areas where members of the public do not have access and there is no fixed habitation;
- (b) on factory premises or at industrial locations to which all relevant provisions concerning health and safety at work apply;
- (c) on the carriageway of roads and on the central reservations of roads except where there is normally pedestrian access to the central reservation.

Commencement

Sch. 1(1) para. 2(a)-(c): June 11, 2010

Extent

Sch. 1(1) para. 2(a)-(c): England

✔ Law In Force

3.

Insofar as they are relevant, the principles set out in this Schedule also apply to indicative measurement and modelling.

Commencement

Sch. 1(1) para. 3: June 11, 2010

Extent

Sch. 1(1) para. 3: England

PART 2

Macroscale siting of sampling points

✓ Law In Force

1. Sampling points for the protection of human health

Sampling points directed at the protection of human health must be sited to provide data on—

- (a) the areas within zones where the highest concentrations occur to which the population is likely to be directly or indirectly exposed for a period which is significant in relation to the averaging period of any limit value; and
- (b) levels in other areas within the zones which are representative of the exposure of the general population.

Commencement

Sch. 1(2) para. 1(a)-(b): June 11, 2010

Extent

Sch. 1(2) para. 1(a)-(b): England

✓ Law In Force

2.

Sampling points must in general be sited to avoid measuring very small micro-environments in their immediate vicinity. Where feasible, the Secretary of State must locate sampling points so as to be representative of air quality in a street segment of no less than 100m in length at traffic-orientated sites or an area of at least 250m × 250m at industrial sites.

Commencement

Sch. 1(2) para. 2: June 11, 2010

Extent

Sch. 1(2) para. 2: England

✓ Law In Force

3.

Sampling points in urban background locations must be located so that their pollution level is influenced by the combined contribution from all sources upwind of the station. The pollution level should not be dominated by a single source unless such a situation is typical for a larger urban area. Those sampling points must, as a general rule, be representative for several square kilometres.

Commencement

Sch. 1(2) para. 3: June 11, 2010

Extent

Sch. 1(2) para. 3: England

✔ Law In Force

4.

Where the objective is to assess rural background levels, the sampling point must not be influenced by agglomerations or industrial sites in its vicinity, i.e. closer than five kilometres.

Commencement

Sch. 1(2) para. 4: June 11, 2010

Extent

Sch. 1(2) para. 4: England

✔ Law In Force

5.

Where contributions from industrial sources are to be assessed, at least one sampling point must be installed downwind of the source in the nearest residential area. Where the background concentration is not known, an additional sampling point must be situated within the main wind direction.

Commencement

Sch. 1(2) para. 5: June 11, 2010

Extent

Sch. 1(2) para. 5: England

✔ Law In Force

6.

Sampling points must also, where possible, be representative of similar locations not in their immediate vicinity.

Commencement

Sch. 1(2) para. 6: June 11, 2010

Extent

Sch. 1(2) para. 6: England

✔ Law In Force

7.

Account must be taken of the need to locate sampling points on islands, where that is necessary for the protection of human health.

Commencement

Sch. 1(2) para. 7: June 11, 2010

Extent

Sch. 1(2) para. 7: England

✔ Law In Force

8. Protection of ecosystems and vegetation

Sampling points targeted at the protection of ecosystems or vegetation must be sited more than 20 km away from agglomerations or more than 5 km away from other built-up areas, industrial installations or motorways or major roads with traffic counts of more than 50,000 vehicles per day. The Secretary of State must locate sampling points so as to be representative of air quality in a surrounding area of at least 1000 km². A sampling point may be sited at a lesser distance or to be representative of air quality in a less extended area, taking account of geographical conditions or opportunities to protect particularly vulnerable areas. Account must be taken of the need to assess air quality on islands.

Commencement

Sch. 1(2) para. 8: June 11, 2010

Extent

Sch. 1(2) para. 8: England

PART 3

Microscale siting of sampling points

✓ Law In Force

1.

