South Ayrshire Council - Scotland

2009 Air Quality Updating and Screening Assessment for *South Ayrshire Council*

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

May 2009

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Executive Summary

South Ayrshire Council has carried out a review of air quality within South Ayrshire which 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 report follows technical guidance LAQM.TG(09), (Reference1), issued by the Scottish Executive to assist Local authorities in their Review and Assessment of air quality.

The report forms the Updating and Screening Assessment (USA) of the fourth round of the Review and Assessment process and includes latest available data up to the end of 2008. It also considers the conclusions of the previous rounds of Review and Assessment and any changes that have occurred since then that would have an effect on local air quality.

The report sets out the results of air quality monitoring carried out by South Ayrshire Council and considers the potential impacts from a range of sources such as road traffic and other transport emissions, industrial processes, commercial and domestic fuel use and fugitive emission sources.

The USA concluded that concentrations of the various air quality objectives are unlikely to be exceeded.

A detailed assessment is therefore not required for South Ayrshire Council.

An annual progress report will be submitted to the Scottish Executive by the end of April 2010.

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1 Introduction

1.1 Description of Local Authority Area

South Ayrshire Council is situated to the south-west of Scotland, on the coast of the mouth of the Firth of Clyde and the Irish Sea. The eastern boundary of the council area lies approximately 30 kilometres inland.

South Ayrshire is neighboured by East Ayrshire to the east, North Ayrshire to the north and Dumfries and Galloway Council to the south.

The main commercial and residential centre of South Ayrshire is Ayr, which is situated on the west coast. The other main populated towns of Prestwick, Troon and Girvan are also situated on the west coast. The inland towns and villages are predominantly small communities, with the exception of Maybole which is a busy town.

The main transportation route within South Ayrshire is the A77. The A77 connects the port of Stranraer, which is in the Dumfries and Galloway Council area to Glasgow. The A77 passes through the main west coast towns and villages from Stranraer to Turnberry at which point it heads inland, through Kirkoswald and Maybole, by-passing the outskirts of Ayr and Prestwick before heading north to Glasgow via Kilmarnock.

Glasgow Prestwick International Airport is situated within South Ayrshire to the outskirts of Ayr and Prestwick. Glasgow Prestwick International Airport serves both international and domestic passenger flights as well as a large amount of freight transportation flights.

A map of the area is included in Figure 1.

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 Scotland are set out in the Air Quality (Scotland) Regulations 2000 (Scottish SI 2000 No 97), the Air Quality (Scotland) (Amendment) Regulations 2002 (Scottish SI 2002 No 297), 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 Scotland.

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
	50 $\mu g/m^3$, not to be exceeded more than 7 times a year	24-hour mean	31.12.2010
	18 $\mu g/m^3$	Annual mean	31.12.2010
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

Table 1.2 summarises previous rounds of R&A and the exceedences identified or predicted. No AQMA's have been declared nor are there are any locations where exceedences of objective concentrations have previously been identified but reports have judged that no AQMA. Finally no AQMA's have been revoked

Table 1.2 Conclusions Of Previous Rounds Of Review And Assessment

Date & Title Of Report Produced By South Ayrshire		Brief Outcome
April 2000	Stage 1 Review and Assessment	No exceedences of air quality objectives
June 2003	2003 Updating and Screening Assessment Report	No exceedences of air quality objectives however $PM_{10\ levels}$ in Dailly village predicted to be high to due to high density of domestic coal burning properties. Requested to proceed with a detailed assessment
June 2004	2004 Detailed Assessment PM_{10} levels in Dailly village	No exceedences of PM_{10} levels in Dailly village
April 2005	2005 Progress Report	No exceedences of air quality objectives
April 2006	2006 Updating and Screening Assessment report	No exceedences of air quality objectives however PM10 levels in Ayr town Centre predicted at being near objective limit. Requested to proceed with a detailed assessment.
August 2007	2007 Detailed Assessment PM_{10} levels in Ayr town centre	No exceedences of PM_{10} levels in Ayr town centre
April 2008	2008 Progress Report	No exceedences of air quality objectives

2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

South Ayrshire Council operates two automatic monitoring stations. Both stations are fitted with a real l time Chemiluminescent NOX analyser and a TEOM PM10 monitor fitted with FDMS. Both monitors are fitted with web logger functionality.

One station is located in Ayr town centre at the junction of High Street and New Bridge Street and the other station is located at Tarbolton Primary School, Nursery Lane, Tarbolton.

