
SCOTTISH STATUTORY INSTRUMENTS

2003 No. 428

The Air Quality Limit Values (Scotland) Regulations 2003

Citation, commencement and extent

1.—(1) These Regulations may be cited as the Air Quality Limit Values (Scotland) Regulations 2003 and shall come into force on 2nd October 2003.

(2) These Regulations extend to Scotland only.

Interpretation

2. In these Regulations—

“agglomeration” means a zone with a population concentration in excess of 250,000 inhabitants, or, where the population concentration is 250,000 inhabitants or less, a population density per km² for which the Scottish Ministers consider that the need for ambient air to be assessed or managed is justified;

“alert threshold” has the meaning given in regulation 10(2) and (3);

“ambient air” means outdoor air in the troposphere, excluding work places;

“assessment” means any method used to measure, calculate, predict or estimate the level of a relevant pollutant, ozone or ozone precursor substances in the ambient air;

“fixed measurements” means measurements taken at fixed sites either continuously or by random sampling, the number of measurements being sufficiently large to enable the levels observed to be determined;

“information threshold” has the meaning given in regulation 10(3);

“level” means the concentration of a relevant pollutant, ozone or ozone precursor substances in ambient air;

“limit value” has the meaning given in regulation 4(1);

“long-term objective” has the meaning given in regulation 5(2);

“lower assessment threshold” has the meaning given in regulation 7(8);

“margin of tolerance” means the level of the limit value by which this value may be exceeded subject to the conditions laid down in Schedule 1;

“natural events” means volcanic eruptions, seismic activities, geothermal activities, wild-land fires, high-wind events or the atmospheric resuspension or transport of natural particles from dry regions;

“oxides of nitrogen” means the sum of nitric oxide and nitrogen dioxide added as parts per billion and expressed as nitrogen dioxide in microgrammes per cubic metre;

“ozone precursor substances” means substances which contribute to the formation of ground level ozone, including those listed in Schedule 6;

“PM_{2.5}” means particulate matter which passes through a size-selective inlet with a 50% efficiency cut-off at 2.5 µm aerodynamic diameter;

“PM₁₀” means particulate matter which passes through a size-selective inlet with a 50% efficiency cut-off at 10 µm aerodynamic diameter;

“public” has the meaning given in regulation 14(15);

“relevant pollutants” means sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter, lead, benzene and carbon MONOXIDE;

“rural background station” shall be interpreted in accordance with Part II of Schedule 4;

“target value” has the meaning given in regulation 5(1);

“transboundary pollution” means ozone concentrations exceeding target values or long term objectives due largely to emissions of ozone precursor substances in other Member States;

“upper assessment threshold” has the meaning given in regulation 7(8);

“volatile organic compounds” or “VOC” means all organic compounds from anthropogenic and biogenic sources, other than methane, that are capable of producing photochemical oxidants by reaction with nitrogen oxides in the presence of sunlight; and

“zone” means a part of the territory of Scotland shown on a map published by the Scottish Executive on 19th January 2001 a copy of which is deposited at the offices of the Scottish Executive, Victoria Quay, Edinburgh, EH6 6QQ and displayed on the Scottish Executive website at www.scotland.gov.uk.

Designation of competent authority

3. The Scottish Ministers are designated as the competent authority for the purposes of article 3 (implementation and responsibilities) of Council Directive [96/62/EC](#) on ambient air quality assessment and management⁽¹⁾.

Duty to ensure that ambient air quality is improved

4.—(1) The Scottish Ministers shall take the measures necessary to ensure that in each zone concentrations of relevant pollutants in ambient air, as assessed in accordance with regulations 6 to 9, do not exceed the limit values set out in Schedule 1 from the dates specified in that Schedule.

(2) The measures taken shall—

- (a) take into account an integrated approach to the protection of air, water and soil; and
- (b) have no significant negative effects on the environment in the other Member States.

Target values and long-term objectives for ozone

5.—(1) The target values for ozone concentrations in ambient air are set out in Part II of Schedule 2.

(2) The long-term objectives for ozone concentrations in ambient air are set out in Part III of Schedule 2.

Assessment of ambient air quality

6. The Scottish Ministers shall ensure that ambient air quality is assessed in each zone in relation to each of the relevant pollutants, ozone and ozone precursor substances in accordance with regulations 7 to 9.

(1) O.J. No. L 296, 21.11.96, p.55.

Classification of zones

7.—(1) The Scottish Ministers shall, in accordance with paragraphs (3), (4) and (7), classify each zone in relation to each of the relevant pollutants according to whether ambient air quality in that zone for that pollutant is required to be assessed by—

- (a) measurements;
- (b) a combination of measurements and modelling techniques; or
- (c) by the sole use of modelling or objective estimation techniques.

