

Newry & Mourne District
Council

Local Air Quality Progress Report

August 2008

Executive Summary

Under the Local Air Quality Management (LAQM) regime, introduced by the Environment (NI) Order 2002, Newry and Mourne District Council has a duty to review and assess local air quality against health-based, statutorily prescribed pollutant limits and in partnership with others to undertake measures aimed at reducing pollutant levels where appropriate.

Following completion of the first round of review and assessment the Council designated five Air Quality Management Areas (AQMAs) within Newry City in April 2006. The AQMAs were declared for PM₁₀ (Particles under 10µm in diameter) and nitrogen dioxide (NO₂) at the streets, Water Street, Kilmorey Street, Bridge Street, St Mary Street, and Canal Street. The Council has established a Working Group of local partner agencies who are working towards the development of an Action Plan for the AQMAs.

In October 2006 the Council completed its Updating and Screening Assessment. This involved undertaking an assessment of whether statutory air quality standards and objectives were being achieved or likely to be achieved within relevant periods. Seven specific pollutants considered were carbon monoxide (CO), benzene, 1,3-butadiene, NO₂, lead, sulphur dioxide (SO₂) and PM₁₀. The conclusion of this report was that Newry and Mourne District Council was not required to proceed to a more detailed assessment for any of the prescribed pollutants and that it would implement an Action Plan to deal with the air quality issues in the 5 AQMA's.

Since the previous Progress Report submitted in October 2007 this Council has expanded its air quality-monitoring network within Newry City. This has resulted in an increase in NO₂ diffusion tube sites monitored from 28 to 33. Within the Automatic Air Quality Monitoring Station in Bridge Street PM₁₀ and NO₂ are monitored. The automatic Air Quality Monitoring Station at Trevor Hill continues to monitor PM₁₀, SO₂ and NO₂. The automatic Air Quality Monitoring Station at Monaghan Row monitors PM₁₀ and SO₂.

A comprehensive review of the air quality-monitoring network has been completed and the recommendations of this review are being implemented.

This report provides a summary of air quality monitoring results for the calendar years 2006 and 2007. NO₂ diffusion tube monitoring data for 2006 and 2007 in Sandy Street and Patrick Street, which are outside of the existing AQMAs, are showing exceedences of the annual mean objective. These locations are already being considered within the action plan in order to avoid the Council preparing separate action plans over different timescales.

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1.0 Introduction

1.1 Purpose and Role of Progress Reports

This progress report has been prepared as part of Newry and Mourne District Council's responsibilities under the Environment (Northern Ireland) Order 2002. The progress report has been introduced into the local air quality management system, as a means of combating the 'stop-start' approach to environmental reporting and integrate the concepts of local air quality management into the routine of local authority operations.

The overall aims of this progress report are to:

- Report progress on implementing local air quality management.
- Report progress in achieving and maintaining concentrations of prescribed pollutants below the air quality objectives.

This report has been prepared in accordance with the Environment & Heritage Service guidelines as published in Progress Report Guidance LAQM.PRGNI (04), November 2004.

1.2 Air Quality Strategy Objectives

The following air quality objectives set out in the Air Quality Regulations (NI) 2003 provide the statutory basis for the system of Local Air Quality Management.

Table 1.1: Air Quality Strategy Objectives

Pollutant	Objective	Measured as	To be achieved by
Benzene	3.25 µg/m ³	Running Annual Mean	31/12/2010
1,3-Butadiene	2.25 µg/m ³	Running Annual Mean	31/12/2003
Carbon monoxide	10.0 mg/m ³	Maximum daily running 8 Hour Mean	31/12/2003
Lead	0.5 µg/m ³	Annual Mean	31/12/2004
	0.25 µg/m ³	Annual Mean	31/12/2008
Nitrogen dioxide	200 µg/m ³ Not to be exceeded more than 18 times per year	1 Hour Mean	31/12/2005
	40 µg/m ³	Annual Mean	31/12/2005
Particles (PM₁₀) (gravimetric)^d	50 µg/m ³ Not to be exceeded more than 35 times per year	24 Hour Mean	31/12/2004
	40 µg/m ³	Annual Mean	31/12/2004
Sulphur Dioxide	266 µg/m ³ Not to be exceeded more than 35 times per year	15 Minute Mean	31/12/2005
	350 µg/m ³ Not to be exceeded more than 24 times per year	1 Hour Mean	31/12/2004
	125 µg/m ³ Not to be exceeded more than 3 times per year	24 Hour Mean	31/12/2004

1.3 Conclusions of Updating and Screening Assessment July 2008

PM₁₀

Newry and Mourne District Council submitted its Updating and Screening Assessment in October 2006. Having considered all relevant background, industrial and traffic criteria it was found that there was little likelihood of exceeding the 2004 air quality objectives for PM₁₀ at that time outside the existing AQMA's.

SO₂

Newry and Mourne District Council considers that there is unlikely to be an exceedence of the 15 minute objective for 2005, or 1 hour or 24 hour objective for 2004, for sulphur dioxide.

NO₂

The Updating and Screening Assessment concluded that the risk of the 2005 objectives for nitrogen dioxide being exceeded outside existing AQMA's in the district was negligible for all sources. The results for monitoring within an AQMA show that there is an exceedence of the annual mean objective limit for NO₂ diffusion tube sampling at Water Street in Newry. However, since Water Street is within an existing AQMA, there was no requirement to progress to a detailed assessment at this time.