Insofar as is practicable, sampling points must be situated in accordance with the following criteria—

- [(a) the flow around the inlet sampling probe must be unrestricted (free in an arc of at least 270° or, for sampling points at the building line, 180°) without any obstructions affecting the airflow in the vicinity of the inlet (that is to say some metres away from buildings, balconies, trees and other obstacles and at least 0.5 m from the nearest building in the case of sampling points representing air quality at the building line);
- (b) the inlet sampling point must be between 1.5 m (the breathing zone) and 4 m above the ground unless the station is representative of a large area and higher siting is appropriate. Any derogations must be fully documented;]¹
- (c) the inlet probe must not be positioned in the immediate vicinity of sources in order to avoid the direct intake of emissions unmixed with ambient air;
- (d) the sampler's exhaust outlet must be positioned so that recirculation of exhaust air to the sampler inlet is avoided;
- (e) in relation to the location of traffic-orientated samplers, sampling points must be at least 25 m from the edge of major junctions and no more than 10 m from the kerbside. [A “major junction” is a junction which interrupts the traffic flow and causes different emissions (due to vehicles stopping and starting) from the rest of the road.]²

Notes

¹ Substituted by Air Quality Standards (Amendment) Regulations 2016/1184 reg.3(a) (December 31, 2016)

² Words inserted by Air Quality Standards (Amendment) Regulations 2016/1184 reg.3(b) (December 31, 2016)

Commencement

Sch. 1(3) para. 1(a)-(e): June 11, 2010

Extent

Sch. 1(3) para. 1(a)-(e): England

✓ Law In Force

2.

The following factors may also be taken into account—

- (a) interfering sources;
- (b) security;
- (c) access;
- (d) availability of electrical power and telephone communications;
- (e) visibility of the site in relation to its surroundings;
- (f) safety of public and operators;
- (g) the desirability of co-locating sampling points for different pollutants;
- (h) planning requirements.

Commencement

Sch. 1(3) para. 2(a)-(h): June 11, 2010

Extent

Sch. 1(3) para. 2(a)-(h): England

 Law In Force

[3.

Any deviation from the criteria listed in this Part must be documented in accordance with Part 4.
]¹

Notes

¹ Added by Air Quality Standards (Amendment) Regulations 2016/1184 reg.3(c) (December 31, 2016)

Extent

Sch. 1(3) para. 3: England

[PART 4**Documentation and review of site selection**

]¹

Notes

¹ Added by Air Quality Standards (Amendment) Regulations 2016/1184 reg.4 (December 31, 2016)

 Law In Force

[1.

The Secretary of State must for all zones and agglomerations fully document the site-selection procedures and record information to support the network design and choice of location for all monitoring sites.

]¹

Notes

¹ Added by Air Quality Standards (Amendment) Regulations 2016/1184 reg.4 (December 31, 2016)

Extent

Sch. 1(4) para. 1: England

✓ Law In Force

[2.

The documentation must include compass-point photographs of the area surrounding monitoring sites and detailed maps.

]¹

Notes

¹ Added by Air Quality Standards (Amendment) Regulations 2016/1184 reg.4 (December 31, 2016)

Extent

Sch. 1(4) para. 2: England

✓ Law In Force

[3.

Where supplementary methods are used within a zone or agglomeration, the documentation must include details of these methods and information on how the criteria listed in Article 7(3) of Directive 2008/50/EC are met.

]¹

Notes

¹ Added by Air Quality Standards (Amendment) Regulations 2016/1184 reg.4 (December 31, 2016)

Extent

Sch. 1(4) para. 3: England

✓ Law In Force

[4.

The documentation must be updated as necessary and reviewed at least every 5 years, to ensure that selection criteria, network design and monitoring site locations remain valid and optimal over time.

]¹

Notes

¹ Added by Air Quality Standards (Amendment) Regulations 2016/1184 reg.4 (December 31, 2016)

Extent

Sch. 1(4) para. 4: England

SCHEDULE 2**Limit values****Regulation 17(1) and (2)**

✓ Law In Force

Sulphur dioxide

<i>Averaging period</i>	<i>Limit value</i>
One hour	350 µg/m ³ not to be exceeded more than 24 times a calendar year
One day	125 µg/m ³ not to be exceeded more than 3 times a calendar year

Nitrogen dioxide

<i>Averaging period</i>	<i>Limit value</i>
One hour	200 µg/m ³ not to be exceeded more than 18 times a calendar year
Calendar year	40 µg/m ³

Benzene

<i>Averaging period</i>	<i>Limit value</i>
Calendar year	5 µg/m ³

Lead

<i>Averaging period</i>	<i>Limit value</i>
Calendar year	0.5 µg/m ³

PM10

<i>Averaging period</i>	<i>Limit value</i>
One day	50 µg/m ³ , not to be exceeded more than 35 times a calendar year
Calendar year	40 µg/m ³

