

DOVER DISTRICT COUNCIL

LOCAL AIR QUALITY MANAGEMENT UPDATING AND SCREENING  
ASSESSMENT 2009

AGG07111/BV/AQ

APRIL 2009



BUREAU  
VERITAS

***Move Forward with Confidence***

This page is left blank intentionally

## DOCUMENT CONTROL SHEET

Issue/Revision	Issue 1	Issue 2	Issue 3	Final
Remarks	1 <sup>st</sup> Draft			
Date	April 2009			
Submitted to	Brian Gibson			
Prepared by	Lauren Jones			
Signature				
Approved by	Sharon Atkins			
Signature				
Project number	AGG07111			
File reference				

### Disclaimer

This Report was completed by Bureau Veritas on the basis of a defined programme of work and terms and conditions agreed with the Client. Bureau Veritas' confirms that in preparing this Report it has exercised all reasonable skill and care taking into account the project objectives, the agreed scope of works, prevailing site conditions and the degree of manpower and resources allocated to the project.

Bureau Veritas accepts no responsibility to any parties whatsoever, following the issue of the Report, for any matters arising outside the agreed scope of the works.

This Report is issued in confidence to the Client and Bureau Veritas has no responsibility to any third parties to whom this Report may be circulated, in part or in full, and any such parties rely on the contents of the report solely at their own risk.

Unless specifically assigned or transferred within the terms of the agreement, the consultant asserts and retains all Copyright, and other Intellectual Property Rights, in and over the Report and its contents.

Any questions or matters arising from this Report should be addressed in the first instance to the Project Manager.

This page is left blank intentionally

## TABLE OF CONTENTS

Executive Summary .....	4
1 Introduction.....	5
1.1 Description of Local Authority Area .....	5
1.2 Purpose of Report.....	5
1.3 Air Quality Objectives .....	6
1.4 Local Air Quality Management (LAQM).....	8
1.5 Summary of Review and Assessment undertaken by Dover District Council .....	8
2 Updating and Screening Assessment Methodology .....	11
2.1 Input Data .....	13
2.1.1 Traffic data.....	13
2.1.2 Background concentrations.....	13
3 New Monitoring Data.....	14
3.1 Summary of Monitoring Undertaken.....	14
3.1.1 Automatic Monitoring Sites.....	14
3.1.2 Non-Automatic Monitoring Data .....	15
3.2 Comparison of Monitoring Results with AQ Objectives.....	17
3.2.1 Nitrogen dioxide.....	17
3.2.2 Particles (PM <sub>10</sub> ) .....	18
3.2.3 Sulphur dioxide (SO <sub>2</sub> ).....	20
4 Road Traffic Sources.....	21
4.1 Narrow congested streets with residential properties close to the kerb .....	21
4.2 Busy streets where people may spend 1-hour or more close to traffic .....	21
4.3 Roads with a high flow of buses and/or Heavy Goods Vehicles .....	21
4.4 Junctions.....	21
4.5 New roads constructed or proposed since the last round of Review and Assessment .....	22
4.6 Roads with significantly changed traffic.....	22
4.7 Bus and coach stations.....	22
5 Other Transport Sources.....	23
5.1 Airports.....	23
5.2 Railways (diesel and steam trains).....	23
5.2.1 Stationary Trains .....	23
5.2.2 Moving Trains .....	23
5.3 Ports (shipping).....	23
6 Industrial Sources.....	24
6.1 Industrial Installations .....	24
6.1.1 New or Proposed Installations for which an Air Quality Assessment has been carried out .....	24
6.1.2 Existing Installations where emissions have increased substantially or new relevant exposure has been introduced .....	24

6.1.3	New or Significantly Changed Installations with No Previous Air Quality Assessment ..	24
6.2	Major fuel (petrol) storage depots.....	25
6.3	Petrol stations .....	25
6.4	Poultry farms.....	25
7	Commercial and Domestic Sources .....	26
7.1	Biomass combustion.....	26
7.1.1	Biomass combustion - individual installations .....	26
7.1.2	Biomass combustion – combined impacts (PM <sub>10</sub> emissions) .....	26
7.2	Domestic solid-fuel burning (sulphur dioxide emissions) .....	26
8	Fugitive or Uncontrolled Sources .....	27
9	Conclusions and Proposed Actions.....	28
9.1	Conclusions from new monitoring data .....	28
9.2	Conclusions from assessment of sources .....	28
9.3	Proposed Actions.....	28
10	References .....	29
APPENDICES .....		30
Appendix 1	- Traffic data.....	30
Appendix 2	- Bias Adjustment Factor Calculations.....	36
Appendix 3	- Nitrogen dioxide diffusion tube results 2008 .....	37
Appendix 4	- DMRB Assessment Inputs.....	38
Appendix 5	- DMRB Assessment Results .....	39
Appendix 6	- List of Industrial Processes .....	40

## LIST OF TABLES

Table 1– Air Quality Objectives included in the Air Quality Regulations for the purpose of Local Air Quality Management.....	7
Table 2– Summary of emission sources and relevant pollutants to be considered as part of the Updating and Screening Assessment.....	12
Table 3– Details of Automatic Monitoring Sites .....	14
Table 4– Details of Non- Automatic Monitoring Sites .....	16
Table 5– Results of Automatic Monitoring for Nitrogen dioxide: Comparison with Annual Mean Objective .....	17
Table 6– Results of nitrogen dioxide diffusion tubes ( $\mu\text{g}/\text{m}^3$ ) .....	18
Table 7– Summary Sheet from Volatile Correction Model.....	19
Table 8– Results of $\text{PM}_{10}$ Automatic Monitoring: Comparison with Annual Mean Objective.....	19
Table 9– Results of $\text{PM}_{10}$ Automatic Monitoring: Comparison with 24-hour Mean Objective .....	19
Table 10– Results of Automatic Monitoring for Sulphur dioxide: Comparison with Objectives .....	20

## LIST OF FIGURES

Figure 1 – A20 Dover Docks AQMA 2002 .....	9
Figure 2 – A20 Trunk Road AQMA 2004 (amended 2007) .....	10
Figure 3 – High Street/Ladywell AQMA 2007 .....	10
Figure 4 – Map of monitoring sites in Dover .....	14

## Executive Summary

Part IV of the Environment Act 1995 places a statutory duty on local authorities to review and assess the air quality within their area and take account of Government Guidance when undertaking such work.

The Updating and Screening Assessment (USA) provides an update with respect to air quality issues within the District. There have been a number of changes since the last (third) round of review and assessments which have been taken into account in this assessment; including revised Local Air Quality Management (LAQM) Guidance, modelled background concentration maps, updated NO<sub>x</sub>:NO<sub>2</sub> conversion calculator, updated future year calculation tools and updates on specific sources (rail, poultry farms, biomass). The USA has included consideration of new monitoring data and emissions sources, in addition to any significant changes to existing emission sources identified in the previous rounds. The USA considers the seven priority health based air quality objectives as laid down in Regulations and assesses the likelihood that the air quality objectives will be met by their target dates. If the air quality objectives are unlikely to be met, a detailed assessment will be required.

Having considered each emission source and presented evidence to support the assessment of each, it is concluded that the air quality objectives for benzene, 1, 3-butadiene, carbon monoxide, lead, PM<sub>10</sub> and sulphur dioxide will be met. There is no requirement to undertake a detailed assessment for these pollutants. However, there are exceedences of the annual mean nitrogen dioxide objective identified through monitoring data at one location in Dover outside of areas declared as Air Quality Management Areas: Bench Street. The Further Assessment 2009 recommended that the A20 Trunk Road AQMA be extended to include Bench Street, which lies just outside the current AQMA boundary.

### Summary Table

Pollutant	Detailed assessment required?	Sources/Location
Benzene	No	
1, 3 - butadiene	No	
Carbon monoxide	No	
Lead	No	
Nitrogen dioxide	No	Take up the recommendations of the Further Assessment 2009 to extend the A20 Trunk Road AQMA to include relevant exposure in Bench Street, where there are monitored exceedences of the annual mean objective.
PM <sub>10</sub>	No	
Sulphur dioxide	No	

## 1 Introduction

### 1.1 Description of Local Authority Area

The district of Dover is situated in Kent in the South East of England covering an area of approximately 121 square miles with a population in excess of 104,000. It includes three main towns, Dover, Deal and Sandwich, with the rest of the district being rural in character.

The main town in the district is Dover, which is internationally famous for the White Cliffs and, due to it being the nearest point to mainland Europe, it has the busiest passenger ferry port in the world. Steeped in history, the town has been dubbed "The Gateway to Britain". Apart from the port and ferry industries, the main business in the area is tourism, packaging and chemical instruments. Ten miles to the north of Dover lies the coastal town of Deal. Deal is home to numerous small businesses and is a popular residential area. The last of the main towns is Sandwich. Pfizer Pharmaceutical company is based on the outskirts of the town bringing employment to thousands of the area's residents.

