



**AMBER VALLEY
BOROUGH COUNCIL**

2012 Air Quality Updating and
Screening Assessment for
Amber Valley Borough Council

In fulfillment of Part IV of the
Environment Act 1995
Local Air Quality Management

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Executive Summary

This report fulfils the requirements of the Local Air Quality Management (LAQM) process as set out in Part IV of the Environment Act (1995), the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 and the relevant Policy and Technical Guidance documents.

Since there has again been little change since the Progress Report 2011, the pollutants have not been considered on an individual basis but a conclusion has been reached about the overall need for a detailed assessment.

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.

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1 Introduction

1.1 Description of Local Authority Area

The borough of Amber Valley is located on the eastern side of Derbyshire, between Derby to the south and Chesterfield to the north. 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 2004, is 118,200.

The borough has a wide range of industrial sectors including instrument engineering, timber and furniture manufacture, hotels and catering, business services, textiles and clothing. Almost 500 companies are located within 20 industrial estates, with a further 400 located on singular sites or within the urban areas.

Major roads include the A38, providing a link between Derby and junction 28, A6, A609 and A610. 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.

1.2 Purpose of Report

This report fulfils the requirements of the Local Air Quality Management process as set out in Part IV of the Environment Act (1995), the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 and the relevant Policy and Technical Guidance documents. The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where exceedences are considered likely, the local authority must then declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives.

The objective of this Updating and Screening Assessment is to identify any matters that have changed which may lead to risk of an air quality objective being exceeded.

A checklist approach and screening tools are used to identify significant new sources or changes and whether there is a need for a Detailed Assessment. The USA report should provide an update of any outstanding information requested previously in Review and Assessment reports.

1.3 Air Quality Objectives

The air quality objectives applicable to LAQM in England are set out in the Air Quality (England) Regulations 2000 (SI 928), The Air Quality (England) (Amendment) Regulations 2002 (SI 3043), and are shown in Table 1.1. This table shows the objectives in units of microgrammes per cubic metre $\mu\text{g}/\text{m}^3$ (milligrammes per cubic metre, mg/m^3 for carbon monoxide) with the number of exceedences in each year that are permitted (where applicable).

Table 1.1 Air Quality Objectives included in Regulations for the purpose of LAQM in England

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Benzene	16.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
	5.00 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2010
1,3-Butadiene	2.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
Carbon monoxide	10.0 mg/m^3	Running 8-hour mean	31.12.2003
Lead	0.5 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004
	0.25 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2008
Nitrogen dioxide	200 $\mu\text{g}/\text{m}^3$ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2005
Particles (PM ₁₀) (gravimetric)	50 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004

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Sulphur dioxide	350 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 35 times a year	15-minute mean	31.12.2005

1.4 Summary of Previous Review and Assessments

The area is semi-rural with four small towns as the main urban areas, no significant road links, no congestion problems or large industry.

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 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 Reports of 2007 and 2008 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.

The Updating and Screening Assessment 2009 and Progress Reports for 2010 and 2011 did not identify any potential exceedances of the National Air Quality Objectives in Amber Valley. There was no requirement to proceed to Detailed Assessment.

Based on the findings of previous reports, the resources needed to undertake an air-monitoring scheme in Amber Valley could not be justified.

2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

The 2011 Progress Report concluded that it was unlikely that any National Air Quality Objectives would be exceeded in Amber Valley, as such it was not deemed necessary to conduct any air monitoring in the past 12 months.

2.1.1 Automatic Monitoring Sites

The Updating and Screening Assessment 2009 and the Progress Reports for 2010 and 2011 concluded that the cost of a monitoring programme could not be justified based on the very low likelihood that National Air Quality Objectives would be breached in the borough. As such there is no new monitoring data to discuss.

3 Road Traffic Sources

3.1 Narrow Congested Streets with Residential Properties Close to the Kerb

Local knowledge, analysis of vehicle count data provided by Derbyshire County Council, and selections of property polygons at or within 2m of highway polygons using a Geographical Information System did not find any new properties in the borough that met the descriptions contained within Box 5.3 Section A.1 of the LAQM.TG(09).

There are no new/newly identified congested streets with a flow above 5,000 vehicles per day and residential properties close to the kerb, that have not been adequately considered in previous rounds of Review and Assessment.

3.2 Busy Streets Where People May Spend 1-hour or More Close to Traffic

There are no new/newly identified busy streets where people may spend 1 hour or more close to traffic

3.3 Roads with a High Flow of Buses and/or HGVs.

There are no new/newly identified roads with high flows of buses/HDVs.

3.4 Junctions

There are no new/newly identified busy junctions/busy roads.

3.5 New Roads Constructed or Proposed Since the Last Round of Review and Assessment

There are no new/proposed roads.

3.6 Roads with Significantly Changed Traffic Flows

Derbyshire County Council provided average count data for the preceding five years where flows were greater than 8000 vehicles over a 12 hour period. The Highways Authority recommended multiplying this 12hr data by 25% to reflect likely flows over a 24 hour period.

There are no new/newly-identified roads with significantly changed traffic flows.

3.7 Bus and Coach Stations

That there are no relevant bus stations in the Local Authority area.

4 Other Transport Sources

4.1 Airports

There are no airports in the Local Authority area.

4.2 Railways (Diesel and Steam Trains)

4.2.1 Stationary Trains

There are no locations where diesel or steam trains are regularly stationary for periods of 15 minutes or more, with potential for relevant exposure within 15m.

4.2.2 Moving Trains

There are no locations with a large number of movements of diesel locomotives, and potential long-term relevant exposure within 30m.

4.3 Ports (Shipping)

There are no ports or shipping that meet the specified criteria within the Local Authority area.

