Council Name - Northern Ireland

Cookstown
DISTRICT COUNCIL

COMHAIRLE CHEANTAR NA COIRRE CRÍOCHAÍ
DISTRICK COONCIL O COOKESTOUN

AIR QUALITY UPDATING and SCREENING ASSESSMENT for

COOKSTOWN DISTRICT COUNCIL

2009

(In fulfillment of Part IV of the Environment Act 1995 Local Air Quality Management)

September 2009

Council Name - Northern Ireland

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Report Reference number	
Date	

Council Name - Northern Ireland

Executive Summary

Local Air Quality Management by Local Authorities was introduced as a Statutory Duty by the Environment (Northern Ireland) Order 2002, and subsequent Regulations. Under this legislation District Councils are required to review the present air quality and the likely future air quality, to assess whether the nationally presented objectives are likely to be achieved. The first stage of Cookstown District Councils Review and assessment of air quality which identifies the main sources of seven key pollutants was published in August 2001. This was followed by the second and third stage Review and Assessment published in 2004, which further scrutinized three pollutants which were potentially of concern, namely Nitrogen dioxide, Sulphur dioxide and particulates. This report concluded that it was unlikely that the air quality objectives would be exceeded, and that it was not necessary for Cookstown District Council to declare any Air Quality Management Areas.

This Updating and Screening Report looks at any changes that may have occurred since the previous Updating and Screening Assessment in 2006, which may have affected the seven presented pollutants, and identifies if more detailed assessments are required. The Updating and Screening Assessment 2009 for Cookstown, has concluded that for each of the seven key air pollutants the air quality objectives are likely to be met and that a more detailed assessment is not required.

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1 Introduction

1.1 Description of Local Authority Area

The Cookstown District Council area is situated in the central Mid-Ulster area of Northern Ireland. It shares it boundaries with Magherafelt District Council to the north, Omagh District Council to the west, and Dungannon and South Tyrone Borough Council to the south. Its eastern boundary is the shoreline of Lough Neagh. The area has a population of 32,000 and covers 235 square miles. Much of the population of the District is located in the town of Cookstown which is central to the area. There are also a number of rural villages in the district, Moneymore, Stewartstown, Coagh, Ardboe and Pomeroy.

The area is easily accessible and is a convenient distance from Northern Ireland's two main motorways, the M1 and M2. The main A29 north-south route bisects the district. The major airports and harbours in Northern Ireland are all within 1 hour's drive of Cookstown. Agriculture and the agri-food business are strong contributors to the areas economy. However, the district also boasts a number of key industrial employers.

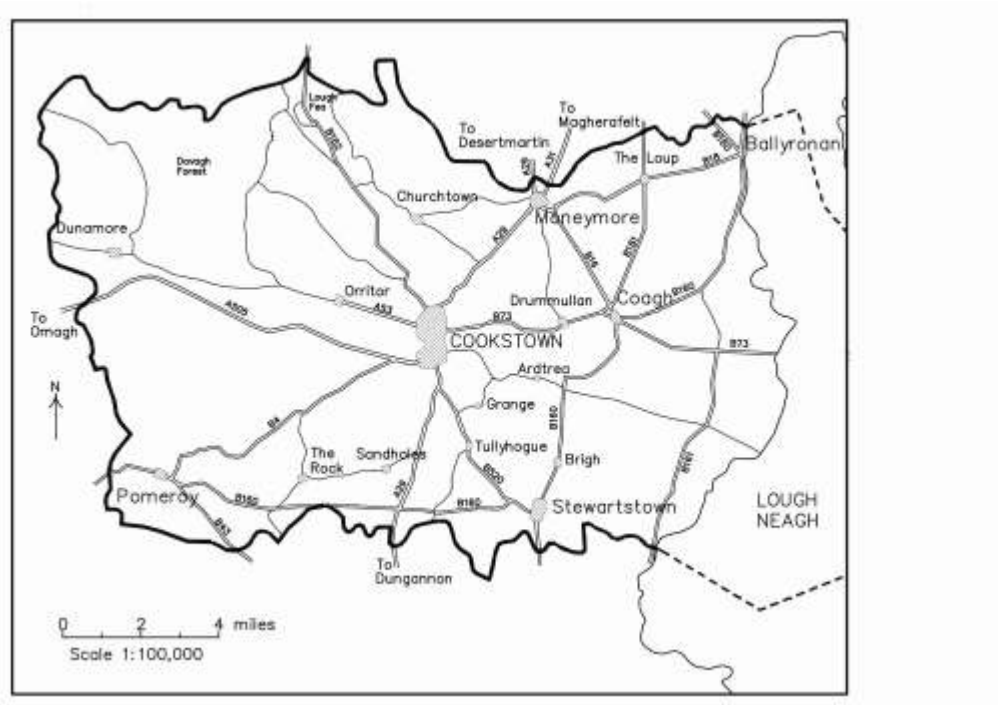

Figure 1.1 – Map showing Cookstown District Council area.

1.2 Purpose of Report

This report fulfils the requirements of the Local Air Quality Management process as set out in Part IV of the Environment Act (1995), the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 and the relevant Policy and Technical Guidance documents. The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where exceedences are considered likely, the local authority must then declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives.