The main source of air pollution in the district is road traffic emissions from major roads, notably the A2, A20, A260, A256, A258, and A257, and shipping emissions from the port of Dover. Other pollution sources, including commercial, industrial and domestic sources, also make a contribution to background pollution concentrations.

### 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 Local Air Quality Management (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.

Bureau Veritas has been commissioned by Dover District Council to undertake the Updating and Screening Assessment (USA) 2009, as part of the fourth round of LAQM Review and Assessment.

The following information has been considered within this assessment:

- Relevant legislative background
- Dover District Council Review and Assessment of air quality under the Local Air Quality Management (LAQM) regime
- Traffic data provided by Kent County Council; For the purposes of the updating and screening assessment, the Highways Agency's DMRB<sup>1</sup> model has been used to assess traffic data
- Industrial, domestic and other non-traffic related source data provided by Dover District Council
- Monitoring data for 2008 provided by Dover District Council
- Background pollutant concentrations from modelled maps
- Technical guidance and tools provided by Defra<sup>2</sup>

---

<sup>1</sup> Highways Agency's Design Manual for Roads and Bridges (DMRB), Volume 11, Section 3, Part 1 Air Quality, May 2007, and accompanying spreadsheet DMRB Screening Method V1.03.xls. July 2007

<sup>2</sup> Local Air Quality Management Technical Guidance LAQM.TG(09). February 2009. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland

This report sets out the relevant air quality legislation for air quality, provides a review of local air quality management within the administrative area, assesses the air quality for all relevant sources and then summarises the findings of the assessment and potential need for further detailed assessment work.

### 1.3 Air Quality Objectives

The significance of existing and future pollutant levels are assessed in relation to the national air quality standards and objectives, established by Government. The revised Air Quality Strategy (AQS)<sup>3</sup> for the UK (released in July 2007) provides the over-arching strategic framework for air quality in the UK and contains national air quality standards and objectives established by the UK Government and devolved administrations to protect human health. The air quality objectives incorporated in the AQS and the UK Legislation are derived from the Limit Values prescribed in the EU Directives transposed into national legislation by member states.

The CAFE (Clean Air for Europe) programme was initiated in the late 1990s to draw together previous directives into a single EU Directive on air quality. The Directive 2008/50/EC<sup>4</sup> introduces new obligatory standards for PM<sub>2.5</sub> for Government but places no statutory duty on local Government to work towards achievement.

The Air Quality Standards (England) Regulations 2007<sup>5</sup> came into force on 15<sup>th</sup> February 2007 in order to align and bring together in one statutory instrument the Governments obligations to fulfil the requirements of the CAFE Directive.

The objectives for ten pollutants (benzene, 1,3-butadiene, carbon monoxide, lead, nitrogen dioxide, sulphur dioxide particulates - PM<sub>10</sub> and PM<sub>2.5</sub>, ozone and PAHs - Polycyclic Aromatic Hydrocarbons) have been prescribed within the Air Quality Strategy<sup>3</sup> based on The Air Quality Standards (England) Regulations 2007.

This assessment focuses on those pollutants included in Air Quality Regulations for the purpose of Local Air Quality Management, in respect of pollutant sources affecting air quality within the Council's administrative area. The objectives set out in the AQS for these pollutants are presented in the table below.

The UK Government and the Devolved Administrations have also set new national air quality objectives for PM<sub>2.5</sub>. These objectives have not been incorporated into LAQM Regulations, and authorities have no statutory obligation to review and assess air quality against them.

The locations where the AQS objectives apply are defined in the AQS as locations outside buildings or other natural or man-made structures above or below ground where members of the public are regularly present and might reasonably be expected to be exposed [to pollutant concentrations] over the relevant averaging period of the AQS objective. Typically these include residential properties and schools/care homes for longer period (i.e. annual mean) pollutant objectives and high streets for short-term (i.e. 1-hour) pollutant objectives.

---

<sup>3</sup> The Air Quality Strategy for England, Scotland, Wales and Northern Ireland (2007), Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland

<sup>4</sup> Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe

<sup>5</sup> The Air Quality Standards Regulations 2007, Statutory Instrument No 64, The Stationary Office Limited

**Table 1– Air Quality Objectives included in the Air Quality Regulations for the purpose of Local Air Quality Management**

Pollutant	Objective	Concentration measured as	Date to be achieved by and maintained thereafter
<b>Benzene</b> All authorities	16.25 µg/m <sup>3</sup>	running annual mean	31.12.2003
Authorities in England and Wales only	5.00 µg/m <sup>3</sup>	annual mean	31.12.2010
Authorities in Scotland and Northern Ireland only	3.25 µg/m <sup>3</sup>	running annual mean	31.12.2010
<b>1,3 Butadiene</b> All authorities	2.25 µg/m <sup>3</sup>	running annual mean	31.12.2003
<b>Carbon monoxide</b> Authorities in England, Wales and Northern Ireland only	10.0 µg/m <sup>3</sup>	maximum daily running mean 8-hour	31.12.2003
Authorities in Scotland only	10.0 µg/m <sup>3</sup>	running mean 8-hour	31.12.2003
<b>Lead</b> All authorities	0.5 µg/m <sup>3</sup>	annual mean	31.12.2004
	0.25 µg/m <sup>3</sup>	annual mean	31.12.2008
<b>Nitrogen dioxide</b> <sup>a</sup> All authorities	200 µg/m <sup>3</sup> , not to be exceeded more than 18 times a year	hourly mean	31.12.2005
	40 µg/m <sup>3</sup>	annual mean	31.12.2005
<b>Particles (PM<sub>10</sub>) (gravimetric)</b> <sup>b</sup> All authorities	50 µg/m <sup>3</sup> , not to be exceeded more than 35 times a year	24 hour mean	31.12.2004
	40 µg/m <sup>3</sup>	annual mean	31.12.2004
Authorities in Scotland only <sup>c</sup>	50 µg/m <sup>3</sup> not to be exceeded more than 7 times a year	24 hour mean	31.12.2010
	18 µg/m <sup>3</sup>	annual mean	31.12.2010
<b>Sulphur dioxide</b> All authorities	350 µg/m <sup>3</sup> not to be exceeded more than 24 times a year	1 hour mean	31.12.2004
	125 µg/m <sup>3</sup> not to be exceeded more than 3 times a year	24 hour mean	31.12.2004
	266 µg/m <sup>3</sup> not to be exceeded more than 35 times a year	15 minute mean	31.12.2005

<sup>a</sup> EU Limit values in respect of nitrogen dioxide to be achieved by 1st January 2010. There are, in addition, separate EU limit values for carbon monoxide, sulphur dioxide, lead and PM10, to be achieved by 2005, and benzene by 2010.

<sup>b</sup> Measured using the European gravimetric transfer sampler or equivalent.

<sup>c</sup> These 2010 air quality objectives for PM10 apply in Scotland only, as set out in the Air Quality (Scotland) Amendment Regulations 2002.

## 1.4 Local Air Quality Management (LAQM)

As established by the Environment Act 1995 Part IV, all local authorities in the UK are under a statutory duty to undertake an air quality assessment within their area and determine whether they are likely to meet the air quality objectives set down by Government for a number of pollutants. The process of review and assessment of air quality undertaken by local authorities is set out under the Local Air Quality Management (LAQM) regime and involves a phased three yearly assessment of local air quality. Where the results of the review and assessment process highlight that problems in the attainment of health-based objectives for air quality will arise, the authority is required to declare an Air Quality Management Area (AQMA) – a geographic area defined by high levels of pollution and exceedences of health-based standards.

The LAQM regime was first set down in the 1997 National Air Quality Strategy (NAQS)<sup>6</sup> and introduced the idea of local authority 'Review and Assessment'. The Government subsequently published policy and technical guidance related to the review and assessment processes in 1998. This guidance has since been reviewed and the latest documents include Policy Guidance (LAQM.PG (09))<sup>7</sup> and Technical Guidance (LAQM.TG (09))<sup>8</sup>. The guidance lays down a progressive, but continuous, framework for the local authorities to carry out their statutory duties to monitor, assess and review air quality in their area and produce action plans to meet the air quality objectives.

Defra and the Devolved Administrations released the latest Policy and Technical Guidance in February 2009, in anticipation of the fourth round of review and assessment. The fourth round begins with this Updating and Screening Assessment, required to be completed by local authorities by the end of April 2009, and builds upon the Council's previous work in the first three rounds.

## 1.5 Summary of Review and Assessment undertaken by Dover District Council

Dover District Council (DDC) undertook the first round of review and assessment between 1998 and 2001. The first round concluded that it was necessary to declare an Air Quality Management Area (AQMA) for sulphur dioxide due to shipping that incorporates Marine Parade, Athol Terrace, East Cliff and part of Langdon Cliffs and Jubilee Way. The AQMA came into force on 20<sup>th</sup> June 2002. Other air quality objectives were predicted to be met.