(2) The Scottish Ministers shall, in accordance with paragraphs (5) and (6), classify each zone in relation to ozone according to whether ambient air quality for ozone is required to be assessed by—

- (a) fixed continuous measurement; or
- (b) a combination of measurement campaigns of short duration and results from emission inventories and modelling.

(3) Measurements must be used to assess ambient air quality in relation to a relevant pollutant in a zone if—

- (a) the zone is an agglomeration;
- (b) the levels of that pollutant in the zone are between the relevant limit values and upper assessment thresholds; or
- (c) the levels of that pollutant in the zone exceed the limit values for that pollutant.

(4) A combination of measurements and modelling techniques may be used to assess ambient air quality in any zone in relation to a relevant pollutant where the levels of that pollutant over a representative period are below the relevant upper assessment thresholds.

(5) Where during any of the previous five years of measurement, concentrations of ozone in any zone have exceeded a long term objective, fixed continuous measurement must be used to assess ambient air quality in relation to ozone.

(6) Where fewer than five years' data are available to determine exceedances, a combination of measurement campaigns of short duration and results from emissions inventories and modelling may be used to assess ambient air quality in relation to ozone in a zone.

(7) Where the levels of a relevant pollutant in any zone over a representative period are below the relevant lower assessment threshold, the sole use of modelling or objective estimation techniques for assessing levels of that pollutant is permissible unless—

- (a) the zone is an agglomeration; and
- (b) the pollutant being assessed is sulphur dioxide or nitrogen dioxide.

(8) The upper and lower assessment thresholds for the relevant pollutants are set out in Part I of Schedule 3.

(9) Where a zone is classified in relation to a pollutant under paragraph (1)(a), modelling techniques may be used for supplementing the measurements taken in order to provide an adequate level of information on ambient air quality in relation to a relevant pollutant in that zone.

(10) The classification of zones required by paragraph (1) shall include any zones which may be classified by the Scottish Ministers as exceeding limit values for—

- (a) sulphur dioxide owing to concentrations of sulphur dioxide in ambient air due to natural sources;
- (b) PM₁₀ owing to concentrations of PM₁₀ in ambient air due to—
 - (i) natural events which result in concentrations significantly in excess of normal background levels from natural sources; or
 - (ii) the resuspension of particulates following the winter sanding of roads.

Review of classifications

8.—(1) The Scottish Ministers shall review the classification of each zone under regulation 7 at least once in every five years in accordance with Part II of Schedule 3.

(2) The Scottish Ministers shall also review the classification of any zone under regulation 7 in the event of significant changes in activities affecting ambient concentrations in that zone of any of the relevant pollutants.

Method of assessment of ambient air quality

9.—(1) The Scottish Ministers shall ensure that ambient air quality is assessed in each zone by following the appropriate method for each relevant pollutant and for ozone in accordance with its current classification.

(2) Where a zone is classified under regulation 7(1)(a) or (b) in relation to a relevant pollutant—

- (a) measurements of that pollutant must be taken at fixed sites either continuously or by random sampling; and
- (b) the number of measurements must be sufficiently large to enable the levels of that pollutant to be properly determined.

(3) Schedule 4 shall have effect for the purposes of determining the location of sampling points for the relevant pollutants.

(4) For each zone classified under regulation 7(1)(a) in relation to a relevant pollutant, the Scottish Ministers shall ensure that the minimum number of sampling points for fixed measurements of concentrations determined in accordance with Schedule 5 is used for sampling the concentrations of that pollutant in that zone.

(5) For each zone classified under regulation 7(1)(b) in relation to a relevant pollutant, the Scottish Ministers shall ensure that the number of sampling points for fixed measurement of that pollutant in that zone, and the spatial resolution of other techniques, shall be sufficient for the concentrations of that pollutant to be established in accordance with Part I of Schedule 4 and Part I of Schedule 7.

(6) For each zone classified under regulation 7(2)(a) in relation to ozone, the Scottish Ministers shall ensure that the minimum number of fixed sampling points determined in accordance with Part III of Schedule 5 is used for sampling the concentrations of ozone in that zone.

(7) For zones to which paragraph (6) applies, the Scottish Ministers shall ensure that measurements of nitrogen dioxide are made at a minimum of 50 per cent of the ozone sampling points required by Part III of Schedule 5.

(8) The measurements of nitrogen dioxide required by paragraph (7) shall be continuous, except at rural background stations, where other measurement methods may be used.

