Broxtowe Borough COUNCIL

Positive People - Positive Leadership - Positive Partnerships

AIR QUALITY PROGRESS REPORT 2008

CONTENTS

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.

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 have been incorporated into the final plan, where possible.

On 4 December 2007 the Council's committee resolved to adopt the Action Plan and commit to carrying out the actions identified to assist the authority in meeting the prescribed standards.

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 0.87 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	2007 Annual Averages (Uncorrected)	2007 Annual Averages (Corrected)	Predictions for 2010
19 Nottingham Road, Nuthall	BX01	37.14	32.31	28.43
Hilltop Offices, Nottingham Road, Eastwood	BX02	23.42	20.38	17.93
Chilwell Olympia, Bye-pass Road, Chilwell	BX03	28.32	24.64	21.68
St. Helen's Church, Stapleford Road, Trowell	BX04	27.73	24.13	21.23
7 Colonsay Close, Trowell Park	BX07	33.34	29.01	25.53
23 Stapleford Road, Trowell	BX08	27.62	24.03	21.15
Nuthall Methodist Church, Nottingham Road, Nuthall	BX09	34.63	30.13	26.51
The Old Rectory, Nottingham Road, Nuthall	BX10	29.44	25.61	22.54
34 Iona Drive, Trowell Park	BX11	45.70	39.76	34.99
71 Nottingham Road, Trowell	BX12	30.28	26.34	23.18
20 Nottingham Road, Nuthall	BX13	43.40	37.76	33.23
18 Roehampton Drive, Trowell Park	BX16	29.67	25.82	22.72
Trowell Services, M1 Northbound	BX17	57.79	50.28	44.25

	Annual average concentration, µg m-3			
Location	ID	2007 Annual Averages (Uncorrected)	2007 Annual Averages (Corrected)	Predictions for 2010
Trowell Services, M1 Southbound	BX18	65.30	56.81	49.99
Sherwin Arms, Derby Road, Bramcote	BX20	42.79	37.23	37.26
A610 / B600 Nuthall Island, Nuthall	BX22	55.15	47.98	42.22
Martrun Barratt's Stapleford Road, Trowell	BX23	36.55	31.80	27.98
Martrun Barratt's Stapleford Road, Trowell	BX24	36.88	32.09	28.24
Martrun Barratt's Stapleford Road, Trowell	BX25	37.42	32.56	28.65
18 Tiree Close, Trowell Park	BX31	43.51	37.85	33.31
30 Derbyshire Avenue, Trowell	BX32	34.46	29.98	26.38
81 Nottingham Road, Trowell	BX33	31.96	27.81	24.47

Of the exceedences in 2007, the A610 / B600 Nuthall Island, Nuthall and Trowell Services situated along the M1 corridor has no relevant exposure 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 been three permits (one pet food manufacturer and two petrol stations) which have been revoked since the last Progress Report (2007).

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. The Highways Agency started works in January 2008 to widen the M1 from 3 lanes to 4 between Junction 25 and Junction 28. It is anticipated that this will improve the flow of traffic and therefore have a positive effect on air quality. The Council continues to be in discussion with both the Highways Agency and MVM (Contractors for the scheme) to ensure air quality will not be compromised due to the development.

3.2.2. 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. The proposed Tram system is currently undergoing a public enquiry. Further information is available from http://www.netphasetwo.com.

3.3. NEW RETAIL DEVELOPMENTS

No retail developments have been approved since the previous Progress Report (2007).

3.4. NEW MINERAL DEVELOPMENTS

No new mineral developments have been approved since the previous Progress Report (2007).

3.5. NEW LANDFILL DEVELOPMENTS

No new landfill sites have been approved since the previous Progress Report (2007).

4.0. FURTHER INFORMATION

Broxtowe Borough Council were successfully awarded DEFRA funding towards air quality modelling. Confirmation of quotes are currently ongoing prior to the funding being spent on re-modelling the existing Air Quality Management Areas (AQMA's). The remainder of the money will be returned to DEFRA.

The monitoring data for the modelling will be provided by the Highways Agency who are monitoring pollutants along the M1 as part of the Environmental Impact Assessment. Monitoring began in October 2006 and is expected to finish in October 2008.

5.0. CONCLUSION

This report confirms that comments have been made by DEFRA and the EA on the draft Air Quality Action Plan which has been incorporated where possible.

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. There have been no significant changes within the borough that are likely to affect the air quality.