



**AMBER VALLEY
BOROUGH COUNCIL**

**Environment Act 1995
Local Air Quality Management**

PROGRESS REPORT

April 2008

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Executive Summary

This report is the fourth Progress Report that summarises the changes and developments that have taken place within the Borough since the last round of review and assessment of air quality for Amber Valley Borough Council. It focuses on any significant changes to industrial, domestic and road transport sources within the past 12 months and evaluates the need for further investigation to determine whether the air quality standards and objectives are likely to be achieved or continue to be met if levels are currently below the standards.

Conclusions from the previous Progress Report issued in 2007 are summarised in this document for reference and, together with the outcome of this report; consideration is given to the need for a detailed review for individual pollutants. The pollutants evaluated are:

- Carbon monoxide
- Benzene
- 1,3 Butadiene
- Lead
- Sulphur Dioxide
- Particulate matter (PM₁₀)
- Nitrogen dioxide

Since there has again been little change since the Updating and Screening Assessment done for this Council in 2006, or the Progress Report 2007, the pollutants have not been considered on an individual basis but a conclusion has been reached about the overall need for a detailed assessment. This Progress Report also shows that there is little likelihood of any air quality objectives being exceeded and it would therefore not be justifiable to proceed to a detailed assessment for any of the identified pollutants.

The Borough of Amber Valley

The borough of Amber Valley forms one of the nine Local Authority districts in Derbyshire. Located on the eastern side of Derbyshire, between Derby to the south, and Chesterfield to the north, the area gets its name from the River Amber, which flows, through it.

The area is comprised of four main towns; Alfreton, Belper, Heanor and Ripley, and is divided into twenty-five wards. Amber Valley covers just over 260 square kilometres and, apart from the towns, is largely rural in character. The present population, taken during 2003, is 117,046. The population structure is a product of the Industrial Revolution, when the country moved from an economy based on agriculture, to a manufacturing one. The physical resources and topography of the area made this a particularly significant event in Amber Valley.

Coal, limestone and sandstone provided the key natural resources, while the four rivers supplied valuable power sources. Water power on the Derwent allowed the textile industry to grow and prosper. The demand for iron, steel and coal grew in proportion and ensured the rapid development of Alfreton, Heanor and Ripley. The result of this industrial development is that the eastern part of Amber Valley has a distinctly urban character, whilst the west is rural, with a dispersed settlement pattern. The exploitation of natural resources has not only brought direct wealth, but provides a legacy upon which a thriving tourism industry is based.

The borough has almost 500 companies located within its 20 industrial estates, with a further 400 located on singular sites or within the urban areas. The gradual shift away from the two traditional industries of coal mining and textiles now means that the area is now well represented in a wide range of industrial sectors including instrument engineering, timber and furniture manufacture, hotels and catering, and business services; textiles and clothing is still a significant industry in Amber Valley.

Although based in the East Midlands, Amber Valley provides access to all parts of the country, including ports, airports and rail stations, without the major congestion problems of larger conurbations. Travel within the borough and local area is also well provided for. Major roads, including the A38 and A6 run through the borough in

a north-south direction; the A38 providing a busy link between Derby and junction 28 of the M1. The A609 and A610 also provide links to Ilkeston and Nottingham to the east. In addition, the A52 between Derby and Ashbourne cuts through the southernmost tip of the borough. The only rail stations in the area are at Belper, which is on the busy east coast mainline, and at Alfreton, with through trains to London, Manchester and the north. The River Derwent bisects the area from north to south, running parallel with the A6, Cromford Canal and the local rail line to Matlock.

The area can offer residents and visitors a wide variety of leisure facilities. A thriving tourist industry has developed with attractions such as the American Adventure World, National Tramway Museum, Midland Railway Centre, Kedleston Hall, Wingfield Manor, and numerous parks and gardens.