Further details of the monitoring stations are provided in Table 2.1. The location of the Ayr and Tarbolton monitoring stations are shown in Figure 1 and 2, respectively.

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 ?
High St Ayr	Kerbside	X 337223 Y 221162	NO_2 PM10	N	Y (1m)	3m	Y
Tarbolton Primary School	Kerbside	X 431042 Y 269306	NO_2 PM 10	N	Y (1m)	20m	Y

The maintenance of the two monitoring stations at Ayr and Tarbolton is carried out by Air Monitors. This involves two routine services per year and also provision for emergency callouts. Automatic calibration and span checks are carried out daily.

The Ayr site is part of the Scottish Air Quality network and is audited by AEA Technology. They also carry out the data management for this site. The data is checked to ensure that it is being recorded correctly, the analysers are stable and there are no faults with the analysers. The data is then re-scaled using the results of the calibration and span checks which are carried out by the analyser automatically. A similar procedure was carried out by South Ayrshire Council for the Tarbolton site.

PM_{10} is measured at both monitoring stations using TEOM FDMS units. Since both units are fitted with FDMS there is no need to apply a correction factor to the recorded results.

2.1.2 Non-Automatic Monitoring

Monitoring of nitrogen dioxide using passive diffusion tubes was undertaken at 22 separate locations in South Ayrshire during 2008.The diffusion tube locations are described in Table 2.2.

Monitoring of benzene was using passive diffusion tubes was undertaken at four separate locations in South Ayrshire during 2008The diffusion tube locations are described in table 2.2.

Table 2.2 Details of Non- Automatic Monitoring Sites

Site Name	Site Type	OS Grid Ref	Pollutants Monitored	In AQ MA ?	Relevant Exposure? *(Y/N with distance (m) to relevant exposure)*	Distance to kerb of nearest road *(N/A if not applicable)*	Worst-case Location?
01. Craigie Garden Centre	Urban background	X 34667 Y 621417	NO_2	N	5m	N/A	N
02. Rozelle Park Ayr	Urban background	X 233763 Y 618944	NO_2 and Benzene	N	10m	N/A	N
03. Town Buildings Ayr	Roadside	X233691 Y 622093	NO_2	N	2m	2m	Y
04. Ayr College	Roadside	X 234389 Y 621631	NO_2	N	5m	1m	Y
05. Heathfield PS	Roadside	X 234857 Y 624075	NO_2	N	2m	1m	Y
06. Heathfield Rd/Prestwick Rd Ayr	Roadside	X 234641 Y624159	NO_2	N	2m	1m	Y
07. Beresford Terr./Parkhouse St Ayr	Roadside	X 233859 Y 621296	NO_2	N	3m	2m	Y
08. Tesco Whitletts Rd Ayr	Roadside	X 235150 Y 622528	NO_2	N	10m	2m	N
09. Kingcase Garage Ayr Rd Prestwick	Roadside	X234828 Y624945	NO_2	N	5m	1m	Y
10. Shaw Rd Prestwick	Roadside	X 235977 Y 635946	NO_2	N	5m	1m	Y
11. Shaw Farm Gardens Prestwick	Roadside	X 235622 Y 626548	NO_2	N	5m	1m	Y
12. Factory Site Dundonald Area	Roadside	X 236094 Y 635711	NO_2	N	20m	1m	N
13. Kilmarnock Rd Barassie	Roadside	X 232856 Y 632818	NO_2	N	5m	1m	Y
14. Templehill Troon	Roadside	X 231978 Y 631036	NO_2	N	5m	2m	Y
15. Ardneils Garage, Troon	Roadside	X 232515 Y 631052	NO_2	N	10m	1m	N
16. Main St Loans	Roadside	X 234589 Y 631628	NO_2	N	5m	1m	Y
17. Coylton PS	Roadside	X 241411 Y 619548	NO_2	N	5m	1m	Y
18. Mauchline Rd Mossblown	Roadside	X 240194 Y 624754	NO_2	N	5m	1m	Y
19. Monkton PS	Roadside	X 235733 Y 627806	NO_2	N	5m	1m	Y
20. Dalrymple St Girvan	Roadside	X 218549 Y 598064	NO_2	N	5m	1m	Y
21. Henrietta St Girvan	Roadside	X 218387 Y 597865	NO_2	N	10m	1m	N
22. Camerons Garage Maybole	Roadside	X 229971 Y 609865	NO_2	N	15m	2m	N
23. Morrissons High St Maybole	Roadside	X 230099 Y 609965	Benzene	N	3m	1m	Y
24. Ewenfield Rd Ayr	Roadside	X 234187 Y 619730	Benzene	N	10m	2m	N
25. Town Hall, High St Maybole	Roadside	X 230003 Y 609875	Benzene	N	10m	5m	N

The nitrogen dioxide diffusion tubes are placed at each location by South Ayrshire Council for a period of approximately one month. At the end of each monthly period, the exposed tubes are replaced with new tubes and the exposed tubes are sent to the laboratory for analysis. Laboratory analysis of the passive diffusion tubes is undertaken by Glasgow Scientific Services (GSS) - part of the City of Glasgow Council. The laboratory is UKAS accredited for the analysis.