The Updating and Screening Assessment (USA), the first phase of the second round, was completed in July 2003, with the conclusion that a Detailed Assessment was required for nitrogen dioxide (NO<sub>2</sub>) and fine particulates (PM<sub>10</sub>) due to emissions from road traffic at the junctions of Townwall Street/Woolcomber Street and High Street/Ladywell. The Detailed Assessment (2004) results showed that there were predicted exceedences of the NO<sub>2</sub> annual mean objective identified at the nearest receptors to the A20 Townwall Street/Woolcomber Street junction. DDC declared this area an AQMA in October 2004.

The Annual Progress Report (APR) for 2005 considered monitoring data for 2004, and concluded that there were no exceedences of air quality objectives outside the designated AQMA areas, except for NO<sub>2</sub> annual mean at kerbside sites at the High Street/Ladywell Junction. It was recommended that NO<sub>2</sub> monitoring be undertaken at a relevant receptor location at the High Street/Ladywell Junction to demonstrate compliance with the objective.

The third round of review and assessment, following the same stages as the second round, began with the USA. DDC completed this in June 2006, with the conclusion that a Detailed Assessment was required for NO<sub>2</sub> due to emissions from road traffic on the A20 Limekiln Street, south of the York Street roundabout, and once again at the junction of High Street and Ladywell. The Detailed Assessment 2007 concluded that both areas assessed would exceed the annual mean NO<sub>2</sub> objective.

---

<sup>6</sup> DoE, 1997, 'The United Kingdom National Air Quality Strategy', The Stationary Office

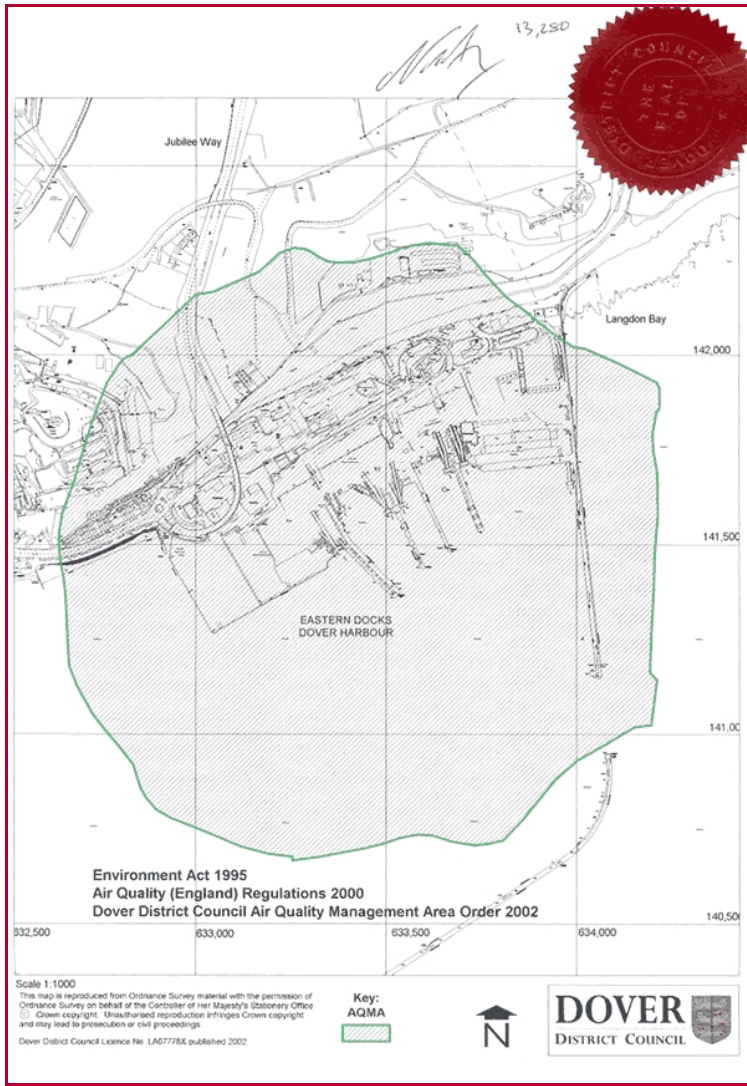
<sup>7</sup> Policy Guidance LAQM.PG(09) (2009), Part IV of the Environment Act 1995, Local Air Quality Management, Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland, The Stationery Office

<sup>8</sup> Technical Guidance LAQM.TG (09) (2009), Part IV of the Environment Act 1995, Local Air Quality Management, Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland, The Stationery Office

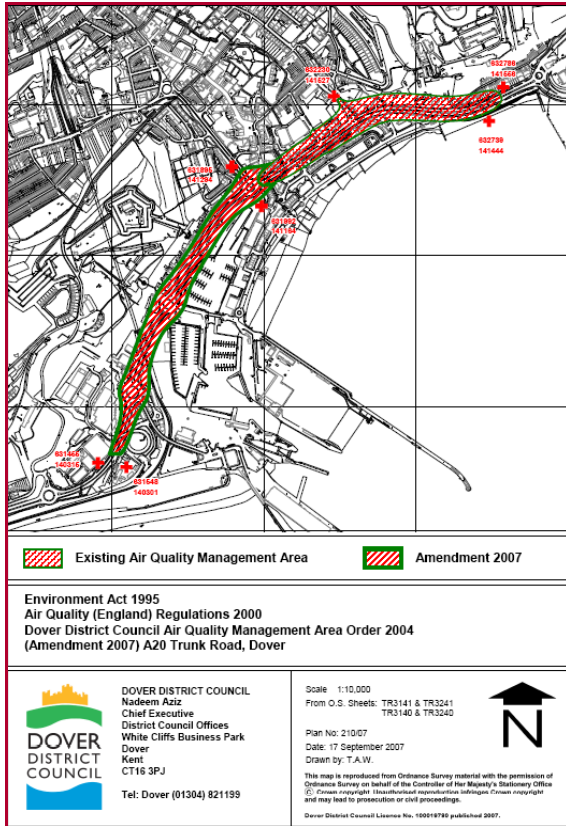
In December 2007, DDC declared a new AQMA at the junction of High Street and Ladywell, in addition to extending the A20 AQMA to incorporate Limekiln Street.

A Detailed Assessment was also undertaken in 2007 for hourly and annual NO<sub>2</sub> at Dover Eastern Docks to assess the combined impact of shipping and traffic emissions. This concluded that although exceedences of the hourly and annual objective were predicted in the port area, the area of exceedence did not represent relevant exposure.

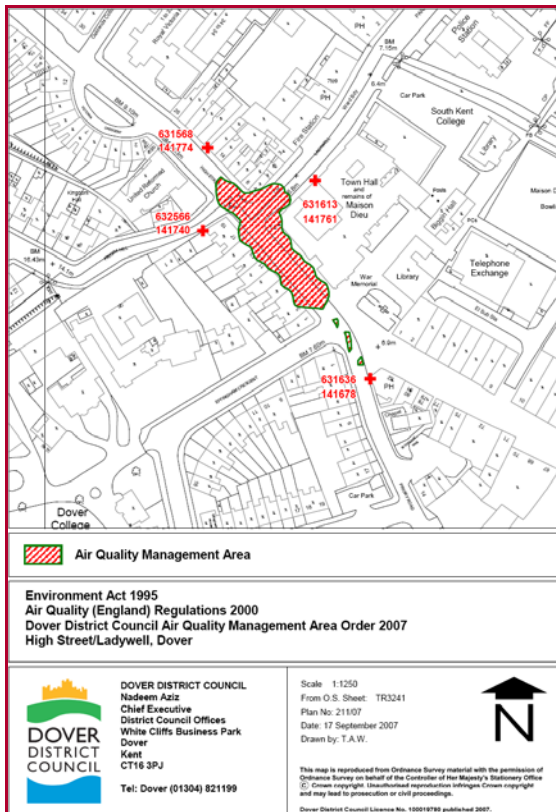
**Figure 1 – A20 Dover Docks AQMA 2002**



**Figure 2 – A20 Trunk Road AQMA 2004 (amended 2007)**



**Figure 3 – High Street/Ladywell AQMA 2007**



## 2 Updating and Screening Assessment Methodology

The Updating and Screening Assessment is intended to identify any significant changes that may have occurred since the previous rounds of Review and Assessment were completed. This includes new monitoring data, new or changed emissions sources (either locally or in neighbouring authorities), or any other local changes that might affect air quality e.g. new relevant exposure. The assessment builds on the previous Review and Assessment work undertaken by local authorities.

The Updating and Screening Assessment involves a checklist approach that considers all significant emissions sources relevant to the Air Quality Objectives. The checklists are broadly the same as in the previous rounds, but have been re-ordered so that they follow a source-by-source rather than pollutant-by-pollutant approach. This is to reduce repetition within the screening process for those local authorities that do not have all the listed sources within their area. These can more easily be discounted at an early stage.

A summary of the emission source categories for the Updating and Screening checklists is provided below. The detailed checklists for each source type are then set out in the following sections, as per the methodology provided in Chapter 5 of the Technical Guidance LAQM.TG (09).