1. Introduction

Section 80 of the Environment Act 1995 required the production of a National Air Quality Strategy (NAQS). The approach to be adopted was set out in a Government policy paper in January 1995, *Air Quality: Meeting the Challenge*. This was followed in 1997 and the NAQS was accompanied by the Air Quality Regulations of the same year. Both these works have since been superseded by the Air Quality Strategy for England, Scotland, Wales And Northern Ireland 2000, and the Air Quality Regulations 2000, which sets down the framework for reducing air pollution at a national and local level, followed by the Air Quality (amendment) Regulations 2002.

The Environment Act 1995 also places an obligation on Local Authorities (L.A.'s) with s.82; this requires L.A.'s to review and assess the air quality of their areas against the statutory objectives set for seven of the pollutants in the Air Quality (England) Regulations 2000; disregarding ozone due to its transboundary nature (DETR, 2000). The 2000 regulations bring the legislation in line with the European Union Air Quality Daughter Directive 99/30/EC (see Table 1, Section 2 Air Quality Standards and Objectives), five of the Air Quality Objectives (AQO's) were tightened, two remained unchanged and one (PM₁₀) was relaxed due to uncertainty.

In February 2003 Government published an Addendum to the NAQS that proposed new Objectives for PM₁₀ in 2010 whilst also setting down new Objectives for benzene and carbon monoxide. Provisional Objectives for PM₁₀ have been set, which mark a significant tightening of the existing 2004 Objectives. For areas outside London in England and Wales a new annual mean objective of 20 µg/m³ is proposed, whilst the fixed 24-hour mean remains at the same level (50 µg/m³) but with only 7 allowable exceedence days (rather than 35). The new objectives have yet to be set in Regulations so do not currently require consideration, these objectives will not be reviewed in this report.

The system of L.A. involvement required by the Environment Act 1995 is termed Local Air Quality Management (LAQM). During periodic reviews the L.A. must assess their current and future air quality of their areas. If this process provides evidence of exceedences of the air quality objectives, the L.A. must designate an Air Quality Management Area (AQMA) for the area determined by the authority.

In Amber Valley this process started in 1999/2000 with the first Review and Assessment being undertaken. This was conducted in 3 stages and evaluated the likelihood of any of the air quality standards listed in the regulations being exceeded. The conclusions of that review are not reproduced within this report.

National and international policies are being implemented to bring about reductions in polluting emissions, particularly from road traffic and some industrial sectors. Local sources however, do have the potential to emit significant quantities of some pollutants and for this reason, review and assessment must be undertaken at the local level.

In order to ensure that the anticipated reductions in pollutant levels detailed in the previous reports occur as predicted and that the anticipated targets are still likely to be met, local authorities are required to conduct reviews on a 3 – yearly cycle. These consist of 3 parts: -

- An 'Updating and Screening Assessment' – this will be done in the form of a desk study to identify any changes that may have occurred since the last reports and evaluate whether these are likely to lead to improvement or worsening of pollutant levels and thereby determine any change to the risk of exceeding the standards and objectives. If this shows any increased risk then a 'Detailed Assessment will be required.
- A 'Detailed Assessment' – this will be a technical evaluation of current and future predicted pollutant levels by monitoring or modelling techniques.
- A Progress Report – this will be an interim desk study based report designed to highlight any potentially significant changes that may have

taken place in the intervening years between the Updating and Screening Assessments.

The framework under which the Progress Report is to be conducted is set out in the DEFRA document 'Local Air Quality Management – Progress Report Guidance [LAQM.PRG (03)]. This report has been compiled in accordance with this guidance and presents the findings of the Progress Report (2008) for Amber Valley Borough Council.

Aims of the Progress Report 2008

The overall aim of the Progress Report 2008 is to:

- Report progress on implementing local air quality management: and
- Report progress in achieving, or maintaining, concentrations below the air quality objectives.

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2. Air Quality Standards and Objectives

The standards and objectives proposed in the original Strategy released in 1997 were derived from recommendations made by the Expert Panel on Air Quality Standards and were based on scientific and medical evidence of the effects of a particular pollutant on human health. The standards were set at a level that was assumed would present minimum or no risk to health. A summary of the current standards and objectives is given in the table below.

