



**MAGHERAFELT DISTRICT COUNCIL**

**PROGRESS REPORT ON AIR QUALITY MANAGEMENT**

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**District EHO**

## AIR QUALITY PROGRESS REPORT

### 1 BACKGROUND

Magherafelt District Council in February 2001 submitted a 1<sup>st</sup> Stage Review and Assessment of Air Quality. Using DETR guidance documents, the Review and Assessment considered pollutants of concern to determine whether or not a Second Stage Review and Assessment was required. The results of the 1<sup>st</sup> Stage Review and Assessment are summarised below.

<b>POLLUTANT</b>	<b>2<sup>ND</sup> STAGE REVIEW AND ASSESSMENT NEEDED</b>
Carbon dioxide	No
Benzene	No
1,3 Butadiene	No
Lead	No
Nitrogen dioxide	Yes
Sulphur dioxide	Yes
PM <sub>10</sub>	Yes

A 2<sup>nd</sup> Stage Review and Assessment was submitted in April 2004. The pollutants highlighted above were subject to further scrutiny and the conclusion of the report in part prepared by NETCEN was that there was no need to proceed to a Stage 3 Review and Assessment for SO<sub>2</sub>, NO<sub>2</sub> or PM<sub>10</sub>.

An 'Air Quality Update and Screening Assessment' (USA) Report was submitted in April 2006 and a 'Progress Report on Air Quality Management' in April 2007. These documents will be referred to where relevant later in this report.

Funding continues to be received from the Department of the Environment to carry out further monitoring of nitrogen dioxide on an on-going basis in order to monitor trends over time and validate the conclusions drawn in previous reviews.

## 2 REVIEW AND ASSESSMENT OF NITROGEN DIOXIDE

### 2.1 Monitoring results

NO<sub>2</sub> diffusion tubes have been placed at three locations in the Magherafelt District Council area since 1999, and in seven locations since 2002. The results of this monitoring exercise are summarised below.

**Table 2.1 Annual average concentrations (µg/m<sup>3</sup>) measured by diffusion tubes at kerbside locations in the Magherafelt area 1999 -2007**

Year	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7
1999	38	35	25	-	-	-	-
2000	40	29	27	-	-	-	-
2001	33	31	29	16	-	-	-
2002	32	35	33	19	18	22	25
2003	30	36	32	17	20	25	22
2004	36	37	30	15	16	18	22
2005	23	29	34	15	16	15	18
2006	33	35	33	17	17	14	19
2007	47	37	38	18	20	21	22

See Appendix 1 for site location details, and discussion section below.

### 2.2 Discussion

Analysis of the diffusion tubes was carried out by Lambeth Scientific Services Ltd. In line with the approach adopted by NETCEN in their report dated May 2002, when it was reported that there was a high variability in laboratory bias, both positive and negative, no bias correction has been made on 1999 – 2006 data. Results for 2007 are calculated on a bias adjustment factor of 1.056 for Lambeth Scientific Services Ltd.

The overarching objective of the monitoring activity is to maintain or improve human health by measuring levels of pollution on an on-going basis and to act on the results obtained. This objective has been achieved in sites 2 - 7 as data collected for NO<sub>2</sub> confirms that levels of this pollutant relevant to this scheme meet with standards set.

In addition, the diffusion tubes are located at kerbside locations and it would be reasonable to anticipate that concentrations at receptor locations would be significantly lower than the figures obtained. Site 2 is located in an area of dense traffic use in Magherafelt town (with minimal residential use), Site 3 is located adjacent to the busiest road junction in Maghera (again with minimal residential use), Sites 4 and 7 are located

in areas away from peak traffic use in Magherafelt town, whilst Sites 5 and 6 are located in areas outside the main towns.

Results for site 1 showed a clear exceedance to the standard set for NO<sub>2</sub>. The area concerned has subsequently been re-assessed and it has been established that properties in the vicinity of this tube, one of which was previously residential, are now commercial or available for commercial let.