The air quality assessment for road traffic emissions sources has been undertaken using the Highways Agency's DMRB<sup>1</sup> model. NO<sub>2</sub> concentrations have been calculated based on the updated NO<sub>x</sub>:NO<sub>2</sub> conversion method provided on behalf of Defra as part of the LAQM.TG(09) tools.

For other sources, the checklist approach to screening and relevant LAQM.TG(09) nomograms have been utilised.

**Table 2– Summary of emission sources and relevant pollutants to be considered as part of the Updating and Screening Assessment**

Reference No.	Emission sources to be assessed	Relevant Pollutants
<b>A. Road Transport Sources</b>		
A.1	Narrow congested streets with residential properties close to the kerb	Nitrogen dioxide
A.2	Busy streets where people may spend 1-hour or more close to traffic	Nitrogen dioxide
A.3	Roads with a high flow of buses and/or HGVs.	Nitrogen dioxide, PM <sub>10</sub>
A.4	Junctions (including busy roads and junctions in Scotland and Northern Ireland)	Nitrogen dioxide, PM <sub>10</sub>
A.5	New roads constructed since the last round of review and assessment	Nitrogen dioxide, PM <sub>10</sub>
A.6	Roads/junctions identified as being close to the objective during the previous round of review and assessment	Nitrogen dioxide, PM <sub>10</sub>
A.7	Roads with significantly changed traffic flows	Nitrogen dioxide, PM <sub>10</sub>
A.8	Bus and coach stations	Nitrogen dioxide
<b>B: Other transport sources</b>		
B.1	Airports	Nitrogen dioxide
B.2	Railway (diesel and steam trains)	Sulphur dioxide, nitrogen dioxide
B.3	Ports (shipping)	Sulphur dioxide
<b>C: Industrial sources</b>		
C.1	Industrial processes (new processes and those with significantly increased emissions)	Benzene, 1,3-butadiene, lead, nitrogen dioxide, sulphur dioxide, PM <sub>10</sub>
C.2	Major petrol storage depots	Benzene
C.3	Petrol Stations	Benzene
C.4	Poultry farms	PM <sub>10</sub>
<b>D: Commercial and domestic sources</b>		
D.1	Biomass combustion	Nitrogen dioxide, PM <sub>10</sub>
D.2	Domestic solid-fuel burning	Sulphur dioxide
<b>E: Fugitive or uncontrolled sources</b>		
E.1	Quarries, landfill sites, opencast coal mining, waste transfer sites, materials handling (i.e. ports, major construction sites)	PM <sub>10</sub>

## 2.1 Input Data

### 2.1.1 Traffic data

Kent County Council, via their consultants Jacobs, provided the annual average daily traffic flows (AADT) and speed data used in this assessment, including relevant projection factors to the baseline year 2008.

Where speed data has not been available, speeds have been based on speed limits, modified according to local conditions to take account of congestion and stop/start vehicle movements at junctions. Speeds were reduced at busy junctions to 20kph to reflect the higher emissions of queuing traffic.

Appendix 1 contains the tabular summary of traffic data provided for the Updating and Screening Assessment for use in the DMRB model.

### 2.1.2 Background concentrations

The DMRB model calculates the pollutant concentrations due to road traffic emissions only. The user must then add the background concentrations (arising from sources other than traffic) to derive the total pollutant concentrations at the relevant receptors modelled.

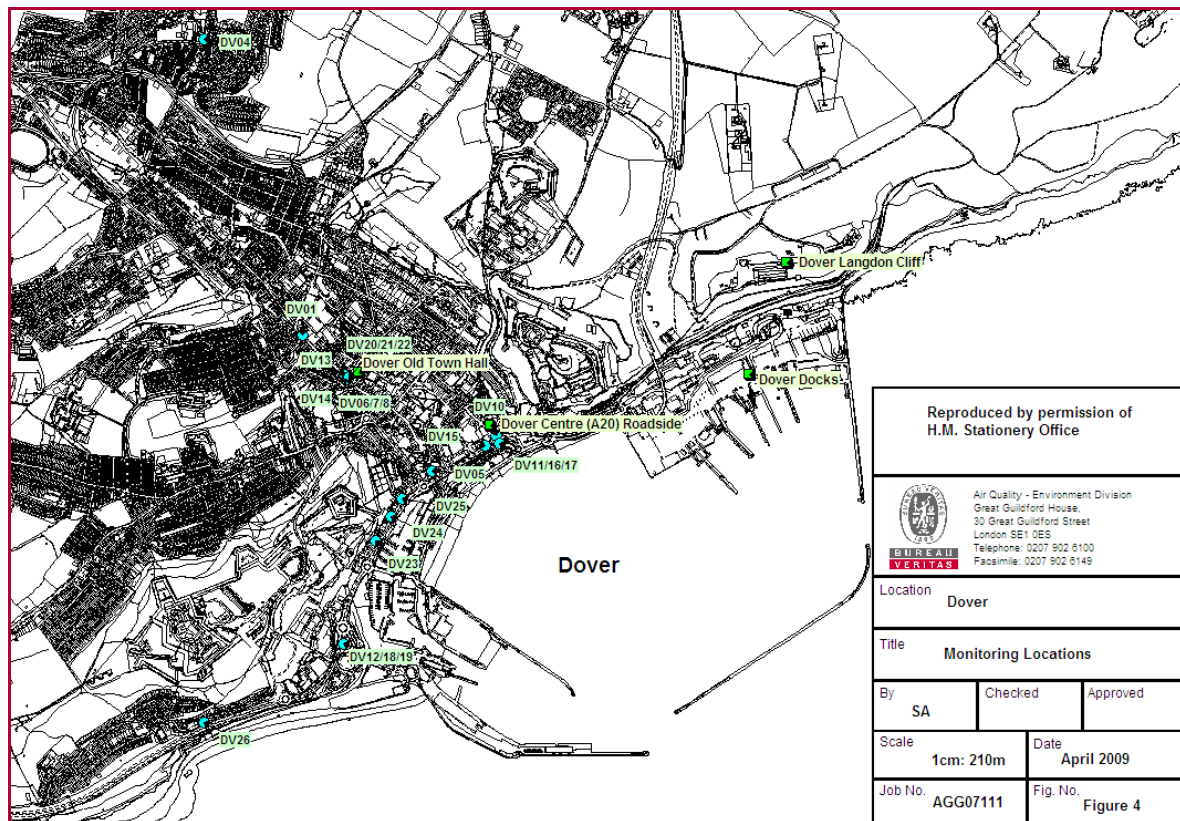
The background concentrations can be obtained either from appropriate monitoring stations or from Defra maps of modelled background pollutant concentrations. These maps are available at a resolution of 1x1 km for the entire UK. Maps are provided for future years' background pollutant concentrations. The maps can be obtained from the UK Air Quality Information Archive<sup>9</sup>. The maps have been updated from the previous round of review and assessment as part of the LAQM.TG (09) tools released in February 2009. Background concentrations used in the DMRB model runs are shown in Appendix 4.

### 3 New Monitoring Data

Section 3 reviews and assesses all new monitoring data in order to determine whether the air quality objectives are at risk of exceedance.

#### 3.1 Summary of Monitoring Undertaken

**Figure 4 – Map of monitoring sites in Dover**



##### 3.1.1 Automatic Monitoring Sites

This section provides details of automatic monitoring carried out in 2008, the year covered by this report.

There is currently automatic monitoring of nitrogen dioxide undertaken by Dover District Council at two locations in the area, Dover Old Town Hall roadside site and Dover Docks urban industrial site. The site at Dover Docks was decommissioned in February 2008, as the site was being developed and was no longer suitable. A new site in the Eastern Docks area was found, which recommenced in June 2008. All continuous monitoring sites are part of the Kent and Medway Air Quality Monitoring Network (KMAQMN) and as such, are subject to the Network's Quality Assurance/Quality Control (QA/QC) procedures including fortnightly calibrations and 6-monthly analyser services. There are triplicate NO<sub>2</sub> diffusion tubes co-located at the Old Town Hall roadside site, which provides co-location data for calculation of the bias adjustment factor. The ratified monitoring results for 2006 - 2008 for these sites are shown below.

There is currently continuous monitoring of particles (PM<sub>10</sub>) undertaken by Dover District Council at one location in the area, the Dover Centre (A20) roadside site using a Tapered Element Oscillating Microbalance (TEOM). Two sites also measure SO<sub>2</sub> emissions from shipping at the Port of Dover: Langdon Cliff background and Dover Docks sites.

The QA/QC procedures for the KMAQMN are equivalent to the UK Automatic Urban and Rural Network (AURN) procedures, with the exception of the following:

- Calibration of NO<sub>x</sub> analysers with NO gas (AURN also use NO<sub>2</sub>)
- Data checks are done once daily and downloads are done twice daily (AURN are hourly)
- Independent audits of the stations are undertaken annually (AURN are 6 monthly).