GSS prepares the diffusion tubes using the technique of 20% TEA in water.

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The laboratory undertakes the analysis of diffusion tubes from Glasgow City Council, which undertakes an annual co-location study of diffusion tubes from automatic monitoring stations in the city for the purposes of validation.

GSS follow the procedures set out in the harmonisation panel guidance and participate in the AEA Technology laboratory inter -comparison scheme and scored a good result in the WASP scheme for analysis of NO_2 diffusion tubes, July 2007 – July 2008.

The scheme whilst assessing the analytical performance of laboratories, also allows for the performance of the laboratory against chemiluminescence techniques to be determined.

A laboratory bias for GSS was therefore determined using the methodology contained in the LAQM technical guidance document LAQM TG(09)

There is currently no co - location study data for South Ayrshire however it is our intention to carry out such a study next year at our automatic monitoring station at Ayr. Therefore the bias factor was determined utilising the excel spreadsheet from the review and assessment helpdesk website (Reference 2) the bias factor was calculated for GSS in 2008 at 0.97 and was applied to all sites.

Passive monitoring of benzene is undertaken using Chromosorb 106 adsorbent tubes. The diffusion tubes are left in position for a period of one month. The monitored concentration is then averaged over the exposure period. Analysis is carried out by Glasgow Scientific Services using thermal desorption, gas chromatography-mass spectrometry and is quantified against an 'internal standard' (benzene d6).The benzene mass is then corrected against a travel blank.

2.2 Comparison of Monitoring Results with AQ Objectives

This section sets out the results of all the monitoring carried out by South Ayrshire Council in 2008 and where relevant, provides results from previous years to identify any trends.

2.2.1 Nitrogen Dioxide

The results of the nitrogen dioxide monitoring at the automatic stations at Ayr and Tarbolton together with diffusion tube locations across South Ayrshire are presented below.

Automatic Monitoring Data

The results of the automatic monitoring for Nitrogen Dioxide carried out in 2008 at High Street/New Bridge St Ayr and Tarbolton Primary School is displayed in Table 2.3a. and 2.3b

Table 2.3a Results of Automatic Monitoring for Nitrogen Dioxide: Comparison with Annual Mean Objective

Site ID	Location	Within AQMA?	Proportion of year with valid data 2008 %	Annual mean concentrations (μg/m^3)	Annual mean objective (μg/m^3)
				2008	To be achieved by 31/12/2005
A1	High St Ayr	N	92.1	21	40
A2	Tarbolton Primary	N	94.5	15.8	40

Table 2.3b Results of Automatic Monitoring for Nitrogen Dioxide: Comparison with 1-hour Mean Objective

Site ID	Location	Within AQMA?	Data Capture 2008 %	Number of Exceedences of hourly mean (200 μg/m^3) *If the period of valid data is less than 90% of a full year, include the 99.8th %ile of hourly means in brackets.*
				2008
A1	High St Ayr	N	92.1	0
A2	Tarbolton Primary	N	94.5	0

Diffusion Tube Monitoring Data

The diffusion tube monitoring data for Nitrogen Dioxide is displayed in Table 2.4a. and the full dataset is displayed in Appendix 1

Two sites (Town Buildings Ayr and Heathfield Rd/Prestwick Rd) were close to the 40μg/m^3 objective limit however there were no exceedences in 2008.