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 micrograms per cubic metre $\mu g/m^3$ (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	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Benzene			
	16.25 $\mu g/m^3$	Running annual mean	31.12.2003
	3.25 $\mu g/m^3$	Running annual mean	31.12.2010
1,3-Butadiene	2.25 $\mu g/m^3$	Running annual mean	31.12.2003
Carbon monoxide	10.0 mg/m^3	Running 8-hour mean	31.12.2003
Lead	0.5 $\mu g/m^3$	Annual mean	31.12.2004
	0.25 $\mu g/m^3$	Annual mean	31.12.2008
Nitrogen dioxide	200 $\mu g/m^3$ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 $\mu g/m^3$	Annual mean	31.12.2005
Particles (PM_{10}) (gravimetric)	50 $\mu g/m^3$, not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40 $\mu g/m^3$	Annual mean	31.12.2004
Sulphur dioxide	350 $\mu g/m^3$, not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 $\mu g/m^3$, not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 $\mu g/m^3$, not to be exceeded more than 35 times a year	15-minute mean	31.12.2005

1.4 Summary of Previous Review and Assessments

The cornerstone of the LAQM process is the Review and Assessment of Air Quality. This is a statutorily required process whereby local air quality monitoring and modelling results are compared to the national air quality standards and objectives (see Appendix 2). Where objectives are breached or are predicted to be breached, an Air Quality Management Area (AQMA) is declared. An Action Plan must then be produced stating how the district council will drive air quality towards the objective.

The first round review and assessment of air quality was completed in 2004. It involved a 3-stage approach, the findings of which are contained in two reports:

(1) 1st Stage Review and Assessment Report – August 2001

Table 1.2

SUMMARY OF FIRST STAGE REVIEW AND ASSESSMENT IN COOKSTOWN

Pollutant	Significant Sources	Recommendations
Carbon Monoxide	No significant Sources	No further assessment
Benzene	No significant Sources	No further assessment
1–3 Butadiene	No significant Sources	No further assessment
Lead	No significant sources	No further assessment
Nitrogen Dioxide	• Four single carriageway road junctions exceeding average threshold • Two dual carriageway junctions exceeding 10,000 vpd and sensitive properties within 10 metres • Three dual carriageway sections exceeding 10,000 vpd and sensitive properties within 10m • One Part A process in Cookstown	Proceed to 2nd stage
Sulphur Dioxide	• One Part A process • One Thermal combustion system • At least 2 1x1km grid squares with potentially more than 300 houses burning coal	Proceed to 2nd stage

PM_{10}	• At least 16 sections of single carriageway roads and 7 road junctions exceeding 5000 vehicles per day and with sensitive properties within 2m (single carriageway) or 10m (dual carriageway) • Four dual carriageway sections exceeds 5000 vpd with sensitive properties within 10 metres • One significant Part A process	Proceed to 2nd stage

(2) 2nd/3rd Stage Review and Assessment Report – August 2004.

Conclusions and Recommendations of the 2nd/3rd Stage Report are given below.

- Air quality objectives for SO_2 and PM_{10} are likely to be met and therefore there is no need to designate an air quality management area for these pollutants.

- Existing monitoring of the SO_2 and PM_{10} will continue using real-time analysers, in order to provide data to verify the detailed dispersion modelling predictions resulting in the above conclusions.

- Air quality objectives for NO_2 are expected to be met at locations of relevant public exposure i.e. building facades of residential properties, despite exceedances of the annual mean objective at three kerbside sites. An air quality management area for NO_2 is therefore not being designated for this pollutant.

- Predicted concentrations of NO_2 at a number of building facades of residential properties are close, but not exceeding air quality objectives. Further monitoring of NO_2 will be carried out using diffusion tubes. These will be located on the facades of residential properties closest to the kerbside sites where exceedances of the NO_2 annual mean objective have been identified.

3) Update And Screening Assessment Report – August 2006

UPDATING AND SCREENING ASSESSMENT – AUGUST 2006

Table 1.3

SUMMARY FINDINGS OF UPDATE AND SCREENING ASSESSMENT IN COOKSTOWN

Pollutant	Conclusion	Recommendation
Carbon Monoxide	The objective for CO is unlikely to be exceeded at any location in the Cookstown area.	There is no need to undertake a detailed assessment for Carbon Monoxide.
Benzene	The objective for Benzene is unlikely to be exceeded at any location in the Cookstown area.	There is no need to undertake a detailed assessment for Benezene.
1 – 3 Butadiene	The objective for 1-3 Butadiene is unlikely to be exceeded at any location in the Cookstown area.	There is no need to undertake a detailed assessment for 1-3 Butadiene.
Lead	The objective for lead is unlikely to be exceeded at any location in the Cookstown area.	There is no need to undertake a detailed assessment for Lead.
Nitrogen Dioxide	The assessment indicated that the conclusion drawn from the 1st round of review and assessment remains valid, and has indicated that the annual menu and hourly objective for Nitrogen Dioxide are unlikely to be exceeded.	There is no need to undertake a detailed assessment for Nitrogen Dioxide.
Particulate Matter PM_{10}	The assessment has indicated that both the daily and the annual mean for particulate matter are unlikely to be exceeded at any location in Cookstown area.	There is no need to undertake a detailed assessment for PM_{10}
Sulphur Dioxide SO_2	The assessment has indicated that both the annual mean and hourly objective 15 minute mean for Sulphur Dioxide are unlikely to be exceeded at any location in the Cookstown area.	There is no need to undertake a detailed assessment for Sulphur Dioxide.

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2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

Automatic monitoring is carried out in the District for both PM10 and Sulphur dioxide. The PM10 is monitored by a TEOM series 1400a ambient particulate monitor. The Sulphur dioxide is monitored using a Monitor Europe ML 9805B Sulphur dioxide analyser. Both of these are housed within a secure site at Gortalowry House, Church Street, Cookstown and have been in operation since December 2003. The site was chosen as it was within the 1 x 1km grid square identified in the Stage 1 Risk and Assessment Report as having the highest concentration of coal burning properties in the Cookstown District. No further sites have become operational since the previous assessment, and no sites have been closed down.