Other Prescribed Pollutants – Benzene, Carbon Monoxide (CO), 1,3-Butadiene, & Lead

These pollutants were all screened out at the Updating and Screening Assessment, as being insignificant in terms of potential for exceedence of prescribed standards. Consequently no monitoring of these pollutants has been initiated in the council area.

2.0 New Monitoring Data

2.1 Summary of Monitoring Undertaken During 2006 and 2007

Newry and Mourne District Council undertakes ambient air quality monitoring of the following pollutants in their area:

- **PM₁₀** (by Automatic Air Monitoring Equipment)
- **NO₂** (by Automatic Air Monitoring Equipment & Diffusion Tube)
- **SO₂** (by Automatic Air Monitoring Equipment & Diffusion Tube)

Table 2.1 below details the site locations

Table 2.1: Air Quality Monitoring In Newry and Mourne District Council

Pollutant	Equipment	Location	Eastings	Northings
PM₁₀	TEOM series 1400a	Monaghan Row, Newry	307852	326758
	TEOM series 1400a	Trevor Hill, Newry	308707	326831
	TEOM series 1400a	Bridge Street	308329	325794
SO₂	Fluorescent Real-Time Analyser 100A	Monaghan Row, Newry	307852	326758
	Fluorescent Real-Time Analyser 100A	Trevor Hill, Newry	308707	326831
NO_x & NO₂	Chemiluminescence Real-Time Analyser Model 200A	Monaghan Row, Newry	307852	326758
	Chemiluminescence Real-Time Analyser Model 200A	Trevor Hill, Newry	308707	326831
	Chemiluminescence Real-Time Analyser Model 200A	Bridge Street	308329	325794

Table 2.1.1: NO₂ Diffusion Tube Monitoring in Newry and Mourne District Council

Pollutant	Equipment	Location	Eastings	Northings
NO₂	Nitrogen Dioxide Diffusion Tubes	Our Ladys	308487	326957
		Canal Street Newry (Kerbside)	308536	326867
		59 Canal Street Newry (Kerbside)	308468	326988
		Catherine Street 2	308432	327000
		Barrack Street	308378	327176
		Talbot street	309064	326832
		52 Abbey Yard Newry (Kerbside)	308734	325990
NO₂	Nitrogen Dioxide Diffusion Tubes	25 Sandy Street Newry (Kerbside)	308927	326863
		59 Sandy Street Newry (Kerbside)	308890	326847
		Glinn Ree Court Newry (Kerbside)	308877	327148
		North Street Newry (Kerbside)	308714	326614
		High Street Newry (Kerbside)	308802	326378

		33 Kilmorey Street, Newry (Kerbside)	308666	325911
NO₂	Nitrogen Dioxide Diffusion Tubes	52 Kilmorey Street Newry (Kerbside)	308728	325872
		Lower Water Street Newry (Kerbside)	308655	326480
		River Street	308664	325889
		4 Bridge Street, Newry (Kerbside)	308419	325866
		60 Bridge Street, Newry (Kerbside)	308329	325794
		Dominic Street	308251	325770
		42 St Mary's Street Newry (Kerbside)	308493	326118
NO₂	Nitrogen Dioxide Diffusion Tubes	Water Street Newry (Kerbside)	308682	326593
		Trevor Hill Monitoring Station Newry (Kerbside)	308709	326138
		Kildare Street Newry (Kerbside)	308688	326665
		Stone Bridge Newry (Kerbside)	308664	326707
		Basin View Terrace, Newry (Kerbside)	308237	325611
		Dominic/ Patrick Street	308173	326173

		Dominic/Francis Street (Kerbside)	308168	326184
NO ₂	Nitrogen Dioxide Diffusion Tubes	999 Patrick Street	308070	326530
		Patrick Street (Kerbside)	308043	326608
		Monaghan Row Newry (Urban Background)	307850	326742
		Catherine Street 1	308448	327007
		Hill Street	308579	326363
		Market Office	308541	326127

Roadside = 1-5m from kerb, urban background = at least 50m from the kerb of any major road.

No other pollutants prescribed in the Air Quality Regulations (NI) 2003 are monitored in the area covered by Newry and Mourne District Council.

Note: A summary of the air quality monitoring data carried out in the calendar years of 2003 and 2004 is provided in the council's Progress Report submitted in 2007.

2.1.1 Automatic Monitoring Stations

PM₁₀

There are two Air Quality Objectives associated with PM₁₀ concentrations, which have been derived from the EU Stage 1 limit values in the first Air Quality Daughter Directive. These limits are currently referenced in the Local Air Quality Management, Technical Guidance Document TG (03) as 40µg/m³ annual mean and 50µg/m³ as the 24 hour mean not to be exceeded more than 35 days per year (also see Table 1.1).

Newry and Mourne District Council have 3 Rupprecht & Patashnick Continuous Analyser (TEOM series 1400ab); one located at Trevor Hill, Newry; another at Monaghan Row, Newry; and Bridge Street, Newry (see Appendix A, figure 1). The sites at Trevor Hill and Bridge Street are busy roads within the city centre. The Trevor Hill site is at the edge of Water Street AQMA whilst the Bridge Street is within an existing AQMA. These are considered as roadside sites and are close to transport links where there is a significant daily traffic flow. The site at Monaghan Row is located at the council offices. This is considered as an urban background site, due to its close proximity to a number of residential areas. The R&P TEOM 1400ab, measures particulate matter with a diameter of less than 10µm using a gravimetric air sampling method and can determine mean hourly concentrations. The analysers are housed in air-conditioned and secure cabins.