Table 1

Summary of objectives of the National Air Quality Strategy

Pollutant	Objective	Measured as	To be achieved by
Benzene	16.25 µg/m ³	Running Annual Mean	31 December 2003
	5 µg/m ³	Annual Mean	31 December 2010
1,3-Butadiene	2.25 µg/m ³	Running Annual Mean	31 December 2003
Carbon monoxide	10.0 mg/m ³	Maximum daily running 8 Hour Mean	31 December 2003
Lead	0.5 µg/m ³	Annual Mean	31 December 2004
	0.25 µg/m ³	Annual Mean	31 December 2008
Nitrogen dioxide^c	200 µg/m ³ Not to be exceeded more than 18 times per year	1 Hour Mean	31 December 2005
	40 µg/m ³	Annual Mean	31 December 2005
Particles (PM₁₀) (gravimetric)^d All authorities	50 µg/m ³ Not to be exceeded more than 35 times per year	24 Hour Mean	31 December 2004
	40 µg/m ³	Annual Mean	31 December 2004
Sulphur dioxide	266 µg/m ³ Not to be exceeded more than 35 times per year	15 Minute Mean	31 December 2005
	350 µg/m ³ Not to be exceeded more than 24 times per year	1 Hour Mean	31 December 2004
	125 µg/m ³ Not to be exceeded more than 3 times per year	24 Hour Mean	31 December 2004

Notes:

µg/m³ - micrograms per cubic metre
mg/m³ - milligrams per cubic metre

New particle objectives for England, Wales, not included in Regulations

Region	Objective	Measured as	To be achieved by
Rest of England, Wales and Northern Ireland	50 µg/m ³ not to be exceeded more than 7 times per year	24-hour Mean	31 December 2010
Rest of England, Wales and Northern Ireland	20 µg/m ³	Annual Mean	31 December 2010

2.1 National Indicator 194

In 2008 the Department of Communities and Local Government published a new performance framework of 198 national indicators. National Indicator 194 specifically relates to emissions (NO_x) and (PM₁₀).

It requires local authorities to report annually on the percentage reduction in nitrogen oxide (NO_x) and primary fine particulates (PM₁₀) emissions from the local authority's estate and operations. Emissions for the calendar year 1 January – 31 December 2008 will act as a baseline against which percentages of reductions will be reported in following years.

This indicator is separate to the local air quality management system under Part IV of the Environment Act 1995.

3. Consultation

As with the previous review and assessment reports, authorities are required to consult a number of bodies and organisations. Consultation will be undertaken in line with the guidance document.

Consultees for the report are:-

- The Secretary of State
- The Environment Agency
- Derbyshire County Council
- Neighbouring authorities

Copies of the report will be made available for public inspection at:-

- The Council offices
- The Council web site at <http://www.ambervalley.gov.uk/>

4. Conclusion of Progress Report 2007

The Progress Report 2007 was prepared in accordance with the guidance given in LAQM.PRG(03). It addressed all the potential issues within the Borough that may impact on air quality but, since the area is semi-rural with four small towns as the main urban areas, no significant road links, no congestion problems or large industry, it concluded that air quality was again not considered to be a major concern for this Council.

After considering the results from previous air quality reports the Progress Report 2007 did not identify any significant changes that would have required the Council to consider a Detailed Assessment before the next full round of review and assessment.

5. New Monitoring Results

Based on the conclusions of the Progress Report 2007, it was decided that there was no evidence to justify the costs of additional air quality monitoring.

6. New Local Developments

6.1 Mixed Use Developments

One new major development with potential impact on air quality has been granted outline planning permission, since the Progress Report 2007. The development is at Cinderhill, Kilburn.

The development will consist of:

a) Mixed Use.

- Up to 125,000m² of floor space for business use and classes B1 (maximum 28,802m²), B2 and B8;
- A Hotel;
- 300 dwellings;
- Supporting retail facilities, classes A1, A2 and A3 (maximum 1,300m²);
- Supporting community and social facilities, classes D1 and D2;
- Sui generic uses and ancillary support facilities

b) A new grade separated junction on the A38;

c) A new roundabout at A609/B6179 junction;

- d) A new access road off B6179;
- e) Temporary access of A609;
- f) Groundwork, drainage works and engineering works.