**Table 3– Details of Automatic Monitoring Sites**

Site Name	Site Type	OS Grid Ref (x,y)	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?
Dover Centre (A20) Roadside	Roadside	x=632277 y=141513	PM <sub>10</sub>	Yes	N	3.6m	Yes
Dover Old Town Hall	Roadside	x=631645, y=141770	NO <sub>2</sub>	Yes	N	1.3m	Yes
Dover Docks	Urban Industrial	x=633517, y=141758	NO <sub>2</sub> , SO <sub>2</sub>	Yes	Y-0m	N/A	No
Dover Langdon Cliff	Background	x=633698 y=142292	SO <sub>2</sub>	Yes	Y-0m	N/A	No

### 3.1.2 Non-Automatic Monitoring Data

Details of the non-automatic monitoring undertaken in the district are shown below.

**Table 4– Details of Non- Automatic Monitoring Sites**

Site No.	Location	Site Type	X	Y	Pollutant 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?
DV01	High Street Dover Site 6	R	631376	141949	NO <sub>2</sub>	No	Y-2m	1.5m	No
DV04	Green Lane Dover Site 8	B	630905	143362	NO <sub>2</sub>	No	Y-6m	N/A	No
DV05	Bench Street Dover	I	631997	141296	NO <sub>2</sub>	No	Y-4m	30m	No
DV06/07/08	Town Hall Dover ZD1 (triplicate)	R	631597	141748	NO <sub>2</sub>	Yes	N	1.3m	Yes
DV10	Townwall Street Dover ZD2	R	632302	141465	NO <sub>2</sub>	Yes	N	3.6m	Yes
DV11/16/17	The Gateway (triplicate)	F	632318	141422	NO <sub>2</sub>	Yes	Y-0m	12m	No
DV12/18/19	St Martins (triplicate)	F	631577	140468	NO <sub>2</sub>	Yes	Y-0m	10m	No
DV13	Town Hall 2	K	631579	141760	NO <sub>2</sub>	Yes	Y-2m	<1m	Yes
DV14	Town Hall 3	K	631587	141736	NO <sub>2</sub>	Yes	Y-2m	<1m	Yes
DV15	Townwall 1	K	632248	141422	NO <sub>2</sub>	Yes	N	<1m	Yes
DV20/21/22	Town Hall A (triplicate)	F	631597	141748	NO <sub>2</sub>	Yes	Y-0m	2.5m	No
DV23	Snargate A	F	631727	140966	NO <sub>2</sub>	Yes	Y-0m	15m	No
DV24	Snargate B	F	631802	141079	NO <sub>2</sub>	Yes	Y-0m	10m	No
DV25	Snargate C	F	631854	141164	NO <sub>2</sub>	Yes	Y-0m	15m	No
DV26	1 King Lear	F	630902	140095	NO <sub>2</sub>	No	Y-0m	15m	No
DV27	Castle Comm School	B	636984	151752	NO <sub>2</sub>	No	Y-0m	N/A	No

F=Façade, b=Background, R=Roadside, I=Intermediate, K=Kerbside.

### 3.1.2.1 Nitrogen dioxide diffusion tube data

In addition to the continuous monitoring network, Dover District Council operates 16 NO<sub>2</sub> diffusion tubes sites within the District. The tubes are prepared and analysed by Harwell Scientific using the 50% TEA in acetone method. The laboratory method is currently UKAS accredited.

To take account of the bias in the diffusion tubes analysed by Harwell Scientific, an assessment has been made of data from the NO<sub>2</sub> continuous analyser at Dover Town Hall, on the junction of High Street and Ladywell (AQMA) which has co-located triplicate diffusion tubes and 12 months of data capture. The diffusion tube results tend to over read the continuous analysers, with a bias adjustment factor of 0.8 for 2006, 0.85 for 2007 0.86 for 2008. The methodology outlined in the Technical Guidance LAQM.TG (09) has been used in the calculation of the bias adjustment factor. This calculation is shown in Appendix 2. Results have been taken from the previous review and assessment reports to put the most recent year's results into context and consider trends over time.

## 3.2 Comparison of Monitoring Results with AQ Objectives

### 3.2.1 Nitrogen dioxide

#### 3.2.1.1 Automatic Monitoring Data

The 2008 data shows exceedences of the annual mean nitrogen dioxide objective at the Dover Docks site. However, there is no relevant exposure with respect to the annual mean objective at this location. As there is less than the recommended 90% data capture at the Dover Docks site, consideration has been made to the 99.8<sup>th</sup> percentile of hourly NO<sub>2</sub> – this was 143 µg/m<sup>3</sup> i.e. below the 200 µg/m<sup>3</sup> objective.

**Table 5– Results of Automatic Monitoring for Nitrogen dioxide: Comparison with Annual Mean Objective**

Site ID	Location	Within AQMA?	Description	Annual mean concentrations (µg/m <sup>3</sup> )		
				2006	2007	2008
ZD1	Dover Old Town Hall Roadside	Yes	Annual Mean NO <sub>2</sub> > 40 µg/m <sup>3</sup>	40	38	40
			NO <sub>2</sub> Hourly Mean > 200 µg/m <sup>3</sup> for more than 18 times per year	3	0	0
			% Data Capture	99	99	99
ZD6	Dover Docks	Yes (for SO <sub>2</sub> only)	Annual Mean NO <sub>2</sub> > 40 µg/m <sup>3</sup>	-	<b>48</b>	<b>43</b>
			NO <sub>2</sub> Hourly Mean > 200 µg/m <sup>3</sup> for more than 18 times per year	-	2	3
			% Data Capture	-	99	(62)

\*Data for all years has been fully ratified.

Exceedences of the air quality objectives are shown in bold. Data capture less than the recommended 90% is shown in brackets.

#### 3.2.1.2 Diffusion Tube Monitoring Data

The nitrogen dioxide diffusion tube data are summarised in the table below. The full dataset (monthly mean values) are included in Appendix 3.

Of the 16 sites in the table below, 11 are within the declared AQMAs and are showing exceedences of the annual mean NO<sub>2</sub> objective. The Townwall 1 kerbside site near the junction of A20 Townwall Street and Woolcomber Street is indicating continued high levels at this location. This site is within the A20 Townwall Street AQMA and is located where there is significant queuing of traffic, but no relevant exposure. The Bench Street site where exceedences have also been predicted is on the outer edge of the declared A20 Trunk Road AQMA – there is potential relevant exposure at 1<sup>st</sup> floor locations in Bench Street. The Council should consider amending the boundary of the A20 Trunk Road AQMA to incorporate this area of exceedence (and relevant exposure) in Bench Street.

With respect to the hourly NO<sub>2</sub> objective, the only site potentially at risk of exceedence is the Townwall 1 kerbside site in the A20 Trunk Road AQMA declared for the annual mean NO<sub>2</sub> objective. Where levels are above 60 µg/m<sup>3</sup>. This street is not a location where members of the public are likely to be present at the roadside for the averaging period of the objective.

**Table 6– Results of nitrogen dioxide diffusion tubes ( $\mu\text{g}/\text{m}^3$ )**

Site ID	Location	Within AQMA?	Data Capture 2008 %	Annual mean concentrations ( $\mu\text{g}/\text{m}^3$ ) adjusted for bias		
				2006 (Bias factor: 0.798)	2007 (Bias factor: 0.847)	2008 (Bias factor: 0.86)
DV01	High Street Dover Site 6	No	92	39	37	36
DV04	Green Lane Dover Site 8	No	83	20	22	23
DV05	Bench Street Dover	No	92	41	42	41
DV06/ 07/08	Town Hall Dover ZD1 (triplicate)	Yes	92	41	39	41
DV10	Townwall Street Dover ZD2	Yes	100	51	53	55
DV11/ 16/17	The Gateway (triplicate)	Yes	92	42	43	44
DV12/ 18/19	St Martins (triplicate)	Yes	100	50	49	50
DV13	Town Hall 2	Yes	75	48	52	55
DV14	Town Hall 3	Yes	100	51	53	52
DV15	Townwall 1	Yes	100	70	89	79
DV20/ 21/22	Town Hall A (triplicate)	Yes	100	51	53	59
DV23	Snargate A	Yes	83	-	-	59
DV24	Snargate B	Yes	100	-	-	56
DV25	Snargate C	Yes	100	-	-	54
DV26	1 King Lear	No	25	-	-	25*
DV27	Castle Comm School	No	17	-	-	23*

\*Less than 9 months data capture. Annualisation undertaken using five background sites in the Kent & Medway Air Quality Monitoring Network (Canterbury, Rochester Stoke, Thanet Airport, Tunbridge Wells Town Centre, Swale Sheerness).

### 3.2.2 Particles ( $\text{PM}_{10}$ )

There is currently continuous monitoring of particles ( $\text{PM}_{10}$ ) undertaken by Dover District Council at one location in the area, the Dover Centre (A20) roadside site using a Tapered Element Oscillating Microbalance (TEOM).