SO₂

There are three Air Quality Objectives associated with SO₂ concentrations, which are equivalent to the EU limit values in the first Air Quality Daughter Directive. These limits are currently referenced in the Local Air Quality Management, Technical Guidance Document TG (03) as a 1 hour mean of 350µg/m³, not to be exceeded more than 24 times per year and 125µg/m³ as the 24 hour mean not to be exceeded more than 3 times per year (see Table 1.1), both objectives to be reached by the end of 2004. The third limit is a 15 min mean of 266 µg/m³, not to be exceeded more than 35 times per year, and to be complied with by the end of 2005.

Newry and Mourne District Council has two continuous SO₂ analyser (Fluorescent Real-Time Analyser Model 100A) located at Trevor Hill and Monaghan Row in Newry City (see Appendix A, figures 1 and 2). The location at Trevor Hill is a busy road within the city centre. This is considered as a roadside site and is close to transport links where there is a heavy daily traffic flow. The site at Monaghan Row is located at the council offices. This is considered as an urban background site, due to its close proximity to a number of residential areas. The analysers are housed in air-conditioned and secure cabins.

NO₂

There are two Air Quality Objectives associated with NO₂ concentrations which are, an annual mean of 40µg/m³ and a 1 hour mean of 200µg/m³ not to be exceeded more than 18 times per year.

These limits are currently referenced in the Local Air Quality Management, Technical Guidance Document TG (03). These objectives should be met by the end of 2005. These limits are similar to the objectives set out in the first Air Quality Daughter Directive by the EU.

Newry and Mourne District Council have two continuous NO₂ analyser (Fluorescent Real-Time Analyser Model 100A) located at Trevor Hill and Bridge Street in Newry City (see Appendix A, figures 1). These locations are close to transport links where there is a significant daily traffic flow. The analysers are housed in an air-conditioned and secure cabin.

QA / QC

Newry and Mourne District Council currently have a QA/QC and Data Management contract with Netcen (AEA Technology Plc). QA/QC audits have been completed on the automatic monitoring equipment currently located within the Council area. This contract has been running since 1st March 2002 and certified calibration results are available to cover this period

2.1.2 NO₂ Diffusion Tube Monitoring Sites

Newry & Mourne District Council currently deploys 33 NO₂ diffusion tubes per month at 29 sites within its District. The number of diffusion tube sites increased from 30 to 33 in August 2007. The NO₂ diffusion tubes are prepared and analyzed by Harwell Scientifics Laboratories. This laboratory takes part in the NO₂ Network QA/QC Field Intercomparison. The tubes are prepared by coating the grids in a 50% v/v solution of the absorbent, triethanolamine (TEA) in water. Analysis is carried out using a segmented flow autoanalyser with ultraviolet detection.

The site at Trevor Hill and Bridge Street are collocation site with a continuous NO_x monitor and is also a triplicate NO₂ diffusion tube site. Details are given in Table 2.1 above.

2.1.3 SO₂ Diffusion Tube Monitoring Sites

Newry and Mourne District Council no longer undertake monitoring of SO₂ by diffusion tubes within the district.

2.2 NEW MONITORING

Newry and Mourne District Council established a new automatic Air Quality Monitoring Station at Bridge Street in Newry City in June 2006 to monitor PM₁₀ and NO₂. To accommodate this site the NO₂ analyser was removed from the Monaghan Row site and the PM₁₀ monitor was removed from the Kilkeel site.

2.3 2006 and 2007 MONITORING RESULTS AND COMPARISON WITH AQS OBJECTIVES

2.3.1 PM₁₀ (Automatic Monitoring Station)

Data Summary – Monaghan Row 1st January 2006 to 31st December 2006

Ratified data capture of 96.4% for PM₁₀ was reported over the period 1st January to 31st December 2006. Data capture during this monitoring period met the review and assessment target of 90% for ratified data sets. There were no significant periods of lost data throughout the monitoring period.

PM₁₀ concentrations were recorded in the DoE Northern Ireland LOW band throughout the period. The DoE Northern Ireland objective value of 50 µg/m³ based on daily gravimetric equivalent data was exceeded on 8 occasions during the period. The objective allows up to 35 exceedences in a year. The annual mean concentration of 21-µg/m³ gravimetric equivalent was below the objective value of 40 µg/m³.

Table 2.5 PM₁₀ exceedences at Monaghan Row – 1st January 2006 to 31st December 2006

Pollutant	Air Quality Regulations (Northern Ireland) 2003	Exceedences	Days
PM ₁₀ Particulate Matter (Gravimetric)	Daily Mean > 50 µg/m ³	8	8
PM ₁₀ Particulate Matter (Gravimetric)	Annual mean > 40 µg/m ³	0	-

Data Summary – Monaghan Row 1st January 2007 to 31st December 2007

Ratified data capture of 94.5% for PM₁₀ was reported over the period 1st January to 31st December 2007. Data capture during this monitoring period met the review and assessment target of 90% for ratified data sets. There were no significant periods of lost data throughout the monitoring period.

PM₁₀ concentrations were recorded in the DoE Northern Ireland LOW to MEDIUM bands throughout the period. The DoE Northern Ireland objective value of 50 µg/m³ based on daily gravimetric equivalent data was exceeded on 7 occasions during the period. The objective allows up to 35 exceedences in a year. The annual mean concentration of 19-µg/m³ gravimetric equivalent was below the objective value of 40 µg/m³.