PM2.5

[

<i>Averaging Period</i>	<i>Limit Value</i>	<i>Date by which limit value is to be met</i>
Calendar year	20 µg/m ³	1st January 2020

]¹

Carbon monoxide

<i>Averaging period</i>	<i>Limit value</i>
Maximum eight hour daily mean ⁽¹⁾	10 mg/m ³

(1) The maximum daily eight hour mean concentration of carbon monoxide must be selected by examining eight hour running averages, calculated from hourly data and updated each hour. Each eight hour average so calculated will be assigned to the day on which it ends, that is, the first calculation period for any one day will be from 17:00 on the previous day to 01:00 on that day, the last calculation period for any one day will be the period from 16:00 to 24:00 on that day.

Notes

¹ Entry substituted by Environment (Miscellaneous Amendments) (EU Exit) Regulations 2020/1313 Pt 2 reg.2 (December 9, 2020)

Commencement

Sch. 2 para. 1: June 11, 2010

Extent

Sch. 2 para. 1: England

SCHEDULE 3

Target values

Regulation 18(1)

 Law In Force

Ozone

<i>Objective</i>	<i>Averaging period</i>	<i>Target value</i>
Protection of human health	Maximum daily eight hour mean ⁽¹⁾	120 µg/m ³ not to be exceeded on more than 25 days per calendar year averaged over three years ⁽²⁾
Protection of vegetation	May to July	AOT 40 (calculated from 1 h values) 18,000 µg/m ³ ·h averaged over five years ⁽²⁾

(1) The maximum daily eight hour mean concentration shall be selected by examining eight hour running averages, calculated from hourly data and updated each hour. Each eight hour average so calculated shall be assigned to the day on which it ends, that is, the first calculation period for any one day will be the period from 17:00 on the previous day to 01:00 on that day. The last calculation period for any one day will be the period from 16:00 to 24:00 on the day.

(2) If the three or five year averages cannot be determined on the basis of a full and consecutive set of annual data, the minimum annual data required for checking compliance with the target values will be valid data for one year in relation to the target value for the protection of human health and valid data for three years in relation to the target value for the protection of vegetation.

PM2.5

<i>Averaging period</i>	<i>Target value</i>
Calendar year	25 µg/m ³

Arsenic, cadmium, nickel and benzo(a)pyrene

<i>Pollutant</i>	<i>Target value for the total content in the PM₁₀ fraction averaged over a calendar year</i>	<i>Date by which target value should be met</i>
Arsenic	6 ng/m ³	31st December 2012
Cadmium	5 ng/m ³	31st December 2012
Nickel	20 ng/m ³	31st December 2012
Benzo(a)pyrene	1 ng/m ³	31st December 2012

Commencement

Sch. 3 para. 1: June 11, 2010

Extent

Sch. 3 para. 1: England

SCHEDULE 4**Long term objectives for ozone****Regulations 8(1) and 20(1)**

 Law In Force

<i>Objective</i>	<i>Averaging period</i>	<i>Long term objective</i>
Protection of human health	Maximum daily eight hour mean within a calendar year	120 µg/m ³
Protection of vegetation	May to July	AOT 40 (calculated from 1h values) 6000 µg/m ³ ·h

Commencement

Sch. 4 para. 1: June 11, 2010

Extent

Sch. 4 para. 1: England

SCHEDULE 5**Information and alert thresholds****Regulation 21**

✓ Law In Force

Alert thresholds for Sulphur dioxide and Nitrogen dioxide

<i>Pollutant</i>	<i>Alert threshold⁽¹⁾</i>
Sulphur dioxide	500 µg/m ³
Nitrogen dioxide	400 µg/m ³

(1) To be measured over three consecutive hours at locations representative of air quality over at least 100 km² or an entire zone, whichever is smaller.