Table 2.4a Results of Nitrogen Dioxide Diffusion Tubes

Site ID	Location	Within AQMA?	Data Capture 2008 %	Annual mean concentrations 2008 (μg/m^3) Adjusted for bias
1	Craigie Garden Centre	N	100	6
2	Rozelle Park Ayr	N	100	4
3	Town Buildings Ayr	N	83	39
4	Ayr College	N	100	10
5	Heathfield PS	N	100	13
6	Heathfield Rd/Prestwick Rd Ayr	N	92	38
7	Beresford Terr./Parkhouse St Ayr	N	100	34
8	Tesco Whitletts Rd Ayr	N	100	19
9	Kingcase Garage Ayr Rd Prestwick	N	92	22
10	Shaw Rd Prestwick	N	92	19
11	Shaw Farm Gardens Prestwick	N	83	14
12	Factory Site Dundonald Area	N	100	8
13	Kilmarnock Rd Barassie	N	100	19
14	Templehill Troon	N	100	10
15	Ardneils Garage, Troon	N	83	9
16	Main St Loans	N	100	12
17	Coylton PS	N	100	7
18	Mauchline Rd Mossblown	N	92	14
19	Monkton PS	N	100	15
20	Dalrymple St Girvan	N	100	16
21	Henrietta St Girvan	N	92	8
22	Camerons Garage Maybole	N	92	22

Bias adjustment factor used for all Nitrogen Dioxide diffusion tubes: 0.97

Table 2.4b displays the results of the Nitrogen Dioxide diffusion tubes for the previous three years in order to establish trends.

However there is no clear trend in the year on year annual mean levels for the Nitrogen Dioxide diffusion tubes.

The 2008 results for ten of the sites either showed no change or a slight decrease from 2007 while the remaining twelve sites showed a slight increase.

Table 2.4b Results of Nitrogen Dioxide Diffusion Tubes

Site ID	Location	Within AQMA?	Annual mean concentrations (μg/m^3) Adjusted for bias		
			2006	2007	2008
1	Craigie Garden Centre	N	6	4	6
2	Rozelle Park Ayr	N	5	4	4
3	Town Buildings Ayr	N	39	34	39
4	Ayr College	N	14	12	10
5	Heathfield PS	N	18	15	13
6	Heathfield Rd/Prestwick Rd Ayr	N	38	29	38
7	Beresford Terr./Parkhouse St Ayr	N	38	30	34
8	Tesco Whitletts Rd Ayr	N	20	18	19
9	Kingcase Garage Ayr Rd Prestwick	N	26	23	22
10	Shaw Rd Prestwick	N	21	19	19
11	Shaw Farm Gardens Prestwick	N	16	14	14
12	Factory Site Dundonald Area	N	10	9	8
13	Kilmarnock Rd Barassie	N	16	14	19
14	Templehill Troon	N	10	8	10
15	Ardneils Garage, Troon	N	12	10	9
16	Main St Loans	N	14	11	12
17	Coylton PS	N	10	9	7
18	Mauchline Rd Mossblown	N	12	12	14
19	Monkton PS	N	18	15	15
20	Dalrymple St Girvan	N	18	14	16
21	Henrietta St Girvan	N	10	7	8
22	Camerons Garage Maybole	N	26	21	22

Bias adjustment factor utilised for 2006, 2007 and 2008 is 0.97

2.2.2 PM_{10}

Results of PM_{10} Automatic Monitoring obtained from TEOM's fitted with FDMS and web logger fiunctionality at High Street/New Bridge St Ayr and Tarbolton Primary School, Tarbolton are displayed in Table 2.5a and 2.5b. Collected data did not show any exceedences of either annual mean or 24-hour mean PM_{10} objectives in 2010

South Ayrshire Council previously monitored PM_{10} at New Bridge Street Ayr using a tapered element oscillated microbalance (TEOM) analyser. The results from this were reported in the detailed assessment, which was submitted in September 2007. The conclusions of that report were that it was unlikely that there would be in exceedence of either annual mean or 24-hour mean PM_{10} objectives in 2010 however further monitoring should be carried out.

Table 2.5a Results of PM_{10} Automatic Monitoring: Comparison with Annual Mean Objective

Site ID	Location	Within AQMA?	Data Capture 2008 %	Annual mean concentrations ($\mu g/m^3$)	
				2008	2010 +
A1	High Street, Ayr	N	65.1	16	15.2
A2	Tarbolton Primary School	N	95.3	13.2	12.5

+ Predicted from 2008 data using the methodology in Box 2.1 of LAQM.TG

Table 2.5b Results of PM_{10} Automatic Monitoring: Comparison with 24-hour Mean Objective

Site ID	Location	Within AQMA?	Data Capture 2008 %	Number of Exceedences of 24-hourly mean (50 $\mu g/m^3$) *If data capture < 90%, include the 90th %ile of hourly means in brackets.*
				2008
A1	High Street, Ayr	N	65.1	0 (90th %ile = 22)
A2	Tarbolton Primary School	N	95.3	0

2.2.3 Sulphur Dioxide

No Sulphur Dioxide monitoring was carried out in South Ayrshire in 2008.