5 Industrial Sources

5.1 Industrial Installations

5.1.1 New or Proposed Installations for which an Air Quality Assessment has been Carried Out

Amber Valley Borough Council confirms that there are no new or proposed industrial installations for which planning approval has been granted within its area or nearby in a neighbouring authority.

5.1.2 Existing Installations where Emissions have Increased Substantially or New Relevant Exposure has been Introduced

Amber Valley Borough Council confirms that there are no industrial installations with substantially increased emissions or new relevant exposure in their vicinity within its area or nearby in a neighbouring authority.

5.1.3 New or Significantly Changed Installations with No Previous Air Quality Assessment

Amber Valley Borough Council confirms that there are no new or proposed industrial installations for which planning approval has been granted within its area or nearby in a neighbouring authority.

5.2 Major Fuel (Petrol) Storage Depots

There are no major fuel (petrol) storage depots within the Local Authority area.

5.3 Petrol Stations

Amber Valley Borough Council confirms that there are no petrol stations meeting the specified criteria

5.4 Poultry Farms

Amber Valley Borough Council confirms that there are no poultry farms meeting the specified criteria.

6 Commercial and Domestic Sources

6.1 Biomass Combustion – Individual Installations

Amber Valley Borough Council confirms that there are no biomass combustion plant in the Local Authority area.

6.2 Biomass Combustion – Combined Impacts

There are no significant biomass combustion plant issues in the Local Authority area and no significant issues from domestic solid fuel burning in the borough. It is deemed to be unnecessary to assess the combined impacts of biomass combustion.

6.3 Domestic Solid-Fuel Burning

This was considered in the Updating and Screening Assessment 2006, which concluded that detailed assessment was not required. The house condition survey conducted at the time showed coal burning to be declining in this area so further assessment is not necessary.

The Council will monitor complaints regarding domestic solid-fuel burning, and intend to discuss the domestic solid fuel matters with the Solid Fuel Association. These steps should help the Council establish the local trend in domestic solid-fuel burning.

Amber Valley Borough Council confirms that there are no areas of significant domestic fuel use in the Local Authority area.

7 Fugitive or Uncontrolled Sources

7.1 Smalley Opencast Extension

As discussed in the Progress Report 2011 and the Updating and Screening Assessment 2009; UK Coal is currently extracting approximately 1,000,000 tonnes of coal, over a 4.5-year period, by opencast methods at the 122-hectare Lodge House Opencast site. This is being undertaken under planning permission granted by Derbyshire County Council.

Derbyshire County Council consulted Amber Valley Borough Council on an application to extend the current opencast. The proposed working scheme aims to recover approximately 748,000 tonnes of coal by surface mining methods over a 42-month period the proposed extension area is 78-hectares in size.

A Dust Management & Action Plan is operational at the site and monitoring includes the use of Sticky Pads\Strips and a TOPAS instrument. Planning permission was granted to this application and included conditions relating to air quality; please refer to Progress Report 2011 for more detail.

Results submitted to the Council by the site operator indicate that the site has not produced a significant increase of PM10 in the locality. The monitoring results did produce some spurious readings that do not correlate to site operations and predominantly occur in conditions of high humidity and/or mist. This suggests that the TOPAS instrument may be malfunctioning due to the high humidity levels overwhelming the pre-heaters and causing condensation in the equipment leading to obvious errors in the results. Operations during periods of lower humidity show compliance with the relevant Air Quality Standards. However, this is being kept under review.

7.2 George Farm Opencast

Derbyshire County Council have granted planning application for an opencast scheme to be known as the George Farm Reclamation Site. The site is located approximately 12km to the North East of Derby and 2km to the West of Heanor town centre, the nearest urban area. The site comprises an area of approximately 35 hectares centred at National Grid Reference 441150, 346780. The site is intended to be worked to provide indigenous coal, over approximately 36 months.

Amber Valley Borough Council have considered the air quality aspects of the proposed development, discussed these with the applicant's consultants and provided comments back to Derbyshire County Council were; at the time of writing the decision notice has not been published, so we are currently unable to confirm how our comments have been formally incorporated into the permission.

8 Conclusions and Proposed Actions

8.1 Conclusions from New Monitoring Data

The Progress Report 20011 concluded that the cost of a monitoring programme could not be justified based on the very low likelihood that National Air Quality Objectives would be breached in the borough. As such there is no new monitoring data to discuss.

8.2 Conclusions from Assessment of Sources

Amber Valley Borough Council can confirm that no local developments are predicted to increase the concentration levels of any ambient pollution as listed in the regulations.

This assessment was intended to identify those aspects that have changed since the last round of review and assessment. The USA was also intended to indicate which pollutants and specific locations within the Borough require a Detailed Assessment.

This report has considered 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, there is no reason to believe there will be any exceedences of National Air Quality Objectives, therefore there is no requirement to procedure to Detailed Assessment.

8.3 Proposed Actions

Based on the findings of this report, and previous reports, the resources required to implement an air-monitoring scheme in Amber Valley cannot currently be justified. This decision will remain under review, and any relevant emerging information will be considered.

Amber Valley Borough Council's next course of action is to produce the next progress Report in mid 2013.

9 References

- AVBC USA 2006
- AVBC Progress Report 2007
- AVBC Progress Report 2008
- AVBC Updating and Screening Assessment 2009
- AVBC Progress Report 2010
- AVBC Progress Report 2011
- AVBC Local Plan 2006
- Defra (2003) Local Air Quality Management. Technical Guidance. LAQM.TG (03).
- Defra (2009) Local Air Quality Management. Technical Guidance. LAQM.TG (09)
- National Atmospheric Emissions Inventory website, <http://www.naei.org.uk/>
- <http://www.airquality.co.uk/laqm/tools.php>