Information and alert thresholds for ozone

<i>Purpose</i>	<i>Averaging period</i>	<i>threshold</i>
Information	1 hour	180 µg/m ³
Alert	1 hour	240 µg/m ³

Commencement

Sch. 5 para. 1: June 11, 2010

Extent

Sch. 5 para. 1: England

SCHEDULE 6**Critical levels for the protection of vegetation****Regulation 22**

✓ Law In Force

Oxides of Nitrogen

<i>Averaging period</i>	<i>Critical level</i>
Calendar year	30 µg/m ³ NO _x

Sulphur dioxide

<i>Averaging period</i>	<i>Critical level</i>
Calendar year and winter (1st October to 31st March)	20 µg/m ³

Commencement

Sch. 6 para. 1: June 11, 2010

Extent

Sch. 6 para. 1: England

SCHEDULE 7

National exposure reduction targets for PM2.5

Regulation 24

✓ Law In Force

National exposure reduction target

<i>Exposure reduction target relative to the AEI in 2010</i>		<i>Year by which the exposure reduction target should be met</i>
<i>Initial concentration in µg/m³</i>	<i>Reduction target in %</i>	2020
Less than or equal to 8.5	0	
More than 8.5 but less than 13	10	
13 to less than 18	15	
18 to less than 22	20	
22 or more	All appropriate measures to achieve 18 µg/m ³	

Where the AEI in the reference year is 8.5 µg/m³ or less, the exposure reduction target must be zero. The reduction target must also be zero in cases where the AEI reaches the level of 8.5 µg/m³ at any point of time during the period from 2010 to 2020 and is maintained at or below that level.

Commencement

Sch. 7 para. 1: June 11, 2010

Extent

Sch. 7 para. 1: England

SCHEDULE 8**Information to be included in air quality plans****Regulation 26(3)**

✓ Law In Force

1.

Location of excess pollution—

- (a) region;
- (b) city (map);
- (c) measuring station (map, geographical co-ordinates)

Commencement

Sch. 8 para. 1(a)-(c): June 11, 2010

Extent

Sch. 8 para. 1(a)-(c): England

✓ Law In Force

2.

General information—

- (a) type of zone (city, industrial or rural area);
- (b) estimate of the polluted area (km²) and of the population exposed to the pollution;
- (c) useful climatic data;
- (d) relevant data on topography; and
- (e) sufficient information on the type of targets requiring protection in the zone.

Commencement

Sch. 8 para. 2(a)-(e): June 11, 2010

Extent

Sch. 8 para. 2(a)-(e): England

✓ Law In Force

3.

Responsible authorities (names and addresses of persons responsible for the development and implementation of air quality plans).

Commencement

Sch. 8 para. 3: June 11, 2010

Extent

Sch. 8 para. 3: England

✔ Law In Force

4.

Nature and assessment of pollution—

- (a) concentrations observed over previous years (before the implementation of the improvement measures);
 - (b) concentrations measured since the beginning of the project; and
 - (c) techniques used for the assessment.
-

Commencement

Sch. 8 para. 4(a)-(c): June 11, 2010

Extent

Sch. 8 para. 4(a)-(c): England

✔ Law In Force

5.

Origin of pollution—

- (a) list of the main emission sources responsible for pollution (map);
 - (b) total quantity of emissions from these sources (tonnes per year); and
 - (c) information on pollution imported from other regions.
-

Commencement

Sch. 8 para. 5(a)-(c): June 11, 2010

Extent

Sch. 8 para. 5(a)-(c): England

✔ Law In Force

6.

Analysis of the situation—

- (a) details of those factors responsible for exceeding the limit value or target value (transport, including cross-border transport, formation of secondary pollutants in the atmosphere); and

(b) details of possible measures for improvement of air quality.

Commencement

Sch. 8 para. 6(a)-(b): June 11, 2010

Extent

Sch. 8 para. 6(a)-(b): England

✔ Law In Force

7.

Details of those measures or projects for improvements which existed prior to 11th June 2008—

- (a) local, regional, national and international measures; and
 - (b) observed effects of those measures.
-

Commencement

Sch. 8 para. 7(a)-(b): June 11, 2010

Extent

Sch. 8 para. 7(a)-(b): England

✔ Law In Force

8.

Details of those measures or projects adopted with a view to reducing pollution following 11th June 2008—

- (a) listing and description of all the measures set out in the project;
 - (b) timetable for implementation;
 - (c) estimate of the improvement of air quality planned and of the expected time required to attain these objectives.
-

Commencement

Sch. 8 para. 8(a)-(c): June 11, 2010

Extent

Sch. 8 para. 8(a)-(c): England

✔ Law In Force

9.