Previously monitoring was by means of two eight port bubblers, one at Dundonald Activity Centre and the other at the Road Depot within Grangeston Industrial Estate Girvan. Analysis of the solution took place at Glasgow Scientific Services.

Monitoring ceased at Dundonald at the end of 2006 and at Girvan at the end of 2007.

The results of that monitoring indicated that there would no exceedances of the objective standard as was reported in South Ayrshire Council's 2008 Progress Report.

2.2.4 Benzene

Benzene monitoring is carried out utilising diffusion tubes at four sites throughout South Ayrshire.

Analysis takes place at Glasgow Scientific Services however due to various reasons at the laboratory with equipment failure data capture for 2008 was low.

The results are displayed in table 2.6a. None of the sites exceeded the objective concentration.

Table 2.6a Results of Benzene Diffusion Tubes

Site	Within AQMA?	Data Capture 2008 (%)	Annual mean concentrations 2008 (μg/m^3)	Air Quality Objective Annual mean concentration (μg/m^3)
1.Rozelle Park Ayr	N	42	0.14	3.25
2 Somerfield High St Maybole	N	50	0.36	3.25
3. Ewenfield Rd Ayr	N	50	0.24	3.25
4. Town Hall, High St Maybole	N	42	0.54	3.25

3 Road Traffic Sources

3.1 Narrow Congested Streets with Residential Properties Close to the Kerb

In order to provide an assessment of road traffic sources for this report, the most up to date information on traffic flows on several roads within South Ayrshire was obtained from the Roads section at South Ayrshire Council and Transport Scotland. The updated traffic information is shown in Appendix

The towns of Ayr and Maybole were identified as areas where there are narrow congested streets with residential properties within 5m of the kerb. Both areas were assessed in previous rounds of review and assessment and do not require further consideration.

South Ayrshire 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

The busy streets of Ayr and Maybole were assessed at previous rounds of review and assessment.

South Ayrshire 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.

Roads with a high flow of buses and/or HGV's were assessed at previous rounds of review and assessment.

South Ayrshire Council confirms that there are no new/newly identified roads with high flows of buses/HDVs.

3.4 Junctions and Busy Roads

Busy roads and junctions (greater than 5,000 vehicles per day) with relevant exposure in South Ayrshire were assessed in previous rounds of review and assessment.

South Ayrshire 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

No new roads with relevant exposure have been constructed in South Ayrshire since last round of review and assessment.

South Ayrshire Council confirms that there are no new/proposed roads.

3.6 Roads with Significantly Changed Traffic Flows

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

3.7 Bus and Coach Stations

There is only one bus station within South Ayrshire and that is situated off Fullarton Street in Ayr however there is less than 2,500 movements per day.

South Ayrshire Council confirms that there are no relevant bus stations in the Local Authority area.

4 Other Transport Sources

4.1 Airports

There is one airport situated within South Ayrshire – namely Prestwick however the total equivalent passenger numbers in million passengers per annum (mppa) is less than 10. Likewise, the background NOx concentration is less than 25 $\mu g/m^3$

South Ayrshire Council confirms that there are no relevant airports in the Local Authority area.

4.2 Railways (Diesel and Steam Trains)

4.2.1 Stationary Trains

The only rail yard within South Ayrshire where diesel trains are stationary for more than 15 minutes is Falkland Junction in Ayr however there are no potential for relevant exposure within 15m.

South Ayrshire 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

South Ayrshire 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)

Troon Harbour has a ro-ro ferry which runs to Belfast once per day throughout the year and a fast ferry (Seacat) which operates twice per day to Belfast for 6 months during the summer months. In addition last year Troon saw 208 movements of cargo ships carrying logs. This totals at 1,668 movements for 2008.

Ayr Harbour saw a total of 640 cargo ship movements in 2008.

(This information was supplied by Mr Phil Lilly, of Associated British Ports)

South Ayrshire Council confirms that there are no ports or shipping that meets the specified criteria within the Local Authority area.

5 Industrial Sources

Information on installations regulated under the Pollution Prevention and Control (Scotland) Regulations 2000 as either Part A or Part b processes was obtained from SEPA. The list of authorised processes is set out in Appendix 3.

5.1 Industrial Installations

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

Information on any new or proposed installations for which an air quality assessment has been carried out was obtained from SEPA.

South Ayrshire 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

Information obtained from SEPA indicate that there are no existing industrial installations where emissions have substantially increased.

South Ayrshire 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

Information obtained from SEPA indicates that there are no new or significantly changed installations with no previous air quality assessment.