QAQC for the site is currently undertaken by the National Physical Laboratory (NPL), Hampton Road, Teddington, Middlesex. Data is collected and disseminated to the Northern Ireland website on a daily basis by NPL's partner in this project, Kings College ERG.

Site audits are carried out twice a year by NPL. The audits assess the analyser performance characteristics and measure the concentration of on-site transfer standards. A UKAS accredited calibration certificate is issued by NPL following these audits.

In addition to this, routine calibrations are undertaken by Council staff every fortnight, with the results of the calibrations emailed to NPL.

Table 2.1 Details of Automatic Monitoring Sites

Site Name	**Site Type**	**OS Grid Ref**	**Pollutants Monitored**	**In AQMA ?**	**Relevant Exposure?** *(Y/N with distance (m) to relevant exposure)*	**Distance to kerb of nearest road** *(N/A if not applicable)*	**Worst-case Location ?**
Gortalowry House	Urban background	X 281207 Y 377242	SO2 PM10	N	Y (16m)	N/A	Y

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2.1.2 Non-Automatic Monitoring

The Council is currently monitoring Nitrogen dioxide at 7 sites around the district using passive diffusion tubes. Diffusion tubes represent a simple and cost-effective method of monitoring air quality in an area, to give a good general indication of average pollution concentrations. They are particularly useful for assessment against annual mean objectives.

Monitoring sites are chosen to provide data on locations that appear to be representative of likely residential exposure and, where possible, are close to the nearest receptor from the busy road or road junction of interest. The sites are subject to periodic review and where sufficient data has been gathered, some of the diffusion tubes are relocated to new locations.

Table 2.2 Details of Non- Automatic Monitoring Sites

Site Name	**Site Type**	**OS Grid Ref**	**Pollutants Monitored**	**In AQMA?**	**Relevant Exposure?** *(Y/N with distance (m) to relevant exposure)*	**Distance to kerb of nearest road** *(N/A if not applicable)*	**Worst-case Location?**
Z1	Roadside	X 285770 Y 383510	NO2	No	<1m	2m	Y
Z2	Kerbside	X 281071 Y 378445	NO2	No	6m	<1m	Y
Z3	Roadside	X 281053 Y 378197	NO2	No	7m	2m	Y
Z4	Kerbside	X 281121 Y 377537	NO2	No	<1m	<1m	Y
Z5	Kerbside	X 281225 Y 376939	NO2	No	7m	<1m	Y
Z6	Kerbside	X 285813 Y 383458	NO2	No	3m	<1m	Y
Z7	Kerbside	X 285779 Y 383446	NO2	No	4m	<1m	Y

The diffusion tube analysis for the Council in 2008 was carried out by Gradko International, Wincester, Hampshire. The tubes were exposed for a month at a time before being sent for laboratory analysis. The preparation method used was an absorbent of %20 TEA (Triethanolamine)/Water. Analysis was carried out by U.V. Spectrophotometry using a UVSO4 Camspec M550.

2.2 Comparison of Monitoring Results with AQ Objectives

Nitrogen dioxide NO_2

Non Automatic Monitoring using Diffusion Tubes

Table 2.3a Results of Nitrogen Dioxide Diffusion Tubes

Site ID	Location	Within AQMA?	Data Capture 2008 %	Annual mean concentrations
				2008 ($\mu g/m^3$) Adjusted for bias
Z1	Lawford St, Moneymore	N	59	37.70
Z2	William Street, Cookstown	N	100	28.45
Z3	James Street, Cookstown	N	100	38.13
Z4	Church Street, Cookstown	N	100	29.85
Z5	Killymoon Street, Cookstown	N	82	31.60
Z6	High Street, Moneymore	N	59	41.50*
Z7	High Street, Moneymore	N	59	29.60

As has previously been mentioned in this report air quality is now measured from 7 sites in the district. This has been increased from 5 sites in the previous report to take account of a borderline result which had been obtained for site Z1 located at the central roundabout on the High Street in Moneymore. This was then relocated and an additional two tubes placed at other relevant points close to the roundabout in question.

The tubes were relocated on 30th April 2008. This has resulted in a data capture of 59% for these three sites. The other reduced data capture was for site Z5 at Killymoon Street, Cookstown. This was caused by the tubes being missing on two successive occasions leading to an 82% data capture rate.

The results were adjusted for bias using figures obtained from the Air Quality Review and Assessment Website. The website lists the bias adjustment figures that should be applied to the diffusion tubes based on individual laboratories and the type of analysis undertaken. The overall 2008 figure for Gradko Laboratories and the 20% TEA method in water was 0.91. This is based on 19 overall co-location studies. This was the figure used as it seemed most representative of the method in general.

The website can be found at the following address:

http://www.uwe.ac.uk/aqm/review/R&Asupport/diffusiontube290909.xls

As can be seen from the results in question the bias adjusted factors were generally below the air quality objective of 40 ugm-3**.** The exception to this was the site at Z6 which produced a result of 41.50 ug/m-3. However this total was not a full year total. The site had also been chosen as there was a first floor flat adjacent to the site. However since this was located the building including the residential property has fallen into disuse. This site is no longer a relevant site. As a result of this, the department does not intend to a declare an AQMA based on this result.