Details of the measures or projects planned or being researched for the long term.

Commencement

Sch. 8 para. 9: June 11, 2010

Extent

Sch. 8 para. 9: England

 Law In Force

10.

List of the publications, documents and work etc. used to supplement information required by this Schedule.

Commencement

Sch. 8 para. 10: June 11, 2010

Extent

Sch. 8 para. 10: England

SCHEDULE 9

Public information in relation to alert and information thresholds for nitrogen dioxide, sulphur dioxide and ozone

Regulation 29(2)

 Law In Force

1.

In cases where either the information threshold or the alert threshold for nitrogen dioxide, sulphur dioxide or ozone is exceeded the details set out in paragraphs 3 to 6, as a minimum, must be made available to the public.

Commencement

Sch. 9 para. 1: June 11, 2010

Extent

Sch. 9 para. 1: England

✓ Law In Force

2.

In cases where either the information or alert thresholds are predicted to be exceeded, the information set out in paragraphs 3 to 6 must be provided where practicable.

Commencement

Sch. 9 para. 2: June 11, 2010

Extent

Sch. 9 para. 2: England

✓ Law In Force

3.

Information on any incident where information or alert thresholds are exceeded—

- (a) the location or area where thresholds are exceeded;
- (b) the type of threshold exceeded (information or alert threshold);
- (c) the time at which the threshold was exceeded and the duration of the incident; and
- (d) in the case of ozone, the highest 1-hour and 8-hour mean concentration.

Commencement

Sch. 9 para. 3(a)-(d): June 11, 2010

Extent

Sch. 9 para. 3(a)-(d): England

✓ Law In Force

4.

Forecast for the following afternoon, day and days—

- (a) the geographical area in which it is expected that an information or alert threshold will be exceeded;
- (b) the expected change in pollution, that is, improvement, stabilisation or deterioration, and the reasons for those changes.

Commencement

Sch. 9 para. 4(a)-(b): June 11, 2010

Extent

Sch. 9 para. 4(a)-(b): England

✓ Law In Force

5.

Information on the type of population concerned, possible health effects and recommended conduct in particular—

- (a) information on the population groups at risk;
- (b) description of likely symptoms;
- (c) recommended precautions to be taken by the population concerned; and
- (d) where to find further information.

Commencement

Sch. 9 para. 5(a)-(d): June 11, 2010

Extent

Sch. 9 para. 5(a)-(d): England

✓ Law In Force

6.

Information provided under this Schedule must also include—

- (a) information on preventive action to reduce pollution or exposure to it;
- (b) an indication of main source sectors; and
- (c) recommendations for action to reduce emissions.

Commencement

Sch. 9 para. 6(a)-(c): June 11, 2010

Extent

Sch. 9 para. 6(a)-(c): England

EXPLANATORY NOTE

(This note is not part of the Regulations)

These Regulations implement the following Directives—

Directive 2008/50/EC on ambient air quality and cleaner air for Europe (this Directive replaces Council Directive 96/62/EC on ambient air quality assessment and management, Council Directive 1999/30/EC relating to limits for sulphur dioxide, nitrogen dioxide, oxides of nitrogen, particulate matter and lead in ambient air, Council Directive 2000/69/EC relating

to limit values for benzene and carbon monoxide in ambient air, Council Directive 2002/3/EC relating to ozone in ambient air.)

Directive 2004/107/EC relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air.

These Regulations replace the Air Quality Standards Regulations 2007 (S.I 2007/64) which are revoked.

These Regulations apply in England, except regulations 3 (a) which deals with designation of a competent authority for the purposes of cooperation with other member States, regulations 23, 24 and 25(3), which deal with reduction of exposure to PM_{2.5} in the UK, and regulation 32 which deals with transboundary pollution.

Part 1 of the Regulations deals with definitions, designates the Secretary of State as the competent authority for the purposes of Directives 2008/50/EC and 2004/107/EC and requires the Secretary of State to divide England into zones.

Part 2 of the Regulations deals with assessment of ambient air quality. Chapter 1 relates to assessment of sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter, lead benzene and carbon monoxide. Chapter 2 relates to assessment of ozone, and Chapter 3 relates to assessment of arsenic, cadmium, nickel, mercury, benzo(a)pyrene and other polycyclic aromatic hydrocarbons.