An Environmental Statement has been submitted with the application, in accordance with the Environmental Impact Assessment Regulations. After reviewing the Environmental Statement the following planning condition was recommended to be included in any planning permission granted to the application:

“ No development shall commence until:

- *The application site has been subjected to a detailed scheme for the monitoring and/or (validated) modelling of existing and future predicted air pollutant levels and an assessment made of the likely impact of the development on the potential for pollutants to exceed relevant air quality standards and objectives both during the construction phase(s) and upon completion of the development. The assessment must take account of:*
 1. *The likely increase in traffic levels on all affected routes, the changes to traffic flow composition (the proportion of HGV/LDV etc) and the proximity of existing and new receptors.*
 2. *Specific operations during construction that may affect pollutant levels, particularly PM10 – but also SO₂ and VOC’s (See Note below).*

The scheme and any associated reports must be submitted to and approved in writing by the Environmental Services Department prior to works commencing.”

This site will remain under consideration for its impacts on air quality until such a time that evidence indicates that development will not, or has not, caused an exceedence of any of the Air Quality Objectives.

6.2 New Retail Developments

There are no new retail developments to consider.

6.3 New Road Schemes

There are no new road schemes to consider.

6.4 Part A(1), A(2) and B Sites
Part A(1)

No new Part A(1) processes as listed in LAQM. TG(03) have been started since the completion of the Progress Report in 2007.

Part A(2)

One new installation has been permitted since the last Progress Report (2007). The installation at Bonar Floors Ltd, High Holborn Road, Ripley, involves the mixing and coating of PVC plastisols to form a floor covering, involving the use of more than two hundred tonnes of organic solvents in any twelve month period.

The PPC permit that the installation operates under includes the following conditions, relating to air quality:

Emissions To Air

1. All discharges to air, other than steam or water vapour, shall be free from persistent visible emissions.

2. All emissions shall be free from offensive odour outside the process boundary, as perceived by an authorised person of the Council.

3. Emissions to atmosphere from contained sources shall not exceed the following limits.

Emission Point	Pollutant	Emission limit	Monitoring requirement
1 Recycle plant - granulator extraction	Particulates	50mg/m ³	Continuously recorded indicative plus once a year extractive
2 Recycle plant - extruder extraction system	Particulates Isocyanate	50mg/m ³ 0.1 mg/m ³ *	Continuously recorded indicative plus once a year extractive Once a year extractive
3 Recycle plant - press stack	Particulates	50mg/m ³	Continuously recorded indicative plus once a year

	Isocyanate	0.1 mg/m ³ *	extractive Once a year extractive
4 Printing line – extraction	VOC's	100mg/m ³	Once a year extractive
5 Tile line – mist filter outlet	Particulates	50mg/m ³	Continuously recorded indicative plus once a year extractive
	VOC's	75mg/m ³	Once a year extractive
	Isocyanate	0.1mg/m ³ *	Once a year extractive
	R61 VOC	2mg/m ³ **	Once a year extractive
	HCl	10mg/m ³	Once a year extractive
6 Flocking line - mist filter outlet	Particulates	50mg/m ³	Continuously recorded indicative plus once a year extractive
	VOC's	75 mg/m ³	Once a year extractive
	Isocyanate	0.1 mg/m ³ *	Once a year extractive
	R61 VOC	2 mg/m ³ **	Once a year extractive
	HCl	10mg/m ³	Once a year extractive
7 Boiler stacks	Visible smoke	Ringelmann shade 1	Daily visual check

* Averaged over a 2 hour period as total NCO group

** Expressed as the concentration of the R61 voc concerned.

Fugitive emissions of voc's from the process shall not exceed 20% of the total solvent input when calculated in accordance with Sector Guidance Note SG6. The assessment of compliance with the fugitive emission limit shall be done as part of the first Solvent Management Plan submission and will then only need reviewing in the event of changes to the process or equipment.