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Table 2.3b Results of Nitrogen Dioxide Diffusion Tubes

Site ID	Location	Within AQMA?	Annual mean concentrations ($\mu g/m^3$) Adjusted for bias		
			2006	2007	2008
Z1	**Lawford St, Moneymore**	**N**	n/a	n/a	**37.70**
Z2	**William Street, Cookstown**	**N**	33.8	19.27	**28.45**
Z3	**James Street, Cookstown**	**N**	34.2	21.65	**38.13**
Z4	**Church Street, Cookstown**	**N**	35.3	14.15	**29.85**
Z5	**Killymoon Street, Cookstown**	**N**	35.5	31.42	**31.60**
Z6	**High Street, Moneymore**	**N**	n/a	n/a	**41.50**
Z7	**High Street, Moneymore**	**N**	n/a	n/a	**29.60**

Sulphur dioxide SO_2.

Automatic monitoring using Monitor Europe ML 9805B

Table 2.4

Table showing UK Air Quality Objectives for Sulphur dioxide and number of exceedences for Cookstown site during 2008.

Pollutant	Air Quality Objective		To be achieved by	Number of exceedences or measured concentration
	Concentration	Measured as		
SO2	350 ugm-3, not to be exceeded more than 24 times per year	Hourly mean	31/12/2004	0
SO2	125 ugm-3, not to be exceeded more than 35 times per year	Daily mean	31/12/2004	0
SO2	266 ugm-3, not to be exceeded more than 3 times per year	15 minute mean	31/12/2005	0

As can be seen from the table above Cookstown had no exceedences of any of the three air quality objectives relating to Sulphur dioxide for the year 2008.

Table 2.5

Table showing Air Pollution Bandings for Sulphur dioxide and Cookstowns results for 2008 relative to these.

Band	Index	Sulphur dioxide	Cookstown SO2
		15 minute mean ugm-3	Number of periods in band
Low	1	0- 88	33794
	2	89- 176	0
	3	177- 265	0
Medium	4	266- 354	0
	5	355- 442	0
	6	443- 531	0
High	7- 10	>532	0

As can be seen from the table above Cookstown spent 33,794 periods in Band 1 of the Pollution Bandings indicating good air quality in relation to Sulphur dioxide.

PM_{10}.

Automatic Monitoring using TEOM series 1400a ambient particulate monitor

Table 2.6

Table showing UK Air Quality Objectives for PM_{10} and number of exceedences for Cookstown site during 2008.

Pollutant	Air Quality Objective		To be achieved by	Number of exceedences or measured concentration
	Concentration	Measured as		
PM_{10} gravimetric	50 ugm^{-3}, not to be exceeded more than 35 times a year	24 hour running mean	31/12/2004	14
PM_{10} gravimetric	40 ugm^{-3}	Annual mean	31/12/2004	21.3 ugm^{-3} grav eq.

As can be seen from the table above Cookstown had 14 exceedences of the 50ugm-3 objective in 2008. This was well below the tolerable allowance of 35 exceedences of this objectives. The annual mean of 21.3ugm-3 was also well within the objective of 40 ugm-3.

Table 2.7

Table showing Air Pollution Bandings for PM_{10} and Cookstowns results for 2008 relative to these.

Band	**Index**	**PM_{10} particles**	**Cookstown PM_{10}**
		24 hour mean	**Number of periods in band**
		ugm-3 grav eq.	
Low	1	0- 21	205
	2	22-42	91
	3	43- 64	9
Medium	4	65- 74	3
	5	75- 86	1
	6	87- 96	0
High	7- 10	>97	0

As can be seen from the table above Cookstowns air quality for PM10 showed that the vast majority of the time was spent in the two lowest pollution bands. A total of 4 periods were also spent in the medium pollution band. In general it could be said that Cookstown's air quality was very good with relation to PM10.

2.2.1 PM_{10} Comparison of Results with Previous Two Years

Table 2.8a Results of PM_{10} Automatic Monitoring: Comparison with Annual Mean Objective

Site ID	**Location**	**Within AQMA?**	**Data Capture 2008 %**	**Annual mean concentrations ($\mu g/m^3$) grav eq.**		
				2006	**2007**	**2008**
Gortalowry House	Church Street, Cookstown	N	86	**22.0**	**22.0**	21.3

Table 2.8b Results of PM_{10} Automatic Monitoring: Comparison with 24-hour Mean Objective

Site ID	Location	Within AQMA?	Data Capture 2008 %	Number of Exceedences of daily mean objective (50 μg/m^3) *If data capture < 90%, include the 90th %ile of daily means in brackets.*		
				2006	2007	2008
Gortalowry House	Church Street, Cookstown	N	86	6	**7**	**14**

2.2.2 Benzene

Cookstown District Council does not carry out routine monitoring for Benzene based on conclusions from previous air quality reports.

2.2.3 Other pollutants monitored

Cookstown District Council does not carry out routine monitoring for other pollutants based on conclusions from previous air quality reports.

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3 Road Traffic Sources

3.1 Narrow Congested Streets with Residential Properties Close to the Kerb

Cookstown District Council confirms that there are no new/newly identified congested streets with a flow above 5,000 vehicles per day and residential properties close to the kerb, that have not been adequately considered in previous rounds of Review and Assessment.

3.2 Busy Streets Where People May Spend 1-hour or More Close to Traffic

Cookstown District Council confirms that there are no new/newly identified busy streets where people may spend 1 hour or more close to traffic.

3.3 Roads with a High Flow of Buses and/or HGVs.

Cookstown District Council confirms that there are no new/newly identified roads with high flows of buses/HGVs.

