

Fermanagh District Council



Air Quality Progress Report 2010

Environment (Northern Ireland) Order 2002
Local Air Quality Management

June 2010



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Executive Summary

The Local Air Quality Management process requires District Councils to review and assess a range of air pollutants against the objectives set out within the Government's Air Quality Strategy. To date, Fermanagh District Council's Review and Assessment process has indicated that the relevant air quality objectives would be achieved.

There have been no significant changes to any pollution sources in the Fermanagh District Council area and no additional sources of pollution have been identified since the 2009 Updating and Screening Assessment, which concluded that the relevant air quality objectives would be met. Hence no risk of exceedence of an Air Quality Objective has been identified in this Report.

Therefore the Council's proposed action at this time is to complete and submit a Progress Report in 2011.

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1 Introduction

1.1 Description of Local Authority Area

Fermanagh District Council, with an area of 1876 km² and population of approximately 61000*, accounts for 13% of land mass of Northern Ireland. It is bordered by Donegal, Monaghan, Cavan and Leitrim councils in Eire, and by Dungannon, Omagh and Strabane councils in Northern Ireland.

The District is predominantly rural in character and has one of the lowest population densities in the United Kingdom. It is bisected by the River Erne system which flows from south-east to north-west along the length of Fermanagh. Approximately 20% of Fermanagh is covered with lakes and waterways.

Enniskillen, the largest town in Fermanagh, occupies a strategic position at one of the four crossing points of Lough Erne, where the Upper Lough is a narrow river channel before widening out into the expanse of Lower Lough Erne.

Agriculture and tourism are the main industries, with some manufacturing, timber milling, food processing and several large quarries.

* NI Statistics and Research Agency Estimate for 2007

1.2 Purpose of Progress Report

Progress Reports are required in the intervening years between the three-yearly Updating and Screening Assessment reports. Their purpose is to maintain continuity in the Local Air Quality Management process.

They are not intended to be as detailed as Updating and Screening Assessment Reports, or to require as much effort. However, if the Progress Report identifies the risk of exceedence of an Air Quality Objective, the Local Authority (LA) should undertake a Detailed Assessment immediately, and not wait until the next round of Review and Assessment.

1.3 Air Quality Objectives

The air quality objectives applicable to LAQM in **Northern Ireland** are set out in the Air Quality Regulations (Northern Ireland) 2003, Statutory Rules of Northern Ireland 2003, no. 342, 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 Local Air Quality Management in Northern Ireland.

Pollutant	Concentration	Measured as	Date to be achieved by
Benzene	16.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
	3.25 $\mu\text{g}/\text{m}^3$	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 (PM₁₀) (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
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

Stage One

The Stage One report for Fermanagh District Council, an initial screening of industrial, transport and any other sources of pollution that could have a significant impact within the council area, was completed in August 2001. It concluded that no further investigation or action needed to be undertaken for the following pollutants:

- Benzene
- 1,3-Butadiene
- Lead
- Carbon Monoxide

However, the Stage One screening indicated that air quality objectives were at risk of being exceeded for three of the strategy pollutants, namely:

- Nitrogen Dioxide
- Sulphur Dioxide
- Particulate Matter (PM₁₀)

Accordingly, Fermanagh District Council was required to proceed to a Stage Two/Three Review of these pollutants.

Stage Two/Three

This was a more detailed assessment of all the pollutants identified as significant locally in the first stage. It included computer modelling of sources and made reference to locally monitored air quality data.

The conclusions of the second/third stage were:

Nitrogen Dioxide (NO₂) (Stage Two):

The assessment of NO₂ emissions from road traffic was largely based upon the application of the Design Manual for Roads and Bridges (DMRB) and some diffusion tube monitoring data that was available.

The results of both the diffusion tube survey and the DMRB modelling showed that it is unlikely that either the annual mean or hourly NO₂ objective will be exceeded in Fermanagh DC area at relevant receptor locations.

It was therefore not necessary to undertake a Third Stage Review and Assessment for NO₂.

Sulphur Dioxide (SO₂) (Stage Two/Three):

In the absence of any reliable local monitoring, Fermanagh District Council was required to proceed directly to a Third Stage Review and Assessment in respect of SO₂ from domestic fuel combustion for the 1km x 1km grid square identified in Stage One.