As stated in previous Progress and USA Reports the proposed A6 Toome by-pass would ease the weight of traffic on Hillhead Road significantly. The by-pass is now in operation and takes the bulk of traffic away from its original route thus reducing the impact of traffic on receptors close to the monitoring location. The new route runs through an area of open land in which there are no nearby receptors at present. Results from Site 6 showed a downward trend year on year, however in 2007 only 7 months data was available due to a road traffic accident in the area which resulted in the pole where the diffusion tube was located being removed, thus this showed a slight increase in the annual average concentration.

### **2.3 Conclusion**

The results obtained show that no exceedances have occurred in sites 2 – 7. It can therefore be concluded that the air quality objective for NO<sub>2</sub> continues to be met at these sites in each of the years considered.

Due to the exceedance to the standard set for site 1 it is the intention of this department to provide an additional tube in the vicinity of the nearest residential property for comparison purposes. It is anticipated that this will not be in exceedance due to distance. We therefore feel that it would be premature to progress to a Detailed Assessment.

### **3 REVIEW AND ASSESSMENT OF PM<sub>10</sub>**

#### **3.1 Monitoring situation**

A 3<sup>rd</sup> stage review was not required for PM<sub>10</sub> from vehicular, industrial and domestic sources, or from sources of fugitive dust. Data has ceased to be collected from the 8 Port Bubbler located at Greenvale Leisure Centre on the instructions of the Director of Environmental Health.

#### **3.2 Discussion**

The A6 Toome by-pass has re-routed traffic away from relevant receptors and is seen as a being a benefit as regards dispersal of pollutants. The total traffic numbers using the by-pass and roads in the general area remain substantially the same.

No significant changes likely to affect pollutant concentrations have occurred since the USA Report was compiled.

#### **3.3 Conclusion**

It is considered that there are no significant sources of PM<sub>10</sub> which are likely to exceed the objective levels in the Magherafelt District Council area.

## **4 REVIEW AND ASSESSMENT OF SULPHUR DIOXIDE**

### **4.1 Monitoring situation**

The 8 Port bubbler is no longer in operation at the Greenvale Leisure Centre on instructions of the Director of Environmental Health.

### **4.2 Discussion**

No significant changes have occurred in the district since submission of the USA Report in April 2006 and Progress Report in April 2007 which would lead to an increase in SO<sub>2</sub> levels. It is anticipated that levels of coal burning in the areas studied previously will reduce further over time

### **4.3 Conclusion**

It is anticipated that objective levels will continue to be met in the Magherafelt District Council area.

## **5 NEW LOCAL DEVELOPMENTS**

### **5.1 Industrial estate at Hillhead Road, Toomebridge**

The infrastructure of the industrial estate is now in place but at present the uptake of sites by industry continues to be slow. The area will remain under review for inclusion in future studies for relevant pollutants.

## **Appendix 1**

### **NO<sub>2</sub> diffusion tubes – site location details**

#### **Site 1**

- Grid reference - 8961 9053
- Adjacent No 19 Queen Street, Magherafelt
- Main route through town, buildings on both sides of road

#### **Site 2**

- Grid reference – 8974 9092
- Adjacent No 3 Church Street, Magherafelt
- Main route through town, located between two roundabouts, buildings on both sides of road

#### **Site 3**

- Grid reference – 8528 0044
- Adjacent No 58 Main Street, Maghera
- Adjacent to staggered junction at most frequently used part of town

#### **Site 4**

- Grid reference 8988 9071
- Wesleyan Mews, Magherafelt ( approx 10m from side of Church Street )
- Off main road leading to residential cul-de-sac

#### **Site 5**

- Grid reference 9254 9318
- Adjacent No 15 Boyne Row, Castledawson
- Roadside location between terraced houses on both sides of road

#### **Site 6**

- Grid reference 9887 9085
- Adjacent No 2 Hillhead Road, Toomebridge ( close to eel fishery )
- Area formerly adjacent to main arterial route ( new A6 Toome by-pass has taken bulk of traffic away from this location )

#### **Site 7**

- Grid reference 8982 9069
- Adjacent No 6 King Street, Magherafelt
- Moderately used route into town centre, built up on both sides of road