3.4 Junctions

Cookstown District Council confirms that there are no new/newly identified busy junctions/busy roads.

3.5 New Roads Constructed or Proposed Since the Last Round of Review and Assessment

Cookstown District Council confirms that there are no new/proposed roads.

3.6 Roads with Significantly Changed Traffic Flows

Cookstown District Council confirms that there are no new/newly identified roads with significantly changed traffic flows.

3.7 Bus and Coach Stations

Cookstown District Council confirms that there are no relevant bus stations in the District.

4 Other Transport Sources

4.1 Airports

Cookstown District Council confirms that there are no airports in the District.

4.2 Railways (Diesel and Steam Trains)

4.2.1 Stationary Trains

Cookstown District Council confirms that there are no locations where diesel or steam trains are regularly stationary for periods of 15 minutes or more, with potential for relevant exposure within 15m.

4.2.2 Moving Trains

Cookstown District Council confirms that there are no locations with a large number of movements of diesel locomotives, and potential long-term relevant exposure within 30m.

4.3 Ports (Shipping)

Cookstown District Council confirms that there are no ports or shipping that meet the specified criteria within the Local Authority area.

5 Industrial Sources

5.1 Industrial Installations

5.1.1 New or Proposed Installations for which an Air Quality Assessment has been Carried Out

Cookstown District Council confirms that there are no new or proposed industrial installations for which planning approval has been granted within its area or nearby in a neighbouring authority.

5.1.2 Existing Installations where Emissions have Increased Substantially or New Relevant Exposure has been Introduced

Cookstown District Council confirms that there are no industrial installations with substantially increased emissions or new relevant exposure in their vicinity within its area or nearby in a neighbouring authority.

5.1.3 New or Significantly Changed Installations with No Previous Air Quality Assessment

Cookstown District Council confirms that there are no new or proposed industrial installations for which planning approval has been granted within its area or nearby in a neighbouring authority.

5.2 Major Fuel (Petrol) Storage Depots

There are no major fuel (petrol) storage depots within the Local Authority area.

5.3 Petrol Stations

Cookstown District Council confirms that there are no petrol stations meeting the specified criteria**.**

5.4 Poultry Farms

Cookstown District Council confirms that there are no poultry farms meeting the specified criteria.

6 Commercial and Domestic Sources

6.1 Biomass Combustion – Individual Installations

Cookstown District Council have recently commissioned a biomass burner at the local leisure centre on the Fountain Road in Cookstown. The burner is a Froling Turbomat 500 and has a rated output of 500 kW. The impact of the burner was assessed using the criteria laid out in Section D.1a of chapter 5, TG(09).

The height of the stack is 11m and the diameter is 0.5m. All buildings located within 55m of the stack are located well below the level of the stack. Maximum emission rates are not available for the plant in question. Estimate emission rates were obtained from Table 8.2g of B216 Non Industrial Combustion Plants taken from the EMEP/ CORNAIR Guidebook 2007.

The results of this assessment are summarised in the table below.

Table 6.1

Pollutant	**Background adjusted emission rate (g/ m-3)**	**Threshold emission rate (g/ m-3)**	**Need to proceed to detailed assessment**
PM 10	0.003	0.0075	No
Nitrogen dioxide Annual mean	0.002	0.022	No
Nitrogen dioxide 1 hour mean	0.015	0.11	No

Cookstown District Council has assessed the biomass combustion plant, and concluded that it will not be necessary to proceed to a Detailed Assessment.

6.2 Biomass Combustion – Combined Impacts

Cookstown District Council has assessed the biomass combustion plant, and concluded that it will not be necessary to proceed to a Detailed Assessment.

6.3 Domestic Solid-Fuel Burning

Cookstown District Council confirms that there are no areas of significant domestic fuel use in the District.

7 Fugitive or Uncontrolled Sources

Cookstown District Council confirms that there are no potential sources of fugitive particulate matter emissions in the District.

8 Conclusions and Proposed Actions

8.1 Conclusions from New Monitoring Data

Cookstown District Council undertakes diffusion tube monitoring at a number of locations throughout the district for NO_2. The only exceedence of AQ objectives in 2008 was at one site in Moneymore (site Z7) adjacent to the now disused Post Office, where bias adjusted annual mean NO_2 concentration just exceeded the objective limit of 40 µg/m_3. Since this site is a kerbside site with no relevant exposure, exceedence at this location does not require a detailed assessment for NO_2.

Automatic monitoring of PM_{10}, undertaken at the Gortalowry House site in Cookstown shows no exceedences of the 2010 air quality objectives. Automatic monitoring of SO_2 at the same site showed no exceedences of the 15-minute, 1-hour, or 24-hour mean air quality objectives.

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Cookstown District Council has no Air Quality Management Areas currently declared in the District. Air quality monitoring data for the 2008 year does not indicate the need to declare an AQMA at this time.

8.2 Conclusions from Assessment of Sources

The assessment of new and existing sources did not identify any potential exceedences of air quality objectives in the district. A biomass burner was identified in the report but an assessment of its impact based on procedures outlined in Technical Guidance LAQM.TG(09) showed that there was no need to progress to a detailed assessment for this site. This department does not therefore intend to conduct detailed assessments or declare any AQMA's based on the assessment of these sources.

8.3 Proposed Actions

This Updating and Screening Assessment has not identified the need to proceed to a detailed assessment for any pollutant.

The Assessment has however identified that one of the NO2 monitoring sites in Moneymore is no longer a relevant exposure and requires moved to a more representative site.

This department's next course of action is to submit a Progress Report in 2010.