Part 3 of the Regulations sets out the duties of the Secretary of State in relation to the limit values, target values, long-term objectives, information and alert thresholds and critical levels for the protection of vegetation which are set out in Schedules 2 to 6.

Part 4 of the Regulations deals with requirements in relation to PM_{2.5} in addition to the limit value and target value for this pollutant.. The additional requirements in this part relate to the calculation of an average exposure indicator (AEI) for the UK, the calculation of a national exposure reduction target based on the AEI, attainment of the national exposure reduction target in the UK and compliance with a limit on the AEI for 2015.

Part 5 of the Regulations imposes requirements on the Secretary of State to draw up air quality plans in relation to limit values and target values and short-term action plans in relation to alert thresholds. Short-term action plans may also be used in relation to limit values and target values.

Part 6 of the Regulations relates to public information.

Part 7 of the Regulations gives the Secretary of State power to direct local authorities and the Mayor of London. This part also contains provisions relating to transboundary air pollution.

Schedule 1 of the Regulations sets out the requirements for the siting of sampling points for the assessment of sulphur dioxide, nitrogen dioxide, oxides of nitrogen, particulate matter, lead, benzene and carbon dioxide.

Schedules 2 to 6 set out limit values, target values, long term objectives for ozone, information and alert thresholds and critical levels for the protection of vegetation.

Schedule 7 sets out national exposure reduction targets for PM_{2.5}

Schedule 8 sets out the information to be included in air quality plans.

Schedule 9 sets out the public information to be provided in relation to concentrations of pollutants.

A full impact assessment of the effect that this instrument will have on the costs of business and the voluntary sector is available from the Atmosphere and Local Environment Division, Department

for Environment, Food and Rural Affairs, Ergon House, Horseferry Road, London, SW1P 3JR and is annexed to the Explanatory Memorandum which is available alongside the instrument on the OPSI website (www.opsi.gov.uk).

Transposition notes have also been prepared in relation to the directives transposed by these Regulations, and are available from the same address.

Modifications

Provision	Modification	Notes	Further Information
Whole Document	European Union (Withdrawal) Act 2018 c. 16, s. 2	Despite the repeal of 1972 c.68 by 2018 c.16 s.1, EU-derived domestic legislation, as it has effect in domestic law immediately before exit day, continues to have effect in domestic law during the implementation period under 2018 c.16 s.1B and on and after IP completion day under 2018 c.16 s.2	

Table of Contents

Air Quality Standards Regulations 2010/1001.....	<u>1</u>
Preamble	<u>1</u>
Part 1 General.....	<u>1</u>
✓ reg. 1 Citation, commencement, application and extent.....	<u>1</u>
✓ reg. 2 Definitions.....	<u>2</u>
✓ reg. 2A Interpretation.....	<u>3</u>
✓ reg. 3 Designation of competent authority.....	<u>5</u>
✓ reg. 4 Zones and agglomerations.....	<u>5</u>
Part 2 Assessment of ambient air quality.....	<u>6</u>
Sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter, lead, benzene and carbon monoxide.....	<u>6</u>
✓ reg. 5 Assessment thresholds.....	<u>6</u>
✓ reg. 6 Assessment criteria.....	<u>7</u>
✓ reg. 7 Location and number of sampling points.....	<u>8</u>
Ozone.....	<u>9</u>
✓ reg. 8 Assessment criteria.....	<u>9</u>
✓ reg. 9 Location and number of sampling points.....	<u>9</u>
Arsenic, cadmium, nickel, mercury, benzo(a)pyrene and other polycyclic aromatic hydrocarbons.....	<u>10</u>
✓ reg. 10 Assessment thresholds.....	<u>10</u>
✓ reg. 11 Assessment criteria.....	<u>11</u>
✓ reg. 12 Data quality objectives.....	<u>11</u>
✓ reg. 13 Location and number of sampling points.....	<u>12</u>
✓ reg. 14 Monitoring of polycyclic aromatic hydrocarbons.....	<u>12</u>
✓ reg. 15 Background monitoring.....	<u>12</u>
✓ reg. 16 Reference methods for sampling and analysis.....	<u>13</u>
Part 3 Duties of Secretary of State in relation to limit values etc.....	<u>13</u>
✓ reg. 17 Duty in relation to limit values.....	<u>14</u>
✓ reg. 18 Duty in relation to target values.....	<u>14</u>
✓ reg. 19 Date of application for limit values and target values.....	<u>15</u>
✓ reg. 20 Duty in relation to long-term objectives for ozone.....	<u>15</u>
✓ reg. 21 Duty in relation to information and alert thresholds.....	<u>16</u>
✓ reg. 22 Duty in relation to critical levels for the protection of vegetation.....	<u>16</u>
Part 4 National Exposure Reduction for PM2.5.....	<u>16</u>
✓ reg. 23 Average exposure indicator.....	<u>16</u>
✓ reg. 24 National exposure reduction target.....	<u>17</u>
✓ reg. 25 Duty of the Secretary of State to limit exposure to PM2.5.....	<u>17</u>
Part 5 Plans.....	<u>18</u>