Table 2.6 PM₁₀ exceedences at Monaghan Row – 1st January 2007 to 31st December 2007

Pollutant	Air Quality Regulations (Northern Ireland) 2003	Exceedences	Days
PM ₁₀ Particulate Matter (Gravimetric)	Daily mean > 50 µg m ⁻³	7	7
PM ₁₀ Particulate Matter (Gravimetric)	Annual mean > 40 µg m ⁻³	0	-

Data Summary – Trevor Hill 1st January 2006 to 31st December 2006

Ratified data capture of 93.4% for PM₁₀ was reported over the period 1st January to 31st December 2006. Data capture during this monitoring period met the review and assessment target of 90% for ratified data sets. There was no significant data loss across the period.

PM₁₀ concentrations were recorded in the DoE Northern Ireland LOW band throughout the period. The DoE Northern Ireland objective value of 50 µg/m³ based on daily gravimetric equivalent data was exceeded on 41 occasions during the monitoring period. The annual mean TEOM concentration of 35-µg/m³ gravimetric equivalent was below the objective value of 40 µg/m³

Table 2.7: PM₁₀ exceedences at Trevor Hill - 1st January 2006 to 31st December 2006

Pollutant	Air Quality Regulations (Northern Ireland) 2003	Exceedences	Days
PM ₁₀ Particulate Matter (Gravimetric)	Daily Mean > 50 µg/m ³	41	41
PM ₁₀ Particulate Matter (Gravimetric)	Annual mean > 40 µg/m ³	0	-

Data Summary – Trevor Hill 1st January 2007 to 31st December 2007

Ratified data capture of 93.1% for PM₁₀ was reported over the period 1st January to 31st December 2007. Data capture during this monitoring period met the review and assessment target of 90% for ratified data sets. There was no significant data loss across the period.

PM₁₀ concentrations were recorded in the DoE Northern Ireland LOW to MODERATE bands throughout the period. The DoE Northern Ireland objective value of 50 µg/m³ based on daily gravimetric equivalent data was exceeded on 18 occasions during the monitoring period. The annual mean TEOM concentration of 30-µg/m³ gravimetric equivalent was below the objective value of 40 µg/m³

Table 2.8: PM₁₀ exceedences at Trevor Hill - 1st January 2007 to 31st December 2007

Pollutant	Air Quality Regulations (Northern Ireland) 2003	Exceedences	Days
PM ₁₀ Particulate Matter (Gravimetric)	Daily mean > 50 µg m ⁻³	18	18
PM ₁₀ Particulate Matter (Gravimetric)	Annual mean > 40 µg m ⁻³	0	-

Data Summary – Bridge Street 29th June 2006 to 31st December 2006

Ratified data capture of 99% for PM₁₀ was reported over the period 29th June to 31st December 2006. Data capture during this monitoring period met the review and assessment target of 90% for ratified data sets. There was no significant data loss across the period.

PM₁₀ concentrations were recorded in the DoE Northern Ireland LOW band throughout the period. The DoE Northern Ireland objective value of 50 µg/m³ based on daily gravimetric equivalent data was exceeded on 12 occasions during the monitoring period. The annual mean TEOM concentration of 26-µg/m³ gravimetric equivalent was below the objective value of 40 µg/m³.

Table 2.9: PM₁₀ exceedences at Bridge – 29th June 2006 to 31st December 2006

Pollutant	Air Quality Regulations (Northern Ireland) 2003	Exceedences	Days
PM ₁₀ Particulate Matter (Gravimetric)	Daily Mean > 50 µg/m ³	12	12
PM ₁₀ Particulate Matter (Gravimetric)	Annual mean > 40 µg/m ³	0	-

Data Summary – Bridge Street 1st January 2007 to 31st December 2007

Ratified data capture of 94.6% for PM₁₀ was reported over the period 1st January to 31st December 2007. Data capture during this monitoring period met the review and assessment target of 90% for ratified data sets. There was no significant data loss across the period.

PM₁₀ concentrations were recorded in the DoE Northern Ireland LOW to MEDIUM bands throughout the period. The DoE Northern Ireland objective value of 50 µg/m³ based on daily gravimetric equivalent data was exceeded on 16 occasions during the monitoring period. The annual mean TEOM concentration of 27-µg/m³ gravimetric equivalent was below the objective value of 40 µg/m³.

Table 2.10: PM₁₀ exceedences at Bridge – 29th June 2006 to 31st December 2006

Pollutant	Air Quality Regulations (Northern Ireland) 2003	Exceedences	Days
PM ₁₀ Particulate Matter (Gravimetric)	Daily mean > 50 µg m ⁻³	16	16
PM ₁₀ Particulate Matter (Gravimetric)	Annual mean > 40 µg m ⁻³	0	-

2.3.2 SO₂ (Automatic Monitoring Station)

Data Summary – Monaghan Row 1st January 2006 to 31st December 2006

Ratified data capture of 97.4% for SO₂ was reported over the period 1st January 2006 to 31st December 2006. Data capture during this monitoring period met the review and assessment target of 90% for ratified data sets. There was no significant data loss across the period.

SO₂ concentrations were recorded in the DoE Northern Ireland LOW band throughout the period. The maximum 15-minute mean of 138µg/m³ was below the DoE Northern Ireland 15-minute objective value of 266 µg/m³. The maximum hourly mean of 106 µg/m³ was below the objective value of 350µg/m³. The maximum daily mean of 40µg/m³ was below the objective of 125µg/m³.