The results of the assessment, using ADMS computer modelling, suggested that there was unlikely to be an exceedance of the SO₂ objectives in the modelled area.

Particulates (PM₁₀) (Stage Two/Three):

The results of DMRB modelling confirmed that there would be no likelihood of predicted exceedances of the PM₁₀ objective from traffic sources.

Based on findings elsewhere it was not considered necessary to proceed to a Stage Three Review and Assessment for PM₁₀ in respect of industrial type sources, controlled or uncontrolled.

In relation to domestic solid fuel use, in the absence of any reliable local monitoring data, it again was necessary to proceed to a Third Stage Review and Assessment for this source. This also involved detailed modelling of domestic fuel emissions using ADMS version 3.1, using new fuel usage data, as well as more locally accurate PM₁₀ monitoring data from neighbouring Omagh District Council.

The modelling suggested that an exceedance of the PM₁₀ objective was unlikely.

The conclusion of the first round of the Review and Assessment process was that it is not necessary to declare an Air Quality Management area within the Fermanagh District Council area.

The process continued with the following reports being compiled and submitted:

- Progress Report 2005
- Updating and Screening Assessment Report 2006
- Progress Report 2007
- Progress Report 2008
- Updating and Screening Assessment Report 2009.

These reports concluded that the relevant air quality objectives would be met and that there was no requirement for Fermanagh District Council to declare any Air Quality Management Areas or carry out further Detailed Assessments.

2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

There are no Automatic Monitoring Sites in the Fermanagh District Council area.

2.1.2 Non-Automatic Monitoring

The conclusions of previous Review and Assessments were that no exceedences of the air quality objectives were likely. There has been no new diffusion tube monitoring carried out since the last Updating and Screening Report of 2009

2.2 Comparison of Monitoring Results with Air Quality Objectives

2.2.1 Nitrogen Dioxide

Diffusion Tube Monitoring Data

No monitoring results are available for 2007 or 2008 but Table 2.1 indicates that exceedences are not likely.

For information the table below shows the previous NO₂ Diffusion Tube results for 2004 – 2006

Table 2.1 Results of Nitrogen Dioxide Diffusion Tubes

Site ID	Location	Within AQMA?	Annual mean concentrations (µg/m ³) Adjusted for bias		
			2004	2005	2006
FDC1	Townhall Enniskillen	No	11.9	22.4	20.9
FDC2	Belmore St Enniskillen	No	18.2	29.8	26.9
FDC3	Tempo Rd Enniskillen	No	4.2	7.4	6.5
FDC4	Rossole Rd Enniskillen	No	5.4	8.3	8.9

Lab used: Eurofins

Bias adjustment factor: 0.79 (Co-location study)

Nitrogen Dioxide AQ Objective: 40 µg/m³ (annual mean)

2.2.2 PM10

Fermanagh District Council does not currently monitor PM₁₀.

2.2.3 Sulphur Dioxide

Fermanagh District Council does not currently monitor SO₂.

2.2.4 Benzene

Fermanagh District Council does not currently monitor Benzene.

2.2.5 Other pollutants monitored

Fermanagh District Council does not currently any other pollutants.

Summary of Compliance with AQS Objectives

Fermanagh District Council has examined the results from monitoring in the district. Concentrations are all below the objectives, therefore there is no need to proceed to a Detailed Assessment.

3 New Local Developments

Fermanagh District Council confirms that there are no new or newly identified local developments which may have an impact on air quality within the Local Authority area.

4 Planning Applications

There have been no Planning Applications approved in Fermanagh District Council area since the last USA Report which could adversely impact on air quality.

5 Conclusions and Proposed Actions

5.1 Conclusions from New Monitoring Data

There has been no new monitoring carried out since the last USA.

5.2 Conclusions from New Local Developments

No new local developments have been identified and therefore it is not necessary to proceed to a Detailed Assessment.

5.3 Proposed Actions

This Progress Report has not identified the risk of exceedence of any Air Quality Objective and therefore the proposed action is to carry out and submit a Progress Report in 2011.