LAQM.TG (09) sets out the calculation required for TEOM results using the Volatile Correction Model (VCM) to estimate gravimetric equivalent. This replaces use of the previous 1.3 factor. Data for 2008 has been corrected using the VCM model. Data for previous years has been taken from previous LAQM reports and uses the 1.3 factor.

**Table 7– Summary Sheet from Volatile Correction Model**

Summary	Text	Value
Site Name	Dover Centre Roadside - A20 Townwall Street	
Organisation	Kent	
Start Date	01/01/2008	
End Date	01/01/2009	
TEOM data already corrected with 1.3 factor	No	
EPA Constant A		3
EPA Constant B		1.03
Instrument Temperature		25
Instrument Pressure		1013
Instrument reports to local ambient readings	No	
Timescale	Daily	
Pressure Site	Thurrock 3 - Stanford-le-Hope (TK3)	
Pressure Site Warning		
Temperature Site	Thurrock 3 - Stanford-le-Hope (TK3)	
Temperature Site Warning		
FDMS Site 1	Bexley 7 (F) - Thames Rd North (BX6)	
FDMS Site 1 Warning	Correction includes unratified data.	
FDMS Site 2	Tower Hamlets 4 - Blackwall (TH4)	
FDMS Site 2 Warning	Correction includes unratified data. Distant site ( 102km).	
FDMS Site 3	Southend Background AURN (SD1)	
FDMS Site 3 Warning	Data capture 80%. Correction includes unratified data.	

The 2008 results show that the PM<sub>10</sub> objectives are continuing to be met at this site.

**Table 8– Results of PM<sub>10</sub> Automatic Monitoring: Comparison with Annual Mean Objective**

Site ID	Location	Within AQMA?	Data Capture 2008 %	Annual mean concentrations (µg/m <sup>3</sup> )		
				2006	2007	2008
ZD2	Dover Centre A20 Roadside	Yes - for NO <sub>2</sub>	99	38	26	26 (31)

\*Data has been fully ratified. 2008 data in brackets shows the Teom data corrected by 1.3, as per previous methodology. Exceedences are highlighted in bold.

**Table 9– Results of PM<sub>10</sub> Automatic Monitoring: Comparison with 24-hour Mean Objective**

Site ID	Location	Within AQMA?	Data Capture 2008 %	Number of Exceedences of 24-hour mean (50 µg/m <sup>3</sup> ) <i>If data capture &lt; 90%, include the 90<sup>th</sup> %ile of hourly means in brackets.</i>		
				2006	2007	2008
ZD2	Dover Centre A20 Roadside	Yes- for NO <sub>2</sub>	99	<b>54</b>	34	15 (21)

\*Data has been fully ratified. 2008 data in brackets shows the Teom data corrected by 1.3, as per previous methodology. Exceedences are highlighted in bold.

### 3.2.3 Sulphur dioxide (SO<sub>2</sub>)

There is currently continuous monitoring of sulphur dioxide (SO<sub>2</sub>) undertaken by Dover District Council at two locations in the area within the Dover Docks AQMA for SO<sub>2</sub>: Dover Langdon Cliff and Dover Docks.

The 2008 results show that the SO<sub>2</sub> objectives are being met at these sites, although data capture was lower than the recommended 90% in 2008. The 15-minute mean is the SO<sub>2</sub> objective, which has been exceeded in previous years and resulted in the AQMA declaration. As the data capture is below 90%, the Technical Guidance recommends consideration to the relevant percentile to assess compliance with the objectives. The 99.9<sup>th</sup> percentile calculated for 15-minute SO<sub>2</sub>; 112 µgm<sup>3</sup> at Langdon Cliff and 250 µgm<sup>3</sup> at Dover Docks i.e. below the 266 µgm<sup>3</sup> objective level.

**Table 10– Results of Automatic Monitoring for Sulphur dioxide: Comparison with Objectives**

Location	Within AQMA?	Description	2006	2007	2008
Dover Langdon Cliff	Yes	15 Minute mean > 266 µgm <sup>3</sup> for more than 35 15-minute periods	14	4	1
		Hourly mean > 350 µgm <sup>3</sup> for more than 24 hours	1	1	0
		Daily Mean > 125 µgm <sup>3</sup> for more than 3 days	0	0	0
		% Data Capture	96	(79)	(85)
Dover Docks	Yes	15 Minute mean > 266 µgm <sup>3</sup> for more than 35 15-minute periods	<b>79</b>	30	8
		Hourly mean > 350 µgm <sup>3</sup> for more than 24 hours	1	0	0
		Daily Mean > 125 µgm <sup>3</sup> for more than 3 days	2	0	0
		% Data Capture	(12)	95	(49)

\*Data for all years has been fully ratified.

Exceedences are highlighted in bold. Data capture below the recommended 90% is shown in brackets.

## 4 Road Traffic Sources

The air quality assessment for road traffic emissions sources has been undertaken using the Highways Agency's DMRB<sup>1</sup> model. The DMRB inputs and results are shown in Appendices 4 - 5.

### 4.1 Narrow congested streets with residential properties close to the kerb

There are no new/newly identified congested streets with a flow above 5,000 vehicles per day and residential properties close to the kerb identified by Dover District Council. The A256 High Street, Dover has sections, which are narrow and congested, but these have been assessed in previous rounds and an AQMA has been declared at the junction of High Street and Ladywell.

Dover 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.

### 4.2 Busy streets where people may spend 1-hour or more close to traffic

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

### 4.3 Roads with a high flow of buses and/or Heavy Goods Vehicles

Traffic data assessed for the Updating and Screening Assessment shows the A20 has high flows of heavy duty vehicles >20%. This has been previously assessed and an Air Quality Management has been declared along the A20 Trunk Road in Dover.

Dover District Council confirms that there are no new/newly identified roads with high flows of buses and/or heavy goods vehicles.

### 4.4 Junctions

Dover District Council has not identified any new junctions that have not been adequately considered in previous rounds.

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

#### 4.5 New roads constructed or proposed since the last round of Review and Assessment

Two new roads have been constructed since the last round of review and assessment:

- Docks Egress Road
- Link Road from A2 to White Cliffs Business Park, Whitfield.

The Docks Egress Road, due to be completed in Summer 2009, runs from the Eastern Docks roundabout to the A20 Townwall Street. This has been constructed to reduce queuing on the approach to Eastern Docks from the A20. An air quality assessment has been undertaken by Jacobs. No significant air quality impacts have been predicted.

The Link Road at Whitfield has no relevant exposure nearby.

Dover District Council has assessed new/proposed roads meeting the criteria in Section A.5 of Box 5.3 in LAQM.TG(09), and concluded that it will not be necessary to proceed to a Detailed Assessment.

#### 4.6 Roads with significantly changed traffic

Traffic data assessed for the Updating and Screening Assessment show no roads with significantly changed traffic flows of more than 25%. However, there has been new traffic count data made available since the previous round at sites not previously assessed. These have been run through DMRB to confirm compliance with the objective. The results as shown in Appendix 5 show the prescribed objectives as predicted to be met.

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

#### 4.7 Bus and coach stations

The assessment considers both nitrogen dioxide and PM<sub>10</sub> emissions at bus stations that are not enclosed with >2500 movements per day. There are no bus stations in Dover that meet this criterion. The Stagecoach bus depot has re-located from the A20 Townwall Street site to Whitfield in industrial Park. There is no relevant exposure adjacent to the site.

Dover District Council confirms that there are no relevant bus stations in the Local Authority area.

## 5 Other Transport Sources

### 5.1 Airports

The assessment for airports considers nitrogen dioxide. If there are no airports in the Local Authority area, there is no need to proceed further with this part.

Dover District Council confirms that there are no airports in the Local Authority area.

### 5.2 Railways (diesel and steam trains)

The assessment for stationary trains considers sulphur dioxide emissions, while the assessment for moving diesel trains considers nitrogen dioxide emissions. If there are no railways carrying diesel or steam trains in the Local Authority area, there is no need to proceed further with this part.

#### 5.2.1 Stationary Trains

Dover 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.

#### 5.2.2 Moving Trains

Dover 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.

### 5.3 Ports (shipping)

The assessment for shipping considers sulphur dioxide emissions at busy ports with 5,000 and 15,000 movements per year and relevant exposure within 250 metres. In Dover, the Eastern Docks fulfils this criteria, but it has already been assessed and declared an Air Quality Management Area. Proposals for a second ferry terminal in the Western Docks (T2) are longer term and will be subject to an Environmental Impact Assessment.

Dover District Council confirms that there are no new ports or shipping that meet the specified criteria within the Local Authority area. The Eastern Docks at the Port of Dover has already been adequately assessed in previous rounds.

## 6 Industrial Sources

### 6.1 Industrial Installations

The assessment of industrial installations considers all of the regulated pollutants, although those most at risk of requiring further work are sulphur dioxide, NO<sub>2</sub>, PM<sub>10</sub> and benzene. A list of industrial processes in the district is provided in Appendix 6.

