

Air Quality Review and Assessment – Summary

June 2000

Prepared by David Bell, Pollution Services Manager

Eastbourne Borough Council has carried out a review and assessment of air quality in its area to predict the levels of pollution. The work, required by the Environment Act 1995 and carried out in accordance with guidance issued by the Department of Environment, Transport and the Regions (DETR), identified that the air quality objectives of the National Air Quality Strategy (NAQS) are likely to be met in the required timescales.

Details of the objectives are set out in the attachment to this summary.

The guidance documents advise that the review and assessment should be a staged approach as follows:-

- Stage I - Initial screening process to determine which pollutants require further investigation.
- Stage II - More detailed work on pollutants identified by Stage I using relatively straightforward modelling methods.
- Stage III - Additional work on pollutants, if required, using more complex modelling methods.

The Stage I assessment was carried out against the original (1997) Air Quality Objectives and was completed in December 1998. It indicated that further investigation was necessary for particles (PM₁₀) and nitrogen dioxide (NO₂). The NAQS was updated earlier this year and revised guidance issued by the DETR. EBC's Stage II review and assessment of PM₁₀ and NO₂ was carried out using the revised guidance.

The work done to date indicates that the air quality objectives will be met in Eastbourne and a Stage III assessment was not necessary.

The Council monitors levels of the smoke and sulphur dioxide, nitrogen dioxide and small particles PM₁₀. The PM₁₀ equipment was installed in April 2000 as part of a European Union assisted project. The data obtained from the monitoring programme will assist in the next round of Review and Assessments which need to be undertaken during 2003.

The reports for the Stage I and Stage II assessments were submitted to the DETR and other statutory consultees for views and comments. Any other person or organisation wishing to receive a copy of these should contact:-

David Bell, Pollution Services Manager, at the address on the front page, to whom views and comments may also be sent.

The DETR accepted the approach taken to the Stage I and II Review and Assessments, and the conclusions reached for all pollutants.

Acknowledgement

Eastbourne Borough Council is a member of the Sussex Air Quality Steering Group (SAQSG), which comprises the District and County Councils in East and West Sussex, together with the Health Authorities, Sussex and Brighton Universities, as well as the Environment Agency. The Group was set up to provide a means of pooling resources and expertise of the various agencies in the region in connection with air quality. Andrew Deacon, the Project Development Officer for Sussex Air Quality Steering Group, has provided technical assistance in carrying out the Stage I and Stage II Air Quality Review and Assessments and compiling the reports.

Appendix 1.

Air Quality Objectives

Substance	Air quality objective levels	To be met by
Benzene	16.25 micrograms per cubic metre or less, when expressed as a running annual mean	31 st December 2003
1,3-Butadiene	2.25 micrograms per cubic metre or less, when expressed as a running annual mean	31 st December 2003
Carbon monoxide	11.6 micrograms per cubic metre or less, when expressed as a running 8 hour mean	31 st December 2003
Lead	0.5 micrograms per cubic metre or less, when expressed as an annual mean	31 st December 2004
	0.25 micrograms per cubic metre or less, when expressed as an annual mean	31 st December 2008
Nitrogen dioxide	200 micrograms per cubic metre, when expressed as an hourly mean, not to be exceeded more than 18 times a year	31 st December 2005
	40 micrograms per cubic metre or less, when expressed as a running annual mean	31 st December 2005
PM ₁₀	50 micrograms per cubic metre or less, when expressed as a 24 hour mean, not to be exceeded more than 35 times a year	31 st December 2004
	40 micrograms per cubic metre or less, when expressed as an annual mean	31 st December 2004
Sulphur dioxide	125 micrograms per cubic metre or less, when expressed as a 24 hour mean, not to be exceeded more than 3 times a year.	31 st December 2004
	350 micrograms per cubic metre or less, when expressed as an hourly mean, not to be exceeded more than 24 times a year	31 st December 2004
	266 micrograms per cubic metre or less, when expressed as a 15 minute mean, not to be exceeded more than 35 times a year	31 st December 2005

1. "PM₁₀" means particulate matter which passes through a size-selective inlet with a 50% efficiency cut-off at 10 µm aerodynamic diameter.
2.
 - (1) A running annual mean is a mean which is calculated on an hourly basis, yielding one running annual mean per hour. The running annual mean for a particular substance at a particular location for a particular hour is the mean of the hourly levels for that substance at that location for that hour and the preceding 8759 hours.
 - (2) For the purpose of the calculation of a running annual mean, the hourly level for a particular substance at a particular location is either:
 - a. the level at which that substance is recorded as being present in the air at that location during the hour on the basis of a continuous sample of air taken during that hour for at least 30 minutes; or
 - b. the mean of the levels recorded at that location on the basis of 2 or more samples of air taken during the hour for an aggregate period of at least 30 minutes.
3. A running 8 hour mean is a mean which is calculated on an hourly basis, yielding one running 8 hour mean per hour. The running 8 hour mean for a particular substance at a particular location for a particular hour is the mean of the hourly means for that substance at that location for that hour and the preceding 7 hours.
4.
 - (1) An annual mean is a mean which is calculated on a yearly basis, yielding one annual mean per calendar year. The annual mean for a particular substance at a particular location for a particular calendar year is:
 - a. in the case of lead, the mean of the daily levels for that year;
 - b. in the case of nitrogen dioxide, the mean of the hourly means for that year;
 - c. in the case of PM₁₀, the mean of the 24 hour means for that year.
 - (2) For the purpose of the calculation of the annual mean for lead, the daily level for lead at a particular location for a particular day is the level at which lead is recorded as being present in the air at that location during the week in which the day occurs on the basis of a continuous sample of air taken throughout that week (each day in that week therefore being attributed with the same daily level).
 - (3) For the purpose of sub-paragraph (2) "week" means a complete week beginning on the Monday, except that it also includes any period of less than seven days from the beginning of the calendar year until the first Monday in that year or from the beginning of the last Monday in the calendar year to the end of that year.
5. An hourly mean is a mean calculated every hour. The hourly mean for a particular substance at a particular location for a particular hour is the mean of the levels recorded, at a frequency of not less than once every 10 seconds, for that substance at that location during that hour.

6. A 24 hour mean is a mean calculated every 24 hours. The 24 hour mean for a particular substance at a particular location for a particular 24 hour period is the level at which that substance is recorded as being present in the air at that location on the basis of a continuous sample of air taken throughout the period.
7. A 15 minute mean is a mean calculated every 15 minutes. The 15 minute mean for a particular substance at a particular location for a particular 15 minutes is the mean of the levels recorded, at a frequency of not less than once every 10 seconds, for that substance at that location during that 15 minutes.
8. The reference to a number of micrograms or milligrams per cubic metre of a substance is a reference to a number of micrograms or milligrams per cubic metre of that substance when measured with the volume standardised at a temperature of 293K and at a pressure of 101.3kPa.