(9) For zones within which information from sampling points for fixed measurement is supplemented by information from modelling or indicative measurement, the number of fixed sampling points required by Part III of Schedule 5 may be reduced:

Provided that—

- (a) the modelling techniques adopted pursuant to regulation 7(9) provide an adequate level of information for the assessment of air quality with regard to target values, information and alert thresholds;
- (b) the number of sampling points to be installed and the spatial resolution of other techniques are sufficient for the concentration of ozone to be established in accordance with the data quality objectives specified in Part III of Schedule 7 and lead to assessment results as specified in Part IV of Schedule 7;

- (c) the number of sampling points in each zone amounts to at least one sampling point per two million inhabitants, or one sampling point per 50,000 km², whichever produces the greater number of sampling points;
- (d) each zone contains at least one sampling point; and
- (e) nitrogen dioxide is measured at all remaining sampling points except rural background stations.

(10) The results of modelling and indicative measurements carried out in zones to which paragraph (9) applies shall be taken into account for the assessment of air quality with respect to target values.

(11) For zones where five years of measurement have been carried out and, during each of the previous five years of measurement, concentrations are below the long-term objectives, the number of continuous measurement stations shall be determined in accordance with Part IV of Schedule 5.

(12) Part II of Schedule 4 shall have effect for determining the classification and location of sampling points for the measurement of ozone.

(13) Reference methods for—

- (a) the analysis of sulphur dioxide, nitrogen dioxide and oxides of nitrogen;
- (b) the sampling and analysis of lead;
- (c) the sampling and measurement of PM₁₀;
- (d) the sampling and analysis of benzene;
- (e) the analysis of carbon MONOXIDE; and
- (f) the analysis of ozone and the calibration of ozone instruments,

set out in Schedule 8 must be used unless other methods are used which the Scottish Ministers consider can be demonstrated to give equivalent results.

(14) The Scottish Ministers shall ensure that—

- (a) measuring stations to supply representative data on concentrations of PM_{2.5} are installed if necessary and are operated using methods for the sampling and measurement of PM_{2.5} that they consider suitable; and
- (b) sampling points for PM_{2.5} are, where possible, co-located with sampling points for PM₁₀.

(15) For ozone precursor substances, the Scottish Ministers shall ensure that—

- (a) at least one measuring station to supply data on concentrations of the ozone precursor substances listed in Schedule 6 is installed if necessary and is operated; and
- (b) in choosing the number and siting of measuring stations for ozone precursor substances, account shall be taken of the provisions of Schedule 6.

(16) For zones which are classified under regulation 7(1)(b) or (c), the Scottish Ministers shall ensure that the information set out in Part II of Schedule 7 is compiled.

(17) For sulphur dioxide, nitrogen dioxide, oxides of nitrogen, benzene, carbon MONOXIDE and ozone measurements of volume must be standardised at a temperature of 293K and a pressure of 101,3 kPa.

Action plans

10.—(1) The Scottish Ministers shall draw up action plans indicating the measures to be taken in the short term where there is any risk of the limit values for any of the relevant pollutants, or the alert thresholds for sulphur dioxide or nitrogen dioxide, being exceeded, in order to reduce that risk and to limit the duration of such an occurrence.

(2) The alert threshold for sulphur dioxide is set out in paragraph 1.2 of Part I of Schedule 1 and the alert threshold for nitrogen dioxide is set out in paragraph 2.2 of Part II of Schedule 1.

(3) The information threshold and alert threshold for ozone are set out in paragraph 1 of Part VII of Schedule 1.

(4) The Scottish Ministers shall draw up action plans indicating the measures to be taken in the short term where there is any risk of the alert threshold for ozone being exceeded if there is in their opinion significant potential to—

- (a) reduce such a risk; or
- (b) reduce the duration or severity of such an occurrence.

(5) In making the assessment required by paragraph (4), the Scottish Ministers shall take account of national geographical, meteorological and economic conditions.

(6) The Scottish Ministers shall, in relation to plans drawn up under paragraph (4) and in accordance with regulation 14(11), make available to the public—

- (a) the results of investigations undertaken in their preparation;
- (b) the plans; and
- (c) information on the implementation of the plans.

Action to be taken where limit values are exceeded

11.—(1) The Scottish Ministers shall draw up a list of zones in which the levels of one or more of the relevant pollutants are higher than—

- (a) in a case where there is no margin of tolerance shown in Schedule 1 in relation to a limit value, the limit value;
- (b) in any other case, the limit value plus the margin of tolerance shown in Schedule 1.

(2) The Scottish Ministers shall draw up a list of zones in which the levels of one or more of the relevant pollutants are between the limit value and the limit value plus any margin of tolerance.