Table 2.11 SO₂ exceedences at Monaghan Row – 1st January 2006 to 31st December 2006

Pollutant	Air Quality Regulations (Northern Ireland) 2003	Exceedences	Days
Sulphur Dioxide	15-Minute Mean > 266 µg/m ³	0	0
Sulphur Dioxide	Hourly Mean > 350 µg/m ³	0	0
Sulphur Dioxide	Daily Mean > 125 µg/m ³	0	0

Data Summary – Monaghan Row 1st January 2007 to 31st December 2007

Ratified data capture of 98.8% for SO₂ was reported over the period 1st January 2007 to 31st December 2007. Data capture during this monitoring period met the review and assessment target of 90% for ratified data sets. There was no significant data loss across the period.

SO₂ concentrations were recorded in the DoE Northern Ireland LOW band throughout the period. The maximum 15-minute mean of 74µg/m³ was below the DoE Northern Ireland 15-minute objective value of 266 µg/m³. The maximum hourly mean of 61 µg/m³ was below the objective value of 350µg/m³. The maximum daily mean of 21µg/m³ was below the objective of 125µg/m³.

Table 2.12 SO₂ exceedences at Monaghan Row – 1st January 2007 to 31st December 2007

Pollutant	Air Quality Regulations (Northern Ireland) 2003	Exceedences	Days
Sulphur Dioxide	15-minute mean > 266 µg m ⁻³	0	0
Sulphur Dioxide	Hourly mean > 350 µg m ⁻³	0	0
Sulphur Dioxide	Daily mean > 125 µg m ⁻³	0	0

Data Summary – Trevor Hill 1st January 2006 to 31st December 2006

Ratified data capture of 86.4% for SO₂ was reported over the period 1st January 2006 to 31st December 2006. Data capture during this monitoring period did not meet the review and assessment target of 90% for ratified data sets. The reduced data capture in this instance arose due to a breakdown in the analyser between 13th June until 30th June.

SO₂ concentrations were recorded in the DoE Northern Ireland LOW band throughout the period. The maximum 15-minute mean of 80µg/m³ was below the objective value of 266 µg/m³. The maximum hourly mean of 64µg/m³ was below the objective value of 350 µg/m³. The maximum daily mean of 30µg/m³ was below the objective of 125 µg/m³.

Table 2.13: SO₂ exceedences at Trevor Hill - 1st January 2006 to 31st December 2006

Pollutant	Air Quality Regulations (Northern Ireland) 2003	Exceedences	Days
Sulphur Dioxide	15-Minute Mean > 266 µg/m ³	0	0
Sulphur Dioxide	Hourly Mean > 350 µg/m ³	0	0
Sulphur Dioxide	Daily Mean > 125 µg/m ³	0	0

Data Summary – Trevor Hill 1st January 2007 to 31st December 2007

Ratified data capture of 85.7% for SO₂ was reported over the period 1st January 2007 to 31st December 2007. Data capture during this monitoring period did not meet the review and assessment target of 90% for ratified data sets. The reduced data capture in this instance arose due to a breakdown in the analyser between 13th June until 30th June.

SO₂ concentrations were recorded in the DoE Northern Ireland LOW band throughout the period. The maximum 15-minute mean of 125µg/m³ was below the objective value of 266 µg/m³. The maximum hourly mean of 61µg/m³ was

below the objective value of 350 µg/m³. The maximum daily mean of 23µg/m³ was below the objective of 125 µg/m³.

Table 2.14: SO₂ exceedences at Trevor Hill - 1st January 2007 to 31st December 2007

Pollutant	Air Quality Regulations (Northern Ireland) 2003	Exceedences	Days
Sulphur Dioxide	15-minute mean > 266 µg m ⁻³	0	0
Sulphur Dioxide	Hourly mean > 350 µg m ⁻³	0	0
Sulphur Dioxide	Daily mean > 125 µg m ⁻³	0	0

2.3.3 NO₂ (Automatic Monitoring Station)

Data Summary – Trevor Hill 1st January 2006 to 31st December 2006

Ratified data capture of 64% for NO₂ was reported over the period 1st January 2006 to 31st December 2006. Data capture during this monitoring period did not meet the review and assessment target of 90% for ratified data sets (see note below).

NO₂ concentrations were recorded in the Defra LOW band throughout the period. The annual mean of 41µg/m³ was above the objective value of 40µg/m³. There were no exceedences above the hourly mean limit of 200µg/m³.

Table 2.16 NO₂ exceedences at Trevor Hill - 1st January 2006 to 31st December 2006

Pollutant	Air Quality Regulations (Northern Ireland) 2003	Exceedences	Days
Nitrogen Dioxide	Annual Mean > 40 µg/m ³	1	-
Nitrogen Dioxide	Hourly Mean > 200 µg/m ³	0	0

Data Summary – Trevor Hill 1st January 2007 to 31st December 2007

Ratified data capture of 69.4% for NO₂ was reported over the period 1st January 2006 to 31st December 2006. Data capture during this monitoring period did not meet the review and assessment target of 90% for ratified data sets (see note below).

NO₂ concentrations were recorded in the Defra LOW band throughout the period. The annual mean of 41µg/m³ was above the objective value of 40µg/m³. There were 9 exceedences above the hourly mean limit of 200µg/m³.

Table 2.17 NO₂ exceedences at Trevor Hill - 1st January 2007 to 31st December 2007

Pollutant	Air Quality Regulations (Northern Ireland) 2003	Exceedences	Days
Nitrogen Dioxide	Annual mean > 40 µg m ⁻³	1	-
Nitrogen Dioxide	Hourly mean > 200 µg m ⁻³	9	4

Note: This was despite the fact that the analyser had passed all quality checks during independent QA/QC audits covering this period. Netcen who provide independent QA/QC checks on this analyser and data ratification took the decision to exclude data from this analyser for the time period September 2006 until April 2007. It was their view that during this time period the instrument was displaying a fault that resulted in unusually high NO₂ concentrations.