#### 6.1.1 New or Proposed Installations for which an Air Quality Assessment has been carried out

There are nine newly permitted Part B processes: seven for mobile crushing/screening processes, one dry cleaner and one vehicle resprayer. These processes have been considered with regard to emissions and likely breach of air quality objectives and it is concluded that there are no significant releases to warrant a detailed assessment.

Dover District Council has assessed new/proposed industrial installations, and concluded that it will not be necessary to proceed to a Detailed Assessment.

#### 6.1.2 Existing Installations where emissions have increased substantially or new relevant exposure has been introduced

Dover 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.

#### 6.1.3 New or Significantly Changed Installations with No Previous Air Quality Assessment

There are nine newly permitted Part B processes: seven for mobile crushing/screening processes, one dry cleaner and one original coating vehicle sprayer. These processes have been considered with regard to emissions and likely breach of air quality objectives and it is concluded that there are no significant releases to warrant a detailed assessment.

Dover District Council has assessed new/proposed industrial installations, and concluded that it will not be necessary to proceed to a Detailed Assessment.

## 6.2 Major fuel (petrol) storage depots

The assessment considers benzene, with respect to the 2010 objective.

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

## 6.3 Petrol stations

The assessment considers benzene, with respect to the 2010 objective. Large petrol stations, where annual throughput is more than 2000 m<sup>3</sup> of petrol (2 million litres per annum), and with a busy road nearby of >30000 annual average daily traffic flows, require consideration with respect to relevant exposure.

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

## 6.4 Poultry farms

Farms housing in excess of: 400,000 birds if mechanically ventilated, 200,000 birds if naturally ventilated, and 100,000 birds for any turkey unit, require consideration in this assessment, to establish whether there is relevant exposure within 100m of the poultry units. The assessment needs to consider only PM<sub>10</sub>.

Dover District Council confirms that there are no poultry farms in the local authority area meeting the specified criteria.

## 7 Commercial and Domestic Sources

### 7.1 Biomass combustion

#### 7.1.1 Biomass combustion - individual installations

The assessment considers both PM<sub>10</sub> and nitrogen dioxide objectives. There are currently no biomass combustion processes in the district, which meet this criteria.

A scoping report has been submitted to the Council for a Biomass 3MW gasification process at Great Caulham Farm, Cauldham Lane, Capel-le-ferne. This currently does not have planning permission.

Dover District Council confirms that there are no biomass combustion plants in the Local Authority area, which meet this criteria.

#### 7.1.2 Biomass combustion – combined impacts (PM<sub>10</sub> emissions)

Dover District Council confirms that there are no biomass combustion plants in the Local Authority area, which meet this criteria.

### 7.2 Domestic solid-fuel burning (sulphur dioxide emissions)

The assessment considers sulphur dioxide emissions (only) from significant areas of residential properties that use solid fuel to heat their houses. ‘Significant’ areas are those of about 500 x 500 m with more than 50 houses burning coal/smokeless fuel as their primary source of heating. PM<sub>10</sub> from domestic solid fuel burning is covered under the Biomass combustion – combined impacts section above.

Dover District Council confirms that there are no areas of significant domestic fuel use in the Local Authority area.

## 8 Fugitive or Uncontrolled Sources

The assessment of fugitive and uncontrolled sources considers the PM<sub>10</sub> objectives. This included consideration to quarries, landfill sites, opencast coal mining, waste transfer sites, and materials handling (i.e. ports, major construction sites). Only locations not covered by previous rounds of review and assessment, or where there is new relevant exposure, require consideration. In the case of proposed new sources, these are only required to be considered if planning approval has been granted.

There have been no substantial changes, new exposure or any dust complaints.

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

## 9 Conclusions and Proposed Actions

### 9.1 Conclusions from new monitoring data

The Updating and Screening Assessment review of new monitoring data, has shown that exceedences continue to occur in Dover A20 Trunk Road AQMA and High Street/Ladywell AQMA.

Outside the AQMA, exceedences of the annual mean NO<sub>2</sub> objective were measured in Bench Street. The Further Assessment 2009 recommended that the A20 Trunk Road AQMA be extended to include Bench Street, which lies just outside the current AQMA boundary.

### 9.2 Conclusions from assessment of sources

The Updating and Screening Assessment has reviewed new and significantly changed sources in the district. There are no significant new or substantially changed sources that warrant a detailed assessment.

### 9.3 Proposed Actions

Proposed actions arising from the Updating and Screening Assessment are as follows:

- Take up the recommendations of the Further Assessment 2009 to extend the A20 Trunk Road AQMA to include relevant exposure in Bench Street, where there are monitored exceedences of the annual mean objective;
- Progress to a 2010 Annual Progress Report by April 2010;
- Closely monitor exceedences of the 15 minute SO<sub>2</sub> Objective within the Eastern Docks AQMA area with a view to amending or revoking the AQMA once sufficient evidence is obtained.

## 10 References

- Highways Agency's Design Manual for Roads and Bridges (DMRB), Volume 11, Section 3, Part 1 Air Quality, May 2007, and accompanying spreadsheet DMRB Screening Method V1,03.xls. July 2007
- Local Air Quality Management Technical Guidance LAQM.TG(09). February 2009. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland
- Local Air Quality Management Policy Guidance LAQM.PG(09). February 2009. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland
- Dover District Council 2009 Local Air Quality Management Further Assessment
- Dover District Council 2008 Local Air Quality Management Annual Progress Report
- Dover District Council 2006 Local Air Quality Management Updating and Screening Assessment

## APPENDICES

### Appendix 1 - Traffic data

Site Ref	Data source	Location	X	Y	%HDV <sup>*</sup>	AADT 2008	Speed (mph)	Previously Assessed?	Substantial change since USA 2006 (25%)?	Assessed in USA 2009 using DMRB?	Reason for assessment
-	DFT	A20 Archcliffe Road	631500	140330	22.5	29921	-	Yes	X	X	n/a
-	DFT	A260 Canterbury Road	621818	145000	5.4	7353	-	No	X	X	n/a
-	DFT	A258 Castle Hill Road	632320	142000	2.3	4793	-	No	X	X	n/a
-	DFT	A258 Deal Castle Road	637800	152255	2.3	6101	-	No	X	X	n/a
-	DFT	A2 Dover Road	622370	149060	9.8	1740	-	Yes	X	X	n/a
-	DFT	A256 Dover Road	630600	152000	5.9	12927	-	No	X	√	Relevant exposure
-	DFT	A258 Dover Road	635000	146600	2.6	16989	-	No	X	√	Relevant exposure
-	DFT	A258 Dover Road	636400	149000	2.5	16111	-	Yes	X	X	n/a
-	DFT	A258 Dover Road	636790	150000	2.8	14881	-	No	X	X	n/a
-	DFT	A260 Hill Road	623330	137434	3.7	9597	-	Yes	X	X	n/a
-	DFT	A2 Jubilee Way	633000	142000	11.2	17099	-	Yes	X	X	n/a
-	DFT	A256 London Road	630000	143250	2.3	12660	-	Yes	X	X	n/a
-	DFT	A256 London Road	631330	142000	3.6	13237	-	Yes	X	X	n/a
-	DFT	A258 London Road	635030	153000	3.4	13335	-	Yes	X	√	Relevant exposure
-	DFT	A258 London Road	636910	152170	2.5	10491	-	Yes	X	X	n/a
-	DFT	A256 Maison Dieu Road	631600	142000	3.8	11653	-	Yes	X	X	n/a
-	DFT	A2 N/A	627564	146001	11.4	17453	-	Yes	X	X	n/a
-	DFT	A2 N/A	632000	144388	6.0	24631	-	Yes	X	X	n/a
-	DFT	A20 N/A	629000	139360	22.5	26664	-	Yes	X	X	n/a
-	DFT	A20 N/A	631750	140950	10.9	21643	-	Yes	X	X	n/a

\*Heavy duty vehicles (HDV) >20% is considered as an unusually high proportion, which would warrant assessment if not previously considered.