(3) Subject to paragraphs (6), (8) and (9), the Scottish Ministers shall draw up for each zone listed under paragraph (1) a plan or programme for attaining the limit values for the pollutants in question within the time limits specified in Schedule 1 and shall secure the implementation of the plan or programme.

(4) The plan or programme shall at least include the information listed in Schedule 9.

(5) Where in any zone the level of more than one pollutant is higher than the limit values, an integrated plan covering all the pollutants in question shall be prepared.

(6) For any zone to which regulation 7(10)(a) applies, the Scottish Ministers may determine that plans or programmes shall only be required under this regulation where the limit values are exceeded owing to man-made emissions.

(7) Plans or programmes for PM₁₀ which are prepared in accordance with this regulation shall also have the aim of reducing concentrations of PM_{2.5}.

(8) For any zone to which regulation 7(10)(b)(i) applies, the Scottish Ministers may determine that plans or programmes shall only be required where the limit values are exceeded owing to causes other than natural events.

(9) For zones to which regulation 7(10)(b)(ii) applies, the Scottish Ministers may determine that the plans or programmes shall only be required where the limit values are exceeded owing to PM₁₀ levels other than those caused by the resuspension of particulates following the winter sanding of roads.

Programmes and measures to address ozone levels

12.—(1) The Scottish Ministers shall draw up three lists of zones, namely zones in which—

- (a) levels of ozone in ambient air, as assessed in accordance with regulations 7 and 9, are higher than target values;
- (b) levels of ozone in ambient air, as assessed in accordance with regulations 7 and 9, are higher than the long-term objectives, but equal to or below the target levels;
- (c) ozone levels meet the long-term objectives.

(2) The Scottish Ministers shall draw up and secure the implementation of, for each zone listed under paragraph (1)(a), a plan or programme for attaining the target values from the date specified in Part II of Schedule 2.

(3) The obligation in paragraph (2) will not apply if the Scottish Ministers consider that attaining the target values would not be achievable through proportionate measures.

(4) The Scottish Ministers shall, in drawing up and implementing plans or programmes under paragraph (2) ensure that, where appropriate, these are integrated with plans or programmes drawn up under regulation 10.

(5) Plans or programmes drawn up under paragraph (2) shall contain at least the information specified in Schedule 9, and shall, in accordance with regulation 14(11), be made available to the public.

(6) The Scottish Ministers shall for each zone listed under paragraph (1)(b) secure the implementation of measures which they consider to be cost-effective with the aim of achieving the long-term objectives.

(7) The Scottish Ministers shall ensure that the measures described in paragraph (6) are, at least, consistent with the plans or programmes drawn up under paragraph (2).

(8) The Scottish Ministers shall ensure, for zones to which paragraph (1)(c) applies, that—

- (a) as far as factors including transboundary pollution and meteorological conditions permit, ozone levels are kept below long-term objectives; and
- (b) they preserve through proportionate measures the best ambient air quality which they consider to be compatible with sustainable development and a high level of protection for the environment and human health.

Zones where the levels are lower than the limit value

13.—(1) The Scottish Ministers shall draw up a list of zones in which the levels of the relevant pollutants are below the limit values.

(2) The Scottish Ministers shall ensure that the levels of the relevant pollutants in these zones are maintained below the limit values and shall endeavour to preserve the best ambient air quality compatible with sustainable development.

Public information

14.—(1) The Scottish Ministers shall ensure that up-to-date information on ambient concentrations of each of the relevant pollutants and of ozone is routinely made available to the public in accordance with this regulation.

(2) Information on ambient concentrations of sulphur dioxide, nitrogen dioxide and particulate matter shall be updated—

- (a) in the case of hourly values for sulphur dioxide and nitrogen dioxide, where practicable on an hourly basis;