Data Summary – Bridge Street 29th June 2006 to 31st December 2006

Ratified data capture of 95.4% for NO₂ was reported over the period 29th June 2006 to 31st December 2006. Data capture during this monitoring period met the review and assessment target of 90% for ratified data sets. There was no significant data loss across the period.

NO₂ concentrations were recorded in the Defra LOW band throughout the period. The annual mean of 24µg/m³ was below the objective value of 40µg/m³. There were 0 exceedences above the hourly mean limit of 200µg/m³.

Table 2.18 NO₂ exceedences at Bridge Street – 29th June 2006 to 31st December 2006

Pollutant	Air Quality Regulations (Northern Ireland) 2003	Exceedences	Days
Nitrogen Dioxide	Annual Mean > 40 µg/m ³	-	-
Nitrogen Dioxide	Hourly Mean > 200 µg/m ³	0	0

Data Summary – Bridge Street 1st January 2007 to 31st December 2007

Ratified data capture of 98.6% for NO₂ was reported over the period 1st January 2007 to 31st December 2007. Data capture during this monitoring period met the review and assessment target of 90% for ratified data sets. There was no significant data loss across the period.

NO₂ concentrations were recorded in the Defra LOW band throughout the period. The annual mean of 27µg/m³ was below the objective value of 40µg/m³. There were 0 exceedences above the hourly mean limit of 200µg/m³.

Table 2.19 NO₂ exceedences at Bridge Street – 29th June 2006 to 31st December 2006

Pollutant	Air Quality Regulations (Northern Ireland) 2003	Exceedences	Days
Nitrogen Dioxide	Annual mean > 40 µg m ⁻³	0	-
Nitrogen Dioxide	Hourly mean > 200 µg m ⁻³	0	0

2.4.1 NO₂ (Diffusion Tube Monitoring)

Table 2.20 Bias Adjustment Factors for Co-Located NO₂ Diffusion Tubes (2006)

Diffusion Tube	Unadjusted Mean [B] ^(a)	Automatic Mean [A] ^(a)	Bias	Bias Adjustment [A/B]
Trevor Hill	49.0			
Stone Bridge	50.2	42.0	12.7% ^(c)	0.87 ^(c)
Kildare Street	45.0			

(a) For the period January 2006 to December 2006
 (b) The capture rate for this monitoring station between Jan 2006 and Dec 2006 was less than 75% due to undiagnosed fault with instrument.
 (c) Based on the average of Trevor Hill, Stone Bridge and Kildare Street diffusion tube results (48.1 µg/m³)

Table 2.21 NO₂ Diffusion Tube Results (2006)

ID	Location	2007 Monitoring Data			
		No Months	Unadjusted Mean	Bias Adjustment Factor	Bias Adjusted Mean
Canal Street AQMA	Erskine Street	4	37.5	0.87	33
	Canal Street	4	75.1	0.87	65
	59 Canal St	12	65.5	0.87	57
	Catherine Street	4	47.3	0.87	41
	Barrack St	4	50	0.87	44
Water Street AQMA	North St	10	42	0.87	37
	High St	12	40	0.87	34
	Water St	12	55	0.87	48
	Lower Water St	12	35	0.87	31
	Trevor Hill	10	49	0.87	42.6
	Kildare St	9	51.4	0.87	44.8
	Stone Bridge	10	50.2	0.87	43.7
Kilmorey Street AQMA	33 Kilmorey St	12	68.7	0.87	59.7
	52 Kilmorey St	12	54	0.87	46.9
	River St	4	33.7	0.87	29.3

ID	Location	No Months	Unadjusted Mean	Bias Adjustment Factor	Bias Adjusted Mean
	18 Bridge St	12	48.1	0.87	41.8
	60 Bridge St	11	37.2	0.87	32.4
	Basin View Terrace	12	44.4	0.87	38.7
St Mary Street AQMA	St Mary's St	12	35.3	0.87	30.7
Dominic Street/Patrick Street Area	Dominic St	4	42.8	0.87	37.2
	Dominic/Patrick St	4	34.3	0.87	29.8
	Francis St	4	50.2	0.87	43.7
	999 Patrick St	4	31.6	0.87	27.4
	Patrick St	11	53.3	0.87	46.3
Sandy Street Area	25 Sandy St	12	63.7	0.87	55.4
	Sandy Street	12	58.4	0.87	50.8
	Talbot St	4	42.1	0.87	36.6
	Glin Ree Court	12	38.2	0.87	33.2
Background Sites	Balmoral Park	10	17.6	0.87	15.3
	Monaghan Row	12	19.0	0.87	16.5

Table 2.22 Bias Adjustment Factors for NO₂ Co-Located Diffusion Tubes (2007)

Diffusion Tube	Unadjusted Mean [B] ^(a)	Automatic Mean [A] ^(a)	Bias	Bias Adjustment [A/B]
Trevor Hill	51.0			
Stone Bridge	52.0	41.0	19% ^(c)	0.81 ^(c)
Kildare Street	49.0			
(a) For the period January 2007 to December 2007				
(b) The capture rate for this monitoring station between Jan 2006 and Dec 2006 was less than 75% due to undiagnosed fault with instrument.				
(c) Based on the average of Trevor Hill, Stone Bridge and Kildare Street diffusion tube results (50.7 µg/m ³)				