### Appendix 1 (Continued) - Traffic data

Site Ref	Data source	Location	X	Y	%HDV *	AADT 2008	Speed (mph)	Previously Assessed?	Substantial change since USA 2006 (25%)?	Assessed in USA 2009 using DMRB?	Reason for assessment
-	DFT	A253 N/A	626300	165000	5.4	5561	-	No	X	X	n/a
-	DFT	A256 N/A	631690	154700	6.9	10687	-	Yes	X	X	n/a
-	DFT	A256 N/A	632000	157125	5.8	19190	-	Yes	X	X	n/a
-	DFT	A258 N/A	632600	156640	4.7	12451	-	No	X	X	n/a
-	DFT	A258 N/A	632840	143000	2.7	8358	-	No	X	X	n/a
-	DFT	A258 N/A	633800	155000	4.0	13786	-	No	X	√	Relevant exposure
-	DFT	A260 Old Dover Road	621670	150100	5.6	7338	-	No	X	X	n/a
-	DFT	A258 Prince Of Wales Terrace	637830	152380	2.4	11964	-	No	X	√	Relevant exposure
-	DFT	A256 Ramsgate Road	633150	160000	4.9	18774	-	Yes	X	X	n/a
-	DFT	A256 Ramsgate Road	635000	164250	5.6	18207	-	No	X	X	n/a
-	DFT	A258 Ranelagh Road	637750	152310	2.3	6101	-	No	X	X	n/a
-	DFT	A20 The Viaduct	631670	140400	27.4	2519	-	Yes	X	X	n/a
-	DFT	A20 Townwall Street	632230	141400	24.7	25908	-	Yes	X	X	n/a
-	DFT	A20 Townwall Street	632500	141480	13.6	23328	-	Yes	X	X	n/a
-	DFT	A258 Victoria Road	637700	152400	2.3	1439	-	Yes	X	X	n/a
-	DFT	A256 Whitfield Hill	630000	144530	2.1	15546	-	Yes	X	X	n/a
-	DFT	A256 Woolcomber Street	632260	141500	3.8	6310	-	Yes	X	X	n/a
-	DFT	A256 York Street	631800	141420	3.4	14904	-	Yes	X	X	n/a
00000132	KCC	A258 Sholden	635513	152568	-	13262	33.6	No	X	√	Relevant exposure
20020161	KCC	A258 Dover Road - Langdon CF35	635452	147195	-	15544	39.6	No	X	√	Relevant exposure

\*Heavy duty vehicles (HDV) >20% is considered as an unusually high proportion, which would warrant assessment if not previously considered.

### Appendix 1 (Continued) - Traffic data

Site Ref	Data source	Location	X	Y	%HDV *	AADT 2008	Speed (mph)	Previously Assessed?	Substantial change since USA 2006 (25%)?	Assessed in USA 2009 using DMRB?	Reason for assessment
20020162	KCC	A258 Dover Road - St Margarets CF36	633807	144450	-	14752	43.4	No	X	√	Relevant exposure
20020255	KCC	Alkham east	625882	142390	-	7718	31.1	No	X	X	n/a
20020256	KCC	Alkham west	625437	142160	-	7580	32.8	No	X	X	n/a
20030016	KCC	A256 Dover Road - Tilmanstone M31	631282	153955	-	11048	67.7	Yes	X	X	n/a
20030016	KCC	A256 Sandwich Road Eastry M32	631282	153955	-	10078	56.5	Yes	X	X	n/a
20030116	KCC	Dover Road - Ringwould M40	636347	148920	-	14179	45.4	No	X	√	Relevant exposure
20050024	KCC	A257 Ash Bypass	629428	158729	-	10217	54.8	No	X	√	Relevant exposure
20050024	KCC	A257 Sandwich Road - Ash	629428	158729	-	10803	55.2	No	X	√	Relevant exposure
20050027	KCC	A258 Dover Road - Walmer	637411	150902	-	13480	29.3	Yes	X	X	n/a
20050028	KCC	A256 Sandwich Road - Eastry	631285	153938	-	11105	52.4	Yes	X	X	n/a
20050173	KCC	A257 High Street - Wingham	624430	157945	-	13274	28.8	No	X	√	Relevant exposure
20060156	KCC	Mongeham Road - Great Mongeham	635298	151733	-	3911	24.9	No	X	X	n/a
20060199	KCC	Astor Avenue - Tower Hamlets Dover	630546	141585	-	6924	25.5	No	X	X	n/a
20060200	KCC	Astor Avenue - Tower Hamlets Dover	630900	141685	-	6556	25.3	No	X	X	n/a
20060201	KCC	Northbourne Avenue - Tower Hamlets Dover	630584	141747	-	1689	33.5	No	X	X	n/a

\*Heavy duty vehicles (HDV) >20% is considered as an unusually high proportion, which would warrant assessment if not previously considered.

### Appendix 1 (Continued) - Traffic data

Site Ref	Data source	Location	X	Y	%HDV *	AADT 2008	Speed (mph)	Previously Assessed?	Substantial change since USA 2006 (25%)?	Assessed in USA 2009 using DMRB?	Reason for assessment
20060203	KCC	Goschen Road - Tower Hamlets Dover	630769	141718	-	1518	19.8	No	X	X	n/a
20070042	KCC	A258 London Road - Deal	635703	152321	-	13384	28.3	No	X	√	Relevant exposure
20070099	KCC	West Street (south) - Deal	637502	152609	-	7904	16.9	No	X	X	n/a
20070101	KCC	High Street -Deal	637652	152926	-	2184	19	No	X	X	n/a
20070118	KCC	Westcourt Lane - Shepherdsweil	625212	148211	-	436	23.7	No	X	X	n/a
20070119	KCC	Coxhill - Halfway Street	624797	146993	-	2191	41.5	No	X	X	n/a
20070234	KCC	St Richards Road Deal	635996	151197	-	4781	28.8	No	X	X	n/a
20070237	KCC	St Richards Road Deal	636375	150831	-	6572	27.7	No	X	X	n/a
20080023	KCC	A258 Prince Of Wales Terrace Deal	637824	152548	-	12345	23.2	No	X	√	Relevant exposure
20080024	KCC	Queen Street, Deal	637754	152612	-	7316	19.2	No	X	X	n/a
20080027	KCC	High Street Deal	637651	152913	-	2274	19.3	No	X	X	n/a
20080028	KCC	Park Street Deal	637585	152699	-	2242	21.4	No	X	X	n/a
20080057	KCC	St Richards Rd Deal	636376	150821	-	6348	28.3	No	X	X	n/a
20080097	KCC	Folkestone Rd Dover	630183	140705	-	8328	33	No	X	X	n/a
1000002	KCC	B2011 Folkestone Road, West Hougham, Dover	628031	139497	-	8036	53.6	No	X	X	n/a
1000003	KCC	B2060 Alkham Road, Kearsney	628495	143687	-	8383	34.7	No	X	X	n/a
1000004	KCC	B2060 London Road, Temple Ewell, Dover	628491	144454	-	3735	35.8	No	X	X	n/a

\*Heavy duty vehicles (HDV) >20% is considered as an unusually high proportion, which would warrant assessment if not previously considered.

### Appendix 1 (Continued) - Traffic data

Site Ref	Data source	Location	X	Y	%HDV *	AADT 2008	Speed (mph)	Previously Assessed?	Substantial change since USA 2006 (25%)?	Assessed in USA 2009 using DMRB?	Reason for Assessment
1000005	KCC	A256 Whitfield Hill, Whitfield, Dover	629916	144445	-	16287	43.9	Yes	X	X	n/a
1000006	KCC	Honeywood Road, Whitfield, Dover	630267	144471	-	16563	30.0	No	X	X	n/a
1000007	KCC	A258 Duke Of Yorks Barracks, Dover	632905	143270	-	10076	37.0	No	X	X	n/a
1000051	KCC	A20 York Street, Dover	631937	141258	-	9910	22.1	Yes	X	X	n/a
1000052	KCC	B2011 Folkestone Road, Dover	630858	141220	-	12602	23.5	Yes	X	X	n/a
1000053	KCC	Coombe Valley Road, Dover	630695	142313	-	5701	26.4	No	X	X	n/a
1000054	KCC	A256 London Road, Dover	629528	143600	-	13758	35.5	Yes	X	X	n/a
1000055	KCC	A258 Castle Hill Road, Dover	632270	142163	-	11820	22.6	Yes	X	X	n/a
1000056	KCC	A256 Woolcomber Street, Dover	632276	141474	-	5546	21.6	Yes	X	X	n/a
41	KCC	A256 Richborough	633437	161635	-	22582	-	No	X	√	Relevant exposure
55	KCC	B2011 West Hougham	628118	139598	-	8382	-	No	X	X	n/a
56	KCC	C587 Lydden Village	625978	145498	-	2968	-	No	X	X	n/a
58	KCC	A258 Deal Road, Dover	633713	144322	-	17797	-	No	X	√	Relevant exposure
118	KCC	A256 North Of Whitfield	631420	145282	-	10596	-	No	X	X	n/a
121	KCC	A256 Sandwich Bypass	632202	156802	-	17882	-	Yes	X	X	n/a
132	KCC	A258 Sholden	635513	152568	-	12970	-	No	X	√	Relevant exposure

\*Heavy duty vehicles (HDV) >20% is considered as an unusually high proportion, which would warrant assessment if not previously considered.

### Appendix 1 (Continued) - Traffic data

Site Ref	Data source	Location	X	Y	%HDV *	AADT 2008	Speed (mph)	Previously Assessed?	Substantial change since USA 2006 (25%)?	Assessed in USA 2009 using DMRB?	Reason for Assessment
1181	KCC	A256 Whitfield Bypass	630923	153357	-	13424	-	Yes	X	X	n/a
1182	KCC	C604 Sandwich Road, Whitfield	630087	146928	-	3098	-	No	X	X	n/a
K612130	KCC	A20 Townwall Street