9 References

Publications

1.. The Environment (Northern Ireland) Order 2002

2. Air Quality Regulations (Northern Ireland) 2003

3. The Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2000

4. DEFRA Local Air Quality Management Technical Guidance LAQM.TG(09)

5. Cookstown District Council 1st Stage Review and Assessment - August 2001

6. Cookstown District Council 2nd/3rd Stage Review and Assessment Report- August 2004

7. Cookstown District Council – Updating and Screening Assessment – August 2006

8. Cookstown District Council Progress Report - 2007

9. Cookstown District Council Progress Report – 2008

Websites

Northern Ireland Air Quality Website - http://www.airqualityni.co.uk/

Air Quality Review and Assessment Website - http://www.uwe.ac.uk/aqm/review/R&Asupport/diffusiontube290909.xls

Appendices

Appendix A: QA/QC Data

Appendix B: Location of Automatic Air Quality Monitors in Cookstown

Appendix C: Location of NO2 Tubes in Cookstown District

Appendix A: QA:QC Data

Diffusion Tube Bias Adjustment Factors

The diffusion tube analysis for the Council in 2008 was carried out by Gradko International, Wincester, Hampshire, England. The tubes were exposed for a month at a time before being sent for laboratory analysis. The preparation method used was an absorbent of %20 TEA (Triethanolamine)/Water. Analysis was carried out by U.V. Spectrophotometry using a UVSO4 Camspec M550.

The results were adjusted for bias using figures obtained from the Air Quality Review and Assessment Website. The website lists the bias adjustment figures that should be applied to the diffusion tubes based on individual laboratories and the type of analysis undertaken. The overall 2008 figure for Gradko Laboratories and the 20% TEA method in water was 0.91. This is based on 19 overall co-location studies. This was the figure used as it seemed most representative of the method in general.

The website can be found at the following address:

http://www.uwe.ac.uk/aqm/review/R&Asupport/diffusiontube290909.xls

Factor from Local Co-location Studies (if available)

This factor is not available in the Cookstown District.

Discussion of Choice of Factor to Use

Given that no locally available relevant co-location studies were available it was decided to use the national overall lo-location figure of 0.91 as this was representative of 19 separate co-location studies and was thought to represent a good ‘average’ figure.

QA/QC of automatic monitoring

QAQC for the site is currently undertaken by the National Physical Laboratory (NPL), Hampton Road, Teddington, Middlesex, England. Data is collected and disseminated to the Northern Ireland website on a daily basis by NPL’s partner in this project, Kings College ERG.

Site audits are carried out twice a year by NPL. The audits assess the analyser performance characteristics and measure the concentration of on-site transfer standards. A UKAS accredited calibration certificate is issued by NPL following these audits.

In addition to this, routine calibrations are undertaken by Council staff every fortnight, with the results of the calibrations emailed to NPL.

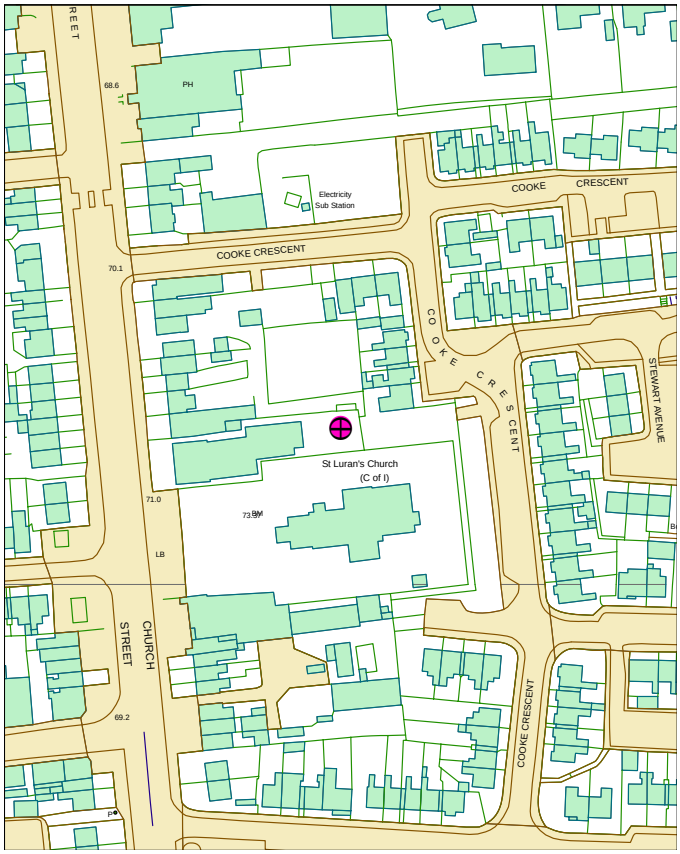
Council Name - Northern Ireland

QA/QC of diffusion tube monitoring

Gradko Environmental analytical laboratory is assessed annually by UKAS to establish conformance of the Laboratory Quality Procedures to the requirements of ISO/IEC 17025 Standard and have demonstrated a good performance in the WASP scheme for analysis of NO2 diffusion tubes, operated by the Health and Safety Laboratory, 2007-2008.

