

S.I. No. 132 of 1997.

**ENVIRONMENTAL PROTECTION AGENCY ACT, 1992 (OZONE)
REGULATIONS, 1997**

The Minister for the Environment, having consulted the Environmental Protection Agency, in exercise of the powers conferred on him by sections 6 of the Environmental Protection Agency Act, 1992 (Number 7 of 1992) and for the purpose of giving effect to Council Directive 92/72/EEC 1 on air pollution by ozone, hereby makes the following Regulations.

10.J. No. L297/1 of 13 October 1992.

1. These Regulations may be cited as the Environmental Protection Agency Act, 1992 (Ozone) Regulations, 1997.

2. These Regulations shall come into effect on the first day of April, 1997.

3. In these Regulations—

a word or a phrase which has been assigned a meaning by Council Directive 92/72/EEC on air pollution by ozone, has that meaning except where otherwise indicated.

"the Agency" means the Environmental Protection Agency established by the Minister under the Environmental Protection Agency (Establishment) Order, 1993.

4. The following functions are hereby assigned to the Agency:—

(1) the establishment of sites for the measurement of concentrations of tropospheric ozone in the air in accordance with the requirements laid down in the First Schedule to these Regulations,

(2) the measurement of concentrations of tropospheric ozone in the air at the sites established pursuant to article 5 and in accordance with the requirements laid down in the Second Schedule to these Regulations,

(3) the duty of ensuring that the public is informed about concentrations of tropospheric ozone in accordance with the requirements and procedures laid down in the Third Schedule to these Regulations,

(4) the provision of reports to the European Commission in accordance with the requirements laid down in the Fourth Schedule to these Regulations.

FIRST SCHEDULE

Criteria for site selection

1.1. The measuring stations shall be located at geographically and climatologically representative sites having regard to—

(i) the health protection threshold of 110 microgrammes of ozone/cubic metre of air ($110\mu\text{g}/\text{m}^3$) for the mean value over 8 hours,

(ii) the vegetation protection thresholds of

200 microgrammes of ozone per cubic metre of air ($200\mu\text{g}/\text{m}^3$) for the mean value over 1 hour, and

65 microgrammes of ozone per cubic metre of air ($65\mu\text{g}/\text{m}^3$) for the mean value over 24 hours,

(iii) the population information threshold of 180 microgrammes of ozone per cubic metre of air ($180\mu\text{g}/\text{m}^3$) for the mean value over 1 hour, and

(iv) the population warning threshold of 360 microgrammes of ozone per cubic metre of air ($360\mu\text{g}/\text{m}^3$) for the mean value over 1 hour,

(v) where the risk of approaching the foregoing thresholds is greatest, and

(vi) where it is likely that human beings, forests, natural ecosystems, crops or horticulture are exposed to such risk.

1.2. Indicative measurements shall be carried out in order to determine where measuring stations are to be located in any case where the information referred to in subparagraphs 1.1.

(v) and (vi) of this Schedule is not available.

1.3. Measuring stations shall be selected so as to provide information in order to:

(i) contribute towards the identification and description of the formation and transport of ozone and its pre-cursors, and

(ii) monitor changes in ozone concentrations in areas affected by background pollution by ozone.

SECOND SCHEDULE

Measurement of ozone concentrations

For the measurement of ozone concentrations the method used shall be the UV absorption method or any other method shown to produce results equivalent to those obtained using that method.

The measuring equipment shall be sited, calibrated, operated and maintained in such manner as to ensure accurate measurements of concentrations of tropospheric ozone at each site.

In particular, the following points must be taken into consideration when the measurement methods and instruments are used at the monitoring sites—

1. the conformity of the operating characteristics of the measurement instrument with those indicated by the manufacturer, in particular background noise, response time and linearity, must be verified initially in the laboratory and the field:

2. the instrument must be totally calibrated regularly, using a reference UV photometer as recommended by the ISO;

3. in the field the instruments must be calibrated regularly, e.g. every 23 or 25 hours. In addition, the validity of the calibration must be verified by regularly operating in parallel an instrument calibrated in accordance with paragraph 1.