South Ayrshire 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

According to Appendix E of LAQM TG(09) and information from SEPA, there are no major fuel storage depots within South Ayrshire

South Ayrshire Council confirms there are no major fuel (petrol) storage depots within the Local Authority area.

5.3 Petrol Stations

A survey of all major petrol stations in the area did not reveal any where there was relevant exposure within 10m of the pumps.

South Ayrshire Council confirms that there are no petrol stations meeting the specified criteria**.**

5.4 Poultry Farms

There are only three known poultry farms in South Ayrshire as follows;

- Auchincruive Agricultural College by Ayr which houses a maximum of 35,000 chickens and a few hundred turkeys part of the year.
- Auld Byres Farm, by Coylton which houses a maximum of 16,000 chickens.
- Brochniel Farm, by Girvan which houses a maximum of 3,000 chickens.

  (This information was supplied by Mr George King of the Animal Health Division, Agriculture, Environment and Fisheries Department, Russell House, Ayr)

South Ayrshire Council confirms that there are no poultry farms meeting the specified criteria.

6 Commercial and Domestic Sources

6.1 Biomass Combustion – Individual Installations

A recent planning application in respect of a new community hospital in Girvan included plans for a biomass combustion plant however there are no such plants currently operating within South Ayrshire. Consideration of the future impacts will incorporated into future LAQM assessments if the operator demonstrates to SEPA that the appropriate control techniques will be utilised and the permit application successful.

South Ayrshire Council confirms that there are no biomass combustion plants in the Local Authority area.

6.2 Biomass Combustion – Combined Impacts

South Ayrshire Council confirms that there are no biomass combustion plants in the Local Authority area.

6.3 Domestic Solid-Fuel Burning

Domestic properties burning solid fuel was assessed in previous rounds of review and assessment and it was found that in two areas the number of residential properties exceeded 100 per 500m square area. These were the villages of Dailly and Tarbolton. Pm10 and No2 monitoring at those areas did not show any exceedance of the relevant air quality objective standard. No further assessment of residential properties burning solid fuel is required.

South Ayrshire Council has assessed areas of significant domestic solid fuel use, and concluded that it will not be necessary to proceed to a Detailed Assessment.

7 Fugitive or Uncontrolled Sources

There are no new fugitive sources since the previous Upgrading and Screening Assessment in 2006.

There have been no complaints of dust from existing quarries or landfills.

South Ayrshire Council confirms that there are no potential sources of fugitive particulate matter emissions in the Local Authority area.

8 Conclusions and Proposed Actions

8.1 Conclusions from New Monitoring Data

Continuous monitoring of Nox and PM10 levels at High Street Ayr and Tarbolton Primary School did not show any exceedences of the relevant air quality objectives.

Likewise, diffusion tube monitoring of Nox and benzene throughout the district did not reveal any exceeedences of the relevant air quality objectives.

8.2 Conclusions from Assessment of Sources

Road Traffic Sources

The Updating and Screening Assessment did not identify the need for a Detailed Assessment in respect of nitrogen dioxide or PM_{10}.

Other Transport Sources

No issues were identified in relation to the other transport sources.

Industrial Sources

No issues were identified in relation to industrial sources.

Commercial and Domestic Sources

No issues were identified in relation to commercial and domestic sources. Assessment of the proposed biomass plant at the proposed community hospital will be carried out in future LAQM assessments.

Fugitive and Uncontrolled Sources

No issues were identified in relation to fugitive and uncontrolled sources

8.3 Proposed Actions

This updating and screening assessment has not shown the need to progress with a detailed assessment; therefore the next course of action for South Ayrshire will be the submission of a progress report by 30th April 2010.

9 References

1. Defra and the Devolved Administrations, Local Air Quality Management, Technical Guidance LAQM.TG (09), February 2009.

2. Defra and the Devolved Administrations, Spreadsheet of Bias Adjustment Factors, version 03/09, accessed at www.uwe.ac.uk/aqm, April 2009.