Appendix B: Location of Automatic Monitors in Cookstown

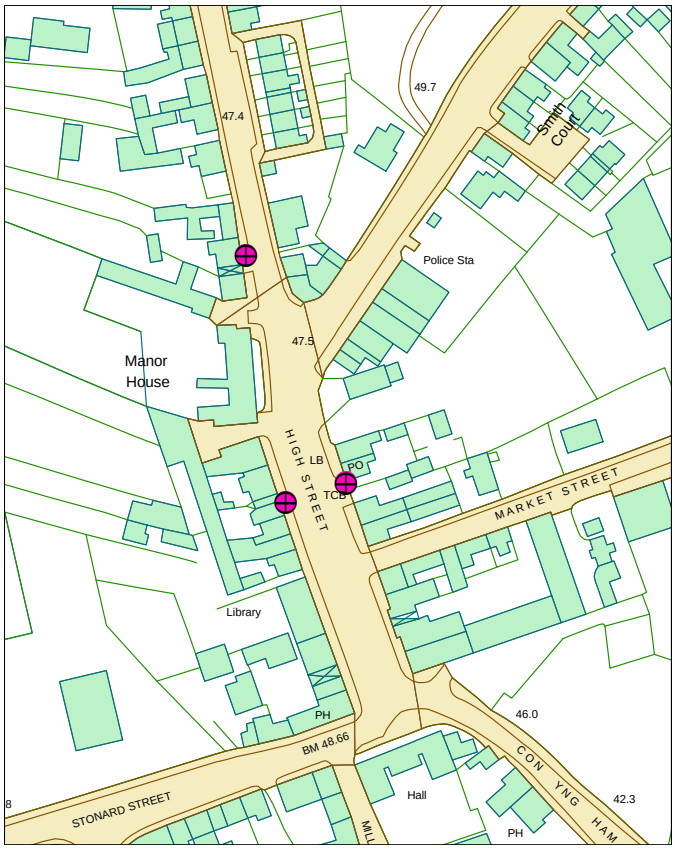
Map B1: Location of automatic SO2 and PM10 Monitors at Church Street, Cookstown



