AIR QUALITY PROGRESS REPORT 2007

BROXTOWE BOROUGH COUNCIL

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1.0. AIM AND INTRODUCTION OF PROGRESS REPORT

1.1. AIM OF PROGRESS REPORT

The Government introduced Progress Reports in order to provide continuity in the Local Air Quality Management (LAQM) process. They provide a reporting mechanism between the three yearly requirement to carry out a review and assessment of air quality.

For local authorities implementing Air Quality Action Plans there is a separate requirement to produce an annual Air Quality Action Plan Progress Report (AQAP). It is recommended that these reports are incorporated with the review and assessment Progress Report when one is being produced.

The main aims of this report are therefore to report progress on implementing air quality management.

The report has been produced in accordance with the guidance published by the Department for the Environmental Food and Rural Affairs (DEFRA) LAQM.PRG (03).

1.2. INTRODUCTION

Part IV of the Environment Act 1995 requires local authorities to undertake a review and assessment of local air quality.

The National Air Quality Strategy fulfils the requirements under the Environment Act 1995 for a national air quality strategy, which sets out, polices for managing ambient air quality. The primary objective of the strategy is to ensure a level of ambient air quality in public places which poses no significant risk to health or quality of life.

Standards have been set for the following eight key pollutants:-

- Benezene
- 1,3 Butadiene
- Carbon Monoxide
- Lead
- Nitrogen Dioxide
- Particulates (PM_{10})
- Sulphur Dioxide
- Ozone

Local Authorities are required to consider these pollutants with the exception of Ozone, which is to be addressed at national level.

This report has considered all of the pollutants, however, Lead, Carbon Monoxide, Benezene, Sulphur Dioxide 1,3 Butadiene Particulates (PM_{10}) have not been reported on as previous studies carried out by the authority have indicated that the respective objectives are being met.

This progress report will therefore focus on Nitrogen Dioxide (NO_2) within the borough, and specifically on the AQMA's.

1.2.1. AIR QUALITY WITHIN BROXTOWE BOROUGH COUNCIL

Following the declaration of 4 Air Quality Management Areas (AQMA's) and in line with its statutory duty, Broxtowe Borough Council published a draft Air Quality Action Plan and Stage 4 Review and Assessment report in February 2007.

The report identified that the source of NO_2 within the AQMA's was from vehicles travelling along the M1 corridor. The Council has no control on this source and therefore it was determined that discussions with the Highways Agency was the most viable option to reduce the air pollution below the prescribed standard.

Whilst the Council has no direct control over the primary source of NO_2 within the AQMA's, the Council has identified a number of measures, which can be implemented, that can help air quality, not only within the AQMA's, but also the rest of the borough. These have been implemented and continue to be ongoing.

Comments on the Air Quality Action Plan were received from the Department for Environment, Food and Rural Affairs (DEFRA) and the Environment Agency (EA) and will be implemented into the final plan.

2.0. NEW MONITORING RESULTS

2.1. NITROGEN DIOXIDE (NO_2)

Broxtowe Borough Council has a diffusion tube covering twenty different sites within the borough. Three of the diffusion tubes are co-located with a real time monitor, which is currently being utilised by Arup's on behalf of the Highways Agency.

2.1.1. Real-Time Monitoring

NO_2 is being monitored using ozone chemiluminescence which is the reference method specified by the EC NO_2 Directives. Calibration methods employed included primary calibration by permeation tube, gravimetric cylinder and static dilution and transfer calibration by cylinder audit during a fortnightly site visit. The expected accuracy of the method for nitrogen dioxide is $\pm$10-11% with a precision of $\pm$3.5ppb.

The site is located off the A6007 Stapleford Road, Trowell, at the back on an industrial site (Martyn Barratt Transport) and facing the M1 southbound carriageway (OS Grid reference 448628, 339122) approximately 40 metres away from the carriageway. The monitoring site is approximately equidistant from the carriageway and the nearby houses in Iona Drive (AQMA1). This location was utilised by Broxtowe Borough Council to monitor pollutants from the M1 during 2004/05.

Broxtowe Borough Council intend to utilise the Highways Agency's monitoring data to re-model the AQMA's within the borough.

2.1.2. Diffusion Tube Data

Broxtowe Borough Council utilises Gradko International Ltd for the supply and analysis of its diffusion tubes. The tubes are prepared using 20% TEA (triethanolamine) in water coating. This preparation method has showed the most consistent precision of the laboratories involved in the network.

Analysis of the NO_2 diffusion tubes is carried out using u.v. spectroscopy colorimetric techniques in accordance with Gradko International Ltd U.K.A.S. accredited internal laboratory procedures plus reference to the Defra Users' issued by AEA Energy and Environment.

2.1.2.1. Diffusion tube adjustment

A bias adjustment factor of 0.98 has been applied to the diffusion tube data. This factor is taken from the most recent database of factors, available from the Review and Assessment Helpdesk website (spreadsheet v02/08)

Using guidance in LAQM.TG(03), correction factors to estimate annual average NO_2 concentrations for 2010 has been applied.

The diffusion tube data can be seen in the table overleaf.