Table 2.23 NO₂ Diffusion Tube Results (2007)

ID	Location	2007 Monitoring Data			
		No Months	Unadjusted Mean	Bias Adjustment Factor	Bias Adjusted Mean
Canal Street AQMA	Erskine Street	5	33	0.81	27
	Canal Street	12	50	0.81	41
	59 Canal St	12	73	0.81	59
	Catherine Street	11	37	0.81	30
	Catherine Street 2	7	58	0.81	47
	Barrack St	11	37	0.81	30
	Our Lady's	7	43	0.81	35

ID	Location	No Months	Unadjusted Mean	Bias Adjustment Factor	Bias Adjusted Mean
Water Street AQMA	North Street	11	41	0.81	34
	High St	12	38	0.81	31
	Water St	12	57	0.81	46
	Lower Water St	11	34	0.81	28
	Trevor Hill	12	51	0.81	41
	Kildare St	11	52	0.81	42
	Stone Bridge	11	49	0.81	40
Kilmorey Street AQMA	33 Kilmorey St	12	63	0.81	51
	52 Kilmorey St	12	59	0.81	47
	River St	12	36	0.81	29
Bridge Street AQMA	18 Bridge St	12	45	0.81	36
	60 Bridge St	10	41	0.81	33
	Basin View	12	40	0.81	32
	Terrace				
St Mary Street AQMA	St Mary's St	12	35	0.81	29
Dominic Street/Patrick Street Area	Dominic St	11	36	0.81	29
	Dominic/Patrick St	12	38	0.81	31
	Francis St	12	48	0.81	39
	999 Patrick St	11	30	0.81	24
	Patrick St	11	58	0.81	47
Sandy Street Area	25 Sandy St	12	61	0.81	49
	Sandy Street	12	55	0.81	45
	Talbot St	12	36	0.81	29
	Glin Ree Court	12	41	0.81	33
Background Sites	Hill Street	7	26	0.81	19
	Market Office	7	25	0.81	20
	Balmoral Park	4	25	0.81	20
	Monaghan Row	12	16	0.81	13
	Abbey Yard	7	36	0.81	28

3.0 New Developments – Since Progress Report October 2007

3.1 Industrial Processes

3.1.1 Part A Industrial Processes

The following Part A processes were authorised for operation.

Name & Address	Location	Prescribed Process	Permit Reference Number	Date Issued
Norbrook Laboratories Ltd Factory No 3 Armagh Road, Newry	Newry	Manufacture of Pharmaceutical Products	P0133/06A	Oct 2007
Norbrook Laboratories Ltd Factory No 1 Camlough, Newry	Camlough	Manufacture of Pharmaceutical Products	P132/06A	Oct 2007
Mr Bertie Gordon 27 Sheeptown Road, Newry	Newry	Intensive Farming	P0173/07A	Aug 2007

3.1.2 Part B & C Industrial Processes

The following Part C processes were authorized for operation.

Name & Address	Location	Prescribed Process	Permit Reference Number	Date Issued
T G Fleming	Newry	Metal Furnace	PPC/07/NM/BK2-8	March 2008
Boyle Transport	Camlough	Waste Oil Burner	PPC/07/NM/BK2-10	October 2007
Beatties	Camlough	Metal Furnace	PPC/07/NM/BK2-9	July 2008

3.1.3 Other Industrial Processes

3.1.3.1 New landfill, Quarrying and Mineral Processes

No new quarrying operations have been authorised.

3.1.3.2 New Fuel Storage Depots

No new major fuel storage depots, either in or close to the Newry and Mourne District area, have been identified.

3.1.3.3 Small Boilers

Newry and Mourne District Council is not aware of any significant changes to >5MW_(thermal) fuel plants and processes.

3.1.4 Industrial Process Closures

Part B & C industrial processes closures in Newry & Mourne District Council are illustrated in Table 3.2 below

Table 3.2: Industrial Process Closures in Newry and Mourne District Council Area

Name & Address	Location	Prescribed Process	File Reference Number	Date of Revocation/ Surrender
Sainsburys Petrol Station	Newry	Petrol Vapour Storage	PPC/06/NM/BK1-1P	10 th January 2008
W A Graham Accident Repair Centre	Bessbrook	Re-spraying of road vehicles	AP4/98/NM/BK4-2	1 st April 2007
Type Rite	Warrenpoint	Film Coating	AP4/98/NM/BK4-5	1 st April 2007

3.2 Transport

3.2.1 New Road Developments

See section 3.2.2 *Significant Changes to Existing Roads* below.

3.2.2 Significant Changes to Existing Roads

The A1 Belfast to Dublin road has undergone extensive upgrading between Banbridge and Sheepbridge (approximately 5 miles outside Newry City), which was completed in late 2006. The works included the upgrading of the existing single lane carriageway to a dual carriageway standard. Associated works include the construction of new sections of the road, which incorporates the engineering of cuts and fills in the local landscape. Further upgrading planned between Sheepbridge and the border with the Republic of Ireland has commenced. It is proposed to undertake this work in a two-phased approach. The first phase which involved the creation of a new road between the Cloughogue Roundabout and the border with the Republic of Ireland has been completed. The second phase involves the upgrading of the road between Sheepbridge and the Cloughogue roundabout. This work has commenced with a planned completion date of December 2010.