Photograph B1: Automatic SO2 and PM10 Monitors

Appendix C: Location of NO2 Tubes in Cookstown District

Map C1: Location Of NO2 Tubes in Moneymore

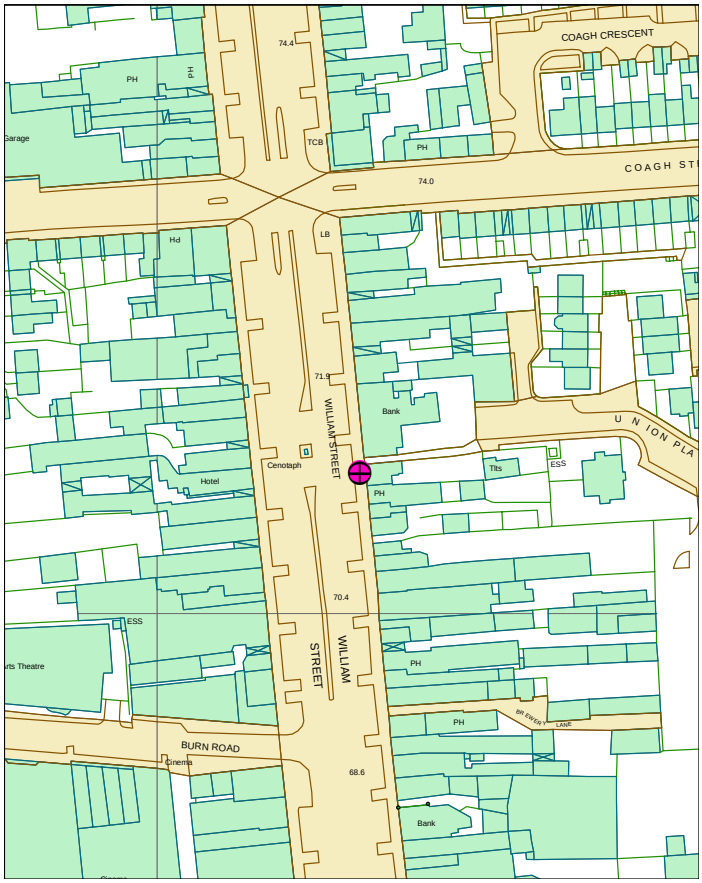


Photograph C1: High Street- Site Z6

Photograph C2: High Street- Site Z7

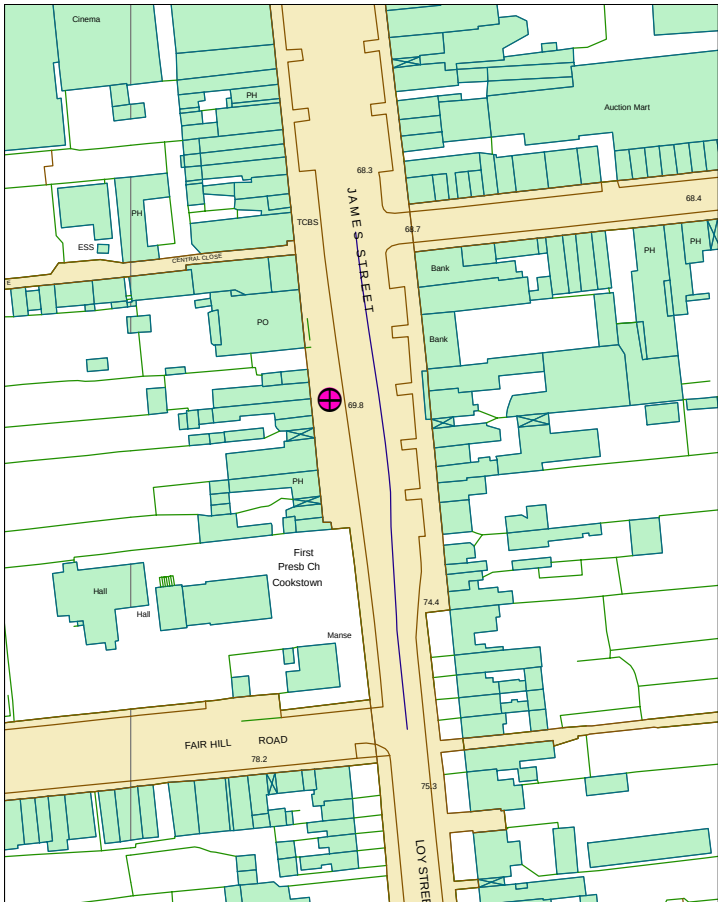
Photograph C3: Lawford Street- Site Z1

Map C2: Location of NO2 tube at Site Z2, William Street, Cookstown



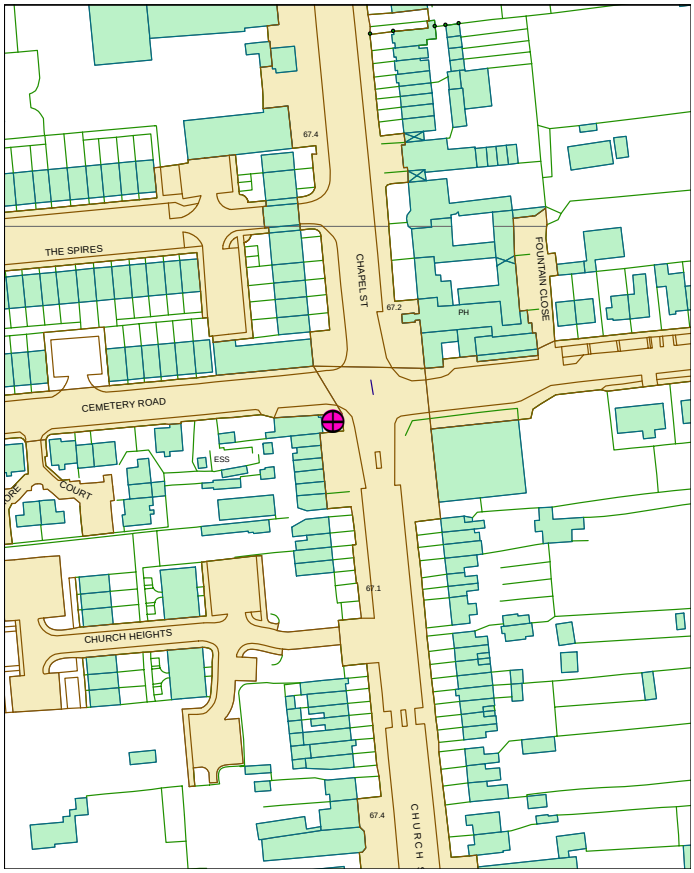
Photograph C4: William Street- Site Z2

Map C3: Location of NO2 tube at Site Z3
James Street, Cookstown



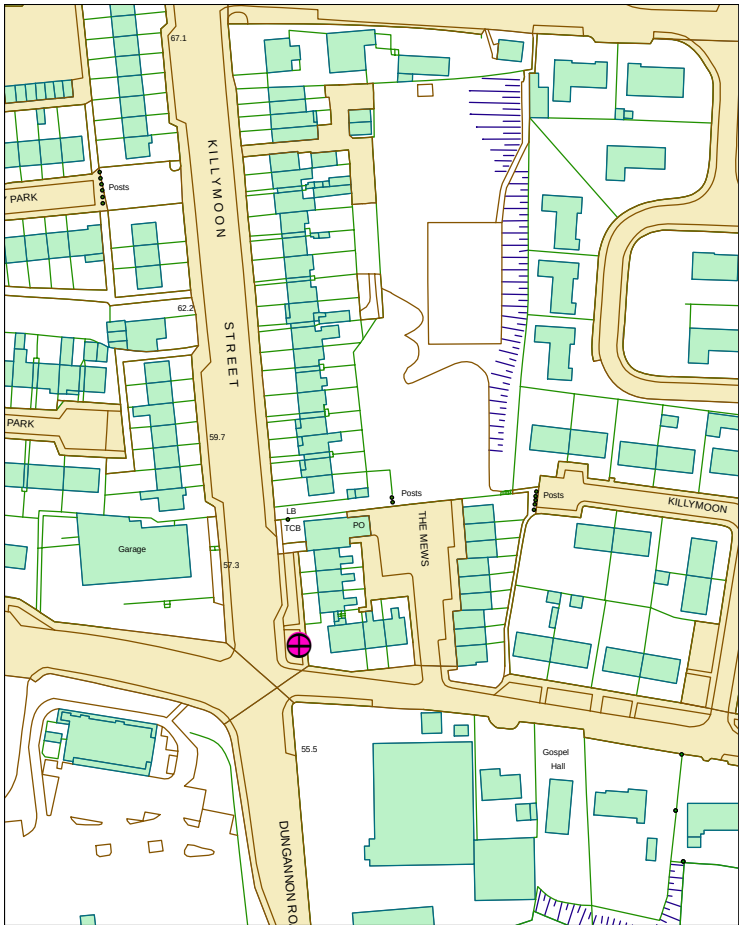
Photograph C5: James Street- site Z3

Map C4: Location of NO2 tube at Site Z4, Church street, Cookstown



Photograph C6: Church Street- Site Z4

Map C5: Location of NO2 tube at Site Z5, Killymoon Street, Cookstown



Photograph C7: Killymoon Street- Site Z5