		Annual average concentration, µg m-3		
Location	ID	2006 Annual Averages (Uncorrected)	2006 Annual Averages (Corrected)	Predictions for 2010
19 Nottingham Road, Nuthall	BX01	37.95	37.22	31.67
Hilltop Offices, Nottingham Road, Eastwood	BX02	22.09	21.65	18.41
Chilwell Olympia, Bye-pass Road, Chilwell	BX03	25.51	25.00	21.26
St. Helen's Church, Stapleford Road, Trowell	BX04	32.52	31.87	27.12
7 Colonsay Close, Trowell Park	BX07	31.23	30.61	26.03
23 Stapleford Road, Trowell	BX08	27.42	26.87	22.85
Nuthall Methodist Church, Nottingham Road, Nuthall	BX09	30.30	29.69	25.25
The Old Rectory, Nottingham Road, Nuthall	BX10	29.36	29.26	24.89
34 Iona Drive, Trowell Park	BX11	40.47	39.66	33.73
71 Nottingham Road, Trowell	BX12	32.62	31.97	27.19
20 Nottingham Road, Nuthall	BX13	41.19	40.37	34.34
18 Roehampton Drive, Trowell Park	BX16	28.08	26.42	22.47
Trowell Services, M1 Northbound	BX17	57.99	56.83	48.34

	Annual average concentration, µg m-3			
Location	ID	2006 Annual Averages (Uncorrected)	2006 Annual Averages (Corrected)	Predictions for 2010
Trowell Services, M1 Southbound	BX18	54.19	53.12	45.18
Sherwin Arms, Derby Road, Bramcote	BX20	40.95	40.13	34.13
A610 / B600 Nuthall Island, Nuthall	BX22	47.41	46.46	39.52
Martrun Barratt's Stapleford Road, Trowell	BX23	34.44	33.75	28.71
Martrun Barratt's Stapleford Road, Trowell	BX24	35.77	35.05	29.81
Martrun Barratt's Stapleford Road, Trowell	BX25	35.22	34.52	29.36
18 Tiree Close, Trowell Park	BX31	39.69	38.90	33.09
30 Derbyshire Avenue, Trowell	BX32	34.94	34.24	29.12
81 Nottingham Road, Trowell	BX33	34.75	34.06	28.97

Of the exceedences in 2006, 20 Nottingham Road, Nuthall is situated within AQMA4, however, will fall below the standard and objective prior to 2010.

Trowell Services is situated along the M1 corridor. Whilst this is an exceedence of the air quality objective, the relevant exposure does not exist and therefore no further action is necessary.

3.0. NEW LOCAL DEVELOPMENTS WITHIN THE BOROUGH

3.1. INDUSTRIAL PROCESSES

3.1.1. There are no new Part A processes within the borough.

3.1.2 A new Part B permit has been issued for solvent spraying since the last review and assessment. There have also been applications for 4 permits for dry cleaning establishments. These are not identified to have significant air quality impact.

3.1.3. There is no mixed-use developments within the borough of any significance.

3.2. TRANSPORT

New developments with an impact on air quality (in particular those that will significantly change traffic flows)

3.2.1. It is anticipated the Highways Agency will begin Contract 1 of the M1 widening scheme in 2008. This will widen the M1 within the existing carriageway from 3 lanes to 4 between Junction 25 to Junction 28. The Council continues to be in discussion with the Highways Agency to ensure air quality will not be compromised due to the development.

3.2.2. The Highways Agency have undertaken works at Bardill's roundabout, near Junction 25 of the M1. Whilst there is no relevant exposure within 10m of roadside, it is anticipated this will have a positive effect on air quality within the borough due to improved traffic management.

3.2.3. NET (Nottingham Express Transit) has been given Government funding for the extension of the Tram system into Nottingham. The tram will go through Broxtowe and will provide better access into Nottingham. It is anticipated this development will have a positive effect on air quality within the borough. Further information is available from http://www.netphasetwo.com.

3.3. NEW RETAIL DEVELOPMENTS

Planning permission has been granted for large retail supermarkets in Giltbrook and Beeston. A planning condition that is attached to the granting of the permission is that the developers submit reports on the effect the developments will have on air quality. Any possible exceedence of air quality standards must be combated and proposals showing how this is to be rectified are to be submitted to the local authority prior to the commencement of the development.

The reports have now been submitted and air quality will continue to be assessed as a result of these developments.

3.4. NEW MINERAL DEVELOPMENTS

No new mineral developments have been approved since the previous Progress Report.

3.5. NEW LANDFILL DEVELOPMENTS

No new landfill sites have been approved since the previous Progress Report

4.0. CONCLUSION

This report confirms that comments have been made by DEFRA and the EA on the draft Air Quality Action Plan which will be incorporated and before the document is finalised.

The Council continues to monitor air quality within the AQMA's as well as the rest of the borough and the objectives continue to be on target to fall below the prescribed standards prior to 2010.

The report has also highlighted that the Council is addressing air quality issues within the borough by taking positive steps to improve it as identified in section 3.3. of this report, which identified the need for retail developments to carry out an air quality assessment prior to the commencement of works.