- (b) in all other cases, as a minimum on a daily basis.
- (3) Information on ambient concentrations of lead shall be updated on a three-monthly basis.
- (4) Information on ambient concentrations of benzene, as an average value over the last 12 months, shall be updated—
 - (a) where practicable, on a monthly basis;
 - (b) in all other cases, as a minimum on a three-monthly basis.
- (5) Information on ambient concentrations of carbon MONOXIDE, as a maximum running average over eight hours, shall be updated—
 - (a) where practicable, on an hourly basis;
 - (b) in all other cases, as a minimum on a daily basis.
- (6) The information on concentrations of ozone shall be updated—
 - (a) where appropriate and practicable, on an hourly basis; and
 - (b) in all other cases, as a minimum on a daily basis.
- (7) Information made available with respect to each of the relevant pollutants shall include—
 - (a) an indication of the extent to which limit values and alert thresholds for relevant pollutants have been exceeded over the averaging periods specified in Schedule 1; and
 - (b) a short assessment of those exceedances and their effects on health.
- (8) Information with respect to ozone made available shall include—
 - (a) indication of each time and the extent to which ozone concentrations exceeded—
 - (i) the long-term objectives for the protection of human health;
 - (ii) the information threshold; or
 - (iii) the alert threshold,for the relevant averaging period; and
 - (b) a short assessment of those exceedances and their effects on health;
 - (c) comprehensive annual reports; and
 - (d) timely information about actual or predicted exceedances of the alert threshold.
- (9) The annual reports referred to in paragraph (8)(c) shall, at least, contain—
 - (a) for human health, an indication of all exceedances of the target values, long-term objectives or alert thresholds for the relevant averaging period; and
 - (b) for vegetation—
 - (i) an indication of any exceedance of the target value or long-term objective; and
 - (ii) where appropriate, a short assessment of the effects of any such exceedance.
- (10) The information referred to in paragraph (9)(b) may include, where appropriate—
 - (a) further information and assessments on forest protection, which sets out for suburban, rural and rural background stations, based on one hour averaging, accumulated from May to July for a report of value for each year, whether levels of ozone concentrations in ambient air exceed 6,000(g/m³ per hour; and
 - (b) information on ozone precursor substances insofar as these are not covered by existing Community legislation.
- (11) Information and reports required to be made available by this regulation shall be published by appropriate means including, as appropriate, broadcast media, press, publications, information screens, the internet or other computer network services.

(12) The Scottish Ministers shall ensure that where information is provided to the public under paragraphs (7) and (13)–

- (a) where there has been an exceedance of the information and alert threshold for ozone it shall include the information specified in paragraph 2 of Part VII of Schedule 1; and
- (b) where practicable, the information specified in paragraph 2 of Part VII of Schedule 1 shall be provided where an exceedance of the information threshold or alert threshold for ozone is predicted.

(13) When an alert threshold for sulphur dioxide or nitrogen dioxide is exceeded, the Scottish Ministers shall ensure that the necessary steps are taken to inform the public, and the information made available shall as a minimum include the information specified in paragraphs 1.3 of Part I and 2.3 of Part II, as applicable, of Schedule 1.

(14) Information to be made available to the public under this regulation shall include the map mentioned in the definition of “zone” in regulation 2 and action plans, plans and programmes prepared under regulations 10 and 11 respectively.

(15) For the purposes of this regulation, the public includes, but is not limited to, health care bodies and organisations having an interest in ambient air quality and representing the interests of sensitive populations, consumers and the environment.

(16) Information made available under this regulation shall be clear, comprehensible and accessible.

Information requirements

15.—(1) The Scottish Ministers shall ensure that the information specified in Part I of Schedule 10 is obtained and collated.

(2) The criteria for aggregating data and calculating statistical parameters specified in Part II of Schedule 10 shall apply.

Revocations and transitional provisions

16.—(1) The Ozone Monitoring and Information Regulations 1994⁽²⁾, the Air Quality Limit Values (Scotland) Regulations 2001⁽³⁾ and the Air Quality Limit Values (Scotland) Amendment Regulations 2002⁽⁴⁾ are hereby revoked.

(2) The Air Quality Standards Regulations 1989⁽⁵⁾, insofar as they apply to Scotland, are revoked to the extent specified in paragraphs (3) and (4).

(3) Regulation 2(1) (limit values for sulphur dioxide and suspended particulates) and regulation 4(1) (limit value for lead in air) shall be revoked with effect from 1st January 2005.

(4) Regulation 6 (limit value for nitrogen dioxide in the atmosphere) shall be revoked with effect from 1st January 2010.

(5) Until 1st January 2005, if the methods prescribed by these Regulations for the assessment of suspended particulate matter are used for the purpose of demonstrating compliance with Annex IV of Council Directive [80/779/EEC](#) of 15th July 1980 on air quality limit values and guide values for suspended particulates⁽⁶⁾, the data so collected shall be multiplied by a factor of 1.2.

(2) [S.I.1994/440](#).

(3) [S.I. 2001/224](#).

(4) [S.S.I. 2002/556](#).

(5) [S.I. 1989/317](#), amended by [S.I. 1995/3146](#) and [S.S.I. 2001/224](#).

(6) [O.J. No. L 229, 30.8.1980, p.30](#).

St Andrew's House,
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10th September 2003

ALLAN WILSON
Authorised to sign on behalf of the Scottish
Ministers