✓ reg. 26 Air quality plans.....	<u>18</u>
✓ reg. 27 Short-term action plans.....	<u>20</u>
✓ reg. 28 Public participation in drawing up air quality and short-term action plans.....	<u>20</u>
Part 6 Public information.....	<u>21</u>
✓ reg. 29 Public information.....	<u>21</u>
✓ reg. 30 Annual reports.....	<u>22</u>
Part 7 General.....	<u>23</u>
✓ reg. 31 Power to give directions.....	<u>23</u>
✓ reg. 32 Transboundary air pollution.....	<u>23</u>
✓ reg. 33 Revocations.....	<u>25</u>
✓ Signatures	<u>25</u>
Schedule 1 Sampling points for measurement of sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter, lead, benzene and carbon monoxide in ambient air.....	<u>25</u>
Part 1	<u>25</u>
General.....	<u>25</u>
✓ para. 1	<u>25</u>
✓ para. 2	<u>26</u>
✓ para. 3	<u>26</u>
Part 2	<u>26</u>
Macroscale siting of sampling points.....	<u>26</u>
✓ para. 1 Sampling points for the protection of human health.....	<u>27</u>
✓ para. 2	<u>27</u>
✓ para. 3	<u>27</u>
✓ para. 4	<u>28</u>
✓ para. 5	<u>28</u>
✓ para. 6	<u>28</u>
✓ para. 7	<u>29</u>
✓ para. 8 Protection of ecosystems and vegetation.....	<u>29</u>
Part 3	<u>29</u>
Microscale siting of sampling points.....	<u>29</u>
✓ para. 1	<u>30</u>
✓ para. 2	<u>30</u>
✓ para. 3	<u>31</u>
Part 4 Documentation and review of site selection.....	<u>31</u>
✓ para. 1	<u>31</u>
✓ para. 2	<u>32</u>
✓ para. 3	<u>32</u>
✓ para. 4	<u>32</u>

Schedule 2 Limit values.....	<u>32</u>
✓ para. 1	<u>33</u>
Schedule 3 Target values.....	<u>34</u>
✓ para. 1	<u>34</u>
Schedule 4 Long term objectives for ozone.....	<u>35</u>
✓ para. 1	<u>35</u>
Schedule 5 Information and alert thresholds.....	<u>35</u>
✓ para. 1	<u>36</u>
Schedule 6 Critical levels for the protection of vegetation.....	<u>36</u>
✓ para. 1	<u>36</u>
Schedule 7 National exposure reduction targets for PM2.5.....	<u>37</u>
✓ para. 1	<u>37</u>
Schedule 8 Information to be included in air quality plans.....	<u>37</u>
✓ para. 1	<u>38</u>
✓ para. 2	<u>38</u>
✓ para. 3	<u>38</u>
✓ para. 4	<u>39</u>
✓ para. 5	<u>39</u>
✓ para. 6	<u>39</u>
✓ para. 7	<u>40</u>
✓ para. 8	<u>40</u>
✓ para. 9	<u>40</u>
✓ para. 10	<u>41</u>
Schedule 9 Public information in relation to alert and information thresholds for nitrogen dioxide, sulphur dioxide and ozone.....	<u>41</u>
✓ para. 1	<u>41</u>
✓ para. 2	<u>41</u>
✓ para. 3	<u>42</u>
✓ para. 4	<u>42</u>
✓ para. 5	<u>42</u>
✓ para. 6	<u>43</u>
Explanatory Note	<u>43</u>
para. 1	<u>43</u>
Modifications.....	<u>46</u>
Table of Contents.....	<u>47</u>