Given the emission limits, and the conditional air quality monitoring, it is not considered that the process will significantly impact on air quality in the locality.

Part B

Dry Cleaners

Due to the requirements of the Solvent Emissions Directive (1999/13/EC) Dry Cleaners are now regulated under the Pollution Prevention and Control Regulations 2000, because they use organic solvents in the cleaning process. Two permits have been issued to installations in Alfreton and one in Belper. The processes have been operating in the borough for considerable time prior to the requirement for inclusion

under PPC, therefore it is not anticipated that this will result in any adverse impacts on air quality.

Lodge House Opencast

UK Coal have been granted planning permission, by Derbyshire County Council, for the extraction of approximately 1,000,000 tonnes of coal, over a 4.5 year period, by opencast methods at a 122 hectare site which lies east of Smalley village. The planning application included an Environmental Statement (ES), which assessed the sites impact on air quality.

The ES found that the sites operation would result in 118 HGV movements per day. The ES compared this figure with traffic growth forecasts and concluded that this would equate to a 6.5% increase in HGVs.

The coal handling operations will operate under a Part B permit issued under the Pollution Prevention and Control Regulations 2000. AVBC are currently considering UK Coals application for the permit. The site will also operate procedures to control dust and monitor the dust being produced by the site.

The Council will keep the sites impact on air quality standards under review.

6.5 Landfills, Quarries and Opencast sites

No new landfills, quarries or opencast sites have been granted planning permission in this area. Other then discussed in 6.2.

7. Action Plans

As no action plans are currently in progress there is nothing to report in this section.

8. Local Air Quality Strategy

Since this authority has not declared any Air Quality Management Areas, no Local Air Quality Strategy has been produced. Previous reviews and assessments have

shown that pollutant levels are likely to be comfortably below the targets by the appropriate dates and it was not considered necessary therefore to implement a local strategy. Actions will continue to be taken to reduce the impact of this Council on the environment (wherever possible) by individual departments rather than under the provisions of a local strategy.

9. Planning and Policies

There are no local planning policies directly relating to air quality. All relevant applications are considered on an individual basis for air quality implications and the Environmental Services Department has a direct input into the formulation of the Local Plan.

10. Local Transport Plans

The Second Derbyshire Local Transport Plan has been produced by Derbyshire County Council. The report states that air quality will be taken into full account in decision-making on transport interventions and initiatives in Air Quality Action Plans will be pursued. The Plan considered air quality one of the four shared priorities drawn up and agreed by central Government and the Local Government Association, and found that air quality sites and persons affected will differ little from the existing situation and should actually be improved, both in terms of area and persons affected.

11. Conclusion of Progress Report

Previous monitoring exercises, from the first round of Review and Assessment, included stage 2 reports for sulphur dioxide, particulates and nitrogen dioxide and a stage 3 assessment of nitrogen dioxide. These indicated that all pollutant levels were either currently or anticipated to be well below the standards by the relevant objective dates. The monitoring results contained within this report confirm that

The results of the Updating and Screening Assessment completed in 2003 showed no change to these conclusions and the Progress Reports in 2004 and 2005 again showed no need for a 'Detailed Assessment'. The NO₂ diffusion tube survey conducted to inform the compilation of the Progress Report 2005 also indicated that

the concentrations measured at all sampling locations are below the air quality standards.

The Updating and Screening Assessment completed in 2006 did not identify any significant changes which may have impacted in the borough's air quality, it was not proposed to proceed to a detailed assessment for any of the pollutants listed. The Progress Report 2007 did not identify any significant changes that would require the Council to consider a Detailed Assessment before the next full round of review and assessment.

This progress Report has been prepared in accordance with the guidance given in LAQM.PRG(03). It has reviewed the information gained from previous air quality reports, and all the potential issues within the Borough that may impact on air quality.

Based on the findings of this review, and since the area is semi-rural with four small towns as the main urban areas, no significant road links, no congestion problems or large industry, air quality is again not considered to be a major concern for this Council. The expense of additional air monitoring cannot currently be justified.