If the instrument inlet is changed before calibration, validation must be carried out after an appropriate period of exposure (from 10 minutes to several hours) of the filter to ambient ozone concentrations;

4. the sampling head must be placed at least 1m. away from vertical screens in order to avoid any screening effect;

5. the sampling head opening must be protected against rain and insects, no pre-filter is to be used:

6. sampling must not be influenced by adjoining installations (air-conditioning or data-transmission equipment):

7. the sampling line must be of inert material (e.g. glass, PTEF, stainless steel) which is not affected by the presence of ozone. It must be exposed to appropriate ozone concentrations prior to its use for monitoring;

8. the sampling line between the sampling head and the analysis instrument must be as short as possible (e.g. giving residence times of the order of a few seconds in the presence of other reagents such as NO);

9. condensation of the sampling line must be avoided;

10. the sampling line must be cleaned regularly, taking local conditions into account:

11. the sampling line must be tight and the flow rate must be inspected regularly;

12. sampling must not be influenced by gas discharges from the instrument or from the calibration system;

13. all necessary pre-cautions must be taken to pre-vent temperature variations producing measurement errors.

THIRD SCHEDULE

Public information

Whenever the population information threshold of 180 $\mu\text{g}/\text{m}^3$ or the population warning threshold of 360 $\mu\text{g}/\text{m}^3$ for mean value over 1 hour is exceeded the Agency shall, with the assistance of Met Éireann, cause to be circulated sufficiently widely, including to the media, and as soon as possible, the following—

- (i) information on which threshold was exceeded and the place and time of occurrence,
- (ii) a forecast indicating the expected change in concentrations in a specified geographical area and over a specified period.

The circulated information shall include advice to the elderly, children and those with respiratory problems as to the appropriate pre-cautionary measures to be taken.

Associated information shall be provided by way of press notices, telephone helplines, teletext services and/or other services as the Agency considers effective in providing public information on air pollution by ozone.

FOURTH SCHEDULE

Reports to the European Commission

The Agency must inform the Commission of—

- (i) the method used to determine ozone concentrations and, if it is different to the reference method specified in the Second Schedule, provide proof of its equivalence with the latter.
- (ii) the geographical co-ordinates of the measuring stations, a description of the area covered by the stations, and the site-selection criteria.
- (iii) the results of any indicative measurement programmes carried out under the provisions of paragraph 1.2. of the First Schedule to these Regulations.

Not later than 6 months following the annual reference period the Agency shall supply to the European Commission on an annual basis—

- (i) the maximum, the median and the 98 percentile of the mean values over one hour and eight hours recorded during the year in each measuring station,
- (ii) the number, date and duration of periods during which the threshold laid down in subparagraphs 1.1. (i) and (ii) of the First Schedule to these Regulations are exceeded.

In any case where the public information threshold or the population warning threshold laid down in subparagraphs 1.1. (iii) and (iv) of the First Schedule to these Regulations is exceeded, the Agency shall inform the European Commission not later than the end of the following month of—

- (i) the date of each such occurrence or occurrences
- (ii) the duration of each such occurrence

(iii) the maximum hourly concentration recorded during each such occurrence

(iv) where available, possible explanation for the occurrences.

FIFTH SCHEDULE

Method for calculating the measurement results for the annual reference period

1.1. Values shall be expressed in microgrammes of ozone per cubic metre of air ($\mu\text{g}/\text{m}^3$).

1.2. The volume must be standardised at a temperature of 293°K and pressure of 101.3kPa .

1.3. Concentrations must be measured continuously.

2. The annual reference period will begin on 1 January for each year.

3. The median must be calculated as the 50th percentile.

4. The percentiles shall be valid only where at least 75 per cent of the possible values are available and, as far as possible, are distributed throughout the period in question for the particular measurement site.

5. Percentiles are determined by

(i) Listing all valid measured values, during the appropriate reference period for an individual monitoring station, in increasing order of magnitude as follows:

$V_1, V_2, V_3, \dots, V_k, \dots, V_{n-1}, V_n$

where V = discrete measured values

V_k = the value of the percentile required

k = the point in the series of values (1, 2, 3... n) where the required percentile lies.

n = the total number of valid values in the series

(ii) determining the value of k by

—multiplying n by 0.5 in the case of 50th percentile

—multiplying n by 0.98 in the case of 98th percentile

and rounding the result to the nearest whole number

(iii) establishing the value of V at the point k in the series of values, i.e., the percentile value required. This value, if necessary, should be rounded off to the nearest whole number.

GIVEN under the Official Seal of the Minister for the Environment,

this 26th day of March, 1997.

BRENDAN HOWLIN,

Minister for the Environment.

EXPLANATORY NOTE.

These Regulations transpose Directive 92/72/EEC on air pollution by ozone into Irish law. The Regulations lay down provisions in relation to tropospheric ozone and assign functions to the Environmental Protection Agency in relation to the measurement of tropospheric ozone concentrations and the provision of information to the public (with the assistance of Met Éireann) in the event of the population information or population warning thresholds being exceeded.