10 Appendices

Appendix 1: South Ayrshire NOx Diffusion Tube Data 2008 ($\mu g/m^3$)

Site	J	F	M	A	M	J	J	A	S	O	N	D	Total	Average	Bias Correction	Corrected Average
01 Craigie Garden Centre	6	2	4	2	8	4	2	6	7	2	14	14	71	5.92	0.97	5.7
02 Rozelle Park Ayr	7	3	1	2	1	2	3	6	5	2	9	12	53	4.42	0.97	4.3
03 Town Buildings Ayr	35	37	30	49	30	43	NR	43	NR	32	47	51	397	39.70	0.97	38.5
04 Ayr College	12	7	7	13	7	13	6	11	9	6	17	13	121	10.08	0.97	9.8
05 Heathfield PS	16	10	12	14	6	18	13	14	12	5	1	35	156	13.00	0.97	12.6
06 Heathfield Rd/Prestwick Rd Ayr	43	35	41	44	42	43	37	31	40	31	NR	48	435	39.55	0.97	38.4
07 Beresford Terr./Parkhouse St Ayr	42	34	36	23	39	36	24	35	42	16	45	45	417	34.75	0.97	33.7
08 Tesco Whitletts Rd Ayr	19	17	23	25	22	1	18	29	38	14	1	23	230	19.17	0.97	18.6
09 Kingcase Garage Ayr Rd Prestwick	24	28	13	23	NR	23	19	16	28	8	31	33	246	22.36	0.97	21.7
10 Shaw Rd Prestwick	16	16	25	19	11	24	11	17	26	18	34	NR	217	19.73	0.97	19.1
11 Shaw Farm Gardens Prestwick	11	8	17	14	NR	15	13	13	23	7	20	NR	141	14.10	0.97	13.7
12 Factory Site Dundonald Area	2	6	1	6	9	3	8	6	9	2	21	21	94	7.83	0.97	7.6
13 Kilmarnock Rd Barassie	26	4	17	20	23	20	15	21	24	2	27	32	231	19.25	0.97	18.7
14 Templehill Troon	9	6	4	12	2	13	7	10	17	2	16	22	120	10.00	0.97	9.7
15 Ardneils Garage, Troon	7	6	7	NR	7	10	3	NR	16	3	18	18	95	9.50	0.97	9.2
16 Main St Loans	9	9	9	18	17	16	7	12	14	2	18	21	152	12.67	0.97	12.3
17 Coylton PS	2	7	3	8	6	12	6	7	6	2	20	11	90	7.50	0.97	7.3
18 Mauchline Rd Mossblown	17	5	14	13	NR	19	14	10	20	2	17	31	162	14.73	0.97	14.3
19 Monkton PS	16	11	15	13	10	16	11	10	24	8	21	25	180	15.00	0.97	14.6
20 Dalrymple St Girvan	16	8	15	24	20	20	5	12	19	14	23	16	192	16.00	0.97	15.5
21 Henrietta St Girvan	14	5	1	7	7	6	11	4	NR	2	17	21	95	8.64	0.97	8.4
22 Camerons Garage Maybole	17	19	16	NR	29	26	25	21	14	9	40	37	253	23.00	0.97	22.3

Appendix 2: TrafficFlows

Site	Routeseq	Direction	Average Daily Flow		Average Daily % HGV
			7 Day	5 Day	7 Day
			Year	Year	Year
116110	A77_105		3027	3086	17%
ATC00006	A77_109		5603	5674	0%
ATC08516	A76_131		9780	10726	0%
ATC08523	A77_115		10464	10814	16%
ATC08524	A77_113		6317	6562	0%
ATC08527	A77_105		2996	3049	0%
ATCSW009	A77_112		7698	8001	0%
JTC00103	A78_130		15767	17112	0%
JTC00104	A78_132		16531	18116	0%
JTC00105	A78_133		24230	25359	9%
JTC00106	A77_124		32471	34828	11%
JTC00107	A77_123		33606	36014	11%
JTC00108	A77_122		33533	35424	12%
JTC00109	A77_121		22395	23807	14%
JTC00110	A77_120		16765	17468	0%
JTC00111	A77_119		13084	13569	40%
JTC00112	A77_118		12256	12730	0%
JTC00113	A77_107		3649	3703	0%
JTC00361	A77_201		32550	34361	11%
JTC00362	A77_201		32517	34227	10%
JTC00363	A77_202		32339	34119	11%

JTC00364	A77_112		7534	7810	19%
JTC00365	A77_112		7681	7980	17%
JTC00366	A77_108		3621	3692	23%
JTC08192	A78_131		19016	20682	7%
JTC10036	Z9999		12974	13596	8%
JTC10037	Z9999		19151	19787	8%
JTC10038	Z9999		20731	21682	12%
JTC10080	B749		6350	6517	7%