3.2.3 Newly Identified Public Exposure to Vehicle Emissions

No roads have been identified with annual average daily traffic flow (AADTF) greater than 10,000 vehicles per day, which have experienced large increases (25% or more) in traffic flow, since the USA in October 2006. Local Authorities are required to consider whether there are any of the following in their area, either new since the last report, or newly identified:

1. Narrow congested streets meeting the following criteria:
 - Residential properties are within 5m of the kerb.
 - Average traffic speeds are 50kph or less.
 - The carriageway is less than 10m wide, and
 - AADTF is greater than 10,000.

2. Busy streets where people may spend 1 hour or more close to traffic (most likely in streets of shops, bars, cafes etc.), meeting the following criteria:
 - Public exposure for 1 hour or more within 5m of the kerb
 - AADT > 10,000 vehicles per day.

There are no new, or newly identified streets meeting these criteria since the previous report.

3.2.4 Other Transport Sources

As well as road vehicles, public exposure to emissions from planes, buses, trains, ships etc. must also be considered.

3.2.4.1 Trains

There are no new, or newly identified, locations where diesel locomotives are regularly stationary for five minutes or more.

3.2.4.2 Airports

There are no airports in the Newry and Mourne District or neighboring authorities that have a throughput of 5 million passengers per year and/or 500,000 tonnes of freight.

3.2.4.3 Bus Stations

The main bus stations within the Newry and Mourne District Council area have less than 1000 bus movements per day. There are no newly identified bus

stations with more than 1000 bus movements per day, and no bus stations where movements have increased to more than 1000 per day.

3.2.4.4 Shipping

Newry and Mourne District has one port located at Warrenpoint. However the port does not have more than 5,000 shipping movements per year

3.3 New Developments - Residential, Commercial and Public

3.3.1 New Housing Developments

There are no new significant housing developments proposed for the Newry and Mourne District area that have full planning permission granted.

3.3.2 New Commercial Developments

There are no new significant commercial developments (e.g. retail parks, office blocks, leisure centres). However, planning application has been received for an extension to the Buttercrane Centre, which has the potential to increase traffic volumes within the existing AQMA, Bridge Street.

3.3.3 New Public Developments

New public developments such as schools, hospitals, stations, major car parks require consideration as they may impact on local traffic flow.

No new public developments have been confirmed since Progress Report 2007.

4.0 Conclusions and Recommendations:

4.1 Progress in developing Air Quality Action Plan for designated AQMA's.

In December 2006 the Council organised an Air Quality Forum to which all interested parties (public and non-public bodies and residents) were invited, to provide an opportunity to inform and consult with all interested parties in relation to the development of an Action Plan for the AQMA's designated by the Council.

The purpose of the Forum was to:

- Provide an update of the steps the Council has taken to date and the action that is now required.
- With the help of a guest speaker inform the participants about how other local authorities have tackled the same type of issues now being faced by this Council.
- Seek nominations for a Working Group to develop the Action Plan.

Nominations for the Working Group were agreed and the first meeting of the Working Group took place in February 2007. The Council has held a series of meetings with the Working Group members to develop the Action Plan. An initial draft version of the Action Plan was submitted to DoE for review in late 2007. The comments received by the Council from this review have been taken into consideration in preparing the second version of the draft Action Plan which is currently being prepared.

NO₂ diffusion tube monitoring data for 2006 and 2007 in Sandy Street and Patrick Street, which are outside of the existing AQMAs, are showing exceedences of the annual mean objective. These monitoring locations were installed following the detailed assessment and will be summarized in relevant LAQM reports as information is available. These locations are already being considered within the Action Plan (in order to avoid the Council preparing separate action plans over different timescales), but would formally be included within any AQMA at the next stage of reporting of LAQM if required. It may also be necessary to review the AQMAs in order to consider: 1) a single AQMA; 2) change in size of AQMA; and 3) pollutants to be included in AQMA.

4.2 Local Air Quality Monitoring Network Review

The Council employed the services of Bureau Veritas Air Quality Consultants to review the current air quality monitoring methodology/locations employed by the Council. This report was completed with the following main recommendations being made.

1. Re-locate the Monaghan Row continuous monitoring station to a more central location within the geographical bowl, which surrounds Newry City centre.
2. Re-locate the Bridge Street continuous monitoring station to an area with relevant exposure e.g. the junction with Canal Street, Catherine Street and Erskine Street.
3. Install a NO₂ analyser into the relocated Monaghan Row continuous monitoring station.
4. Remove the two existing SO₂ analysers from Monaghan Row and Trevor Hill.
5. Replace/upgrade the non-compliant TEOM particulate measurement methods to ensure EU equivalence criteria are met.
6. Maintain the existing data management contract to ensure Quality Assurance and Quality Control of the recorded data.
7. Maintain the existing service contract to cover new and existing instruments.
8. A longer term of investment into the network should be planned in order to replace old and out-dated equipment where such equipment comes to the end of its purposeful life.

The Council accepted the recommendation from the air quality monitoring review. Grant aid support from the Department of Environment to implement the recommendations has been obtained. Recommendation 1 and 2 concerning the relocation of the two continuous monitoring stations are currently being investigated.

Grant aid funding was not available to implement recommendation 3 and there are currently no spare NO₂ analysers, which could be deployed from other district council areas.

Recommendation 4, the removal of SO₂ analysers at Monaghan Row and Trevor Hill, was implemented at the end of March 2008.

Recommendations 6 and 7 have been implemented.

APPENDIX A

NEWRY AND MOURNE DISTRICT COUNCIL

Local Air Quality Monitoring Maps