Locations:

site	dir1or	dir2or	sitedesc	east	north
116110	S	N	A77 Glen App	208250	575350
ATC00006	S	N	A77 Girvan South	218470	596609
ATC08516	N	S	A76 Crosshands-40m SE of B744-between B743 and B744	248600	630600
ATC08523	N	S	A77 Maybole-Cassillis Road-100m S of Kirkland Street	230755	610505
ATC08524	N	S	A77 Crossraguel Abbey-southwest of Maybole	227400	608400
ATC08527	N	S	A77 Auchencrosh-4Km S of B7044-SE of Ballantrae	209800	579900
ATCSW009	N	S	A77 Dipple Farm-3Km S of A719-betw. Girvan & Turnberry	220200	602500
JTC00103	N	S	A78 Loans Bypass at Auchengate-10m north of A759 ramps	233871	633505
JTC00104	N	S	A78 Hobsland-600m north of Monktonhill Roundabout	235280	629215
JTC00105	W	E	A78 Monktonhead-200m east of Monktonhill Roundabout	236000	628700
JTC00106	N	S	A77 Adamton House- between A719 and A78	238000	626300
JTC00107	N	S	A77 North of	237695	624841

JTC00108	N	S	Whitletts A77 South of Whitletts	236500	622000
JTC00109	N	S	A77 Glengall (north of A713)	235700	620000
JTC00110	N	S	A77 Ayr Bypass-Glengall- 200m south of Bank Rbt (A713)	235200	619000
JTC00111	N	S	A77 Carcluie Toll- 100m north of B7034- south of Ayr	234000	616200
JTC00112	N	S	A77 Minishant- 3.2 Km S of B7034- between B7045 & B7034	233000	614300
JTC00113	N	S	A77 Bennane- 3.5Km N of B734S- N of Ballantrae (NS)	210800	588200
JTC00361	N	S	A77 Whitlees near Symington	239100	631600
JTC00362	N	S	A77 Symington	238169	630499
JTC00363	N	S	A77 South of B7038 (Kilmarnock)	240000	632850
JTC00364	N	S	A77 S of Turnberry (Balkenna)	220172	603852
JTC00365	N	S	A77 N of Girvan Mains	219388	600185
JTC00366	N	S	A77 S of Girvan (Ardwell Bay)	216521	594755
JTC08192	N	S	A78 Loans	234340	632650
JTC10036	E	W	A713 Ayr; Castlehill Road	234583	620430
JTC10037	E	W	A719 Ayr; Whitletts Road	235840	622761
JTC10038	N	S	A79 Ayr; Castlehill Road	234413	623607
JTC10080	E	W	B749 Troon - Craigend Rd	233270	629859

(a) Appendix 3: SEPA IPPC Processes

Reference No	Date Received	Variation, Transfer, Surrender Appln Rec'd	Applicant/Permit Holder	Site Address
PPC/W/20050	03/08/2004		A K Stoddart Ltd, 16 Dunnet Way, East Mains Ind Estate, Broxburn, Edinburgh, EH52 5NN	Old Farm Road, Heathfield Abattoir, Heathfield Ind Estate, Ayr, KA8 9ST
PPC/W/20056	18-Aug-04		Sandyford Foods, Sandyford Toll, Prestwick, KA9 2SY	Sandyford Toll, Prestwick, KA9 2SY
PPC/W/20060	31-Aug-04		Belcher Food Products Ltd Glenburn Road Prestwick Ayrshire KA9 2NS	Belcher Food Products Ltd Glenburn Road Prestwick Ayrshire KA9 2NS
PPC/A/1000053	20-Dec-04	V1 -16/11/2006 V - 04/02/09	ISP Alginates (UK) Ltd Ladyburn Works Girvan Ayrshire KA26 9JN	Ladyburn Works Girvan Ayrshire KA26 9JN
PPC/A/1000105	26-Jan-05	VN1 - 18/04/07 VN2 - 17/06/08	Tarbolton Landfill Limited, 4 West Parade, Wakefield, West Yorkshire, WF1 1LT	Tarbolton Landfill Site, Tarbolton, South Ayrshire, KA5 5LZ
PPC/A/1003144	21-Mar-05	7/8/07 (V1)	William Grant & Sons Distillers Ltd The Girvan Distillery Grangestone Industrial Estate Girvan KA26 9PT	The Girvan Distillery Grangestone Industrial Estate Girvan KA26 9PT
PPC/A/1034906	06-Feb-09		Nestle UK Ltd, St Georges House, Park Lane, Croydon, CR9 1NR	Grangestone Industrial Estate, Ladywell Avenue, Girvan, KA26 9PL

11 Figures

Figure 1: Map of South Ayrshire

Figure 2 : Location of Automatic Monitor : Ayr

Figure 3: Location of Automatic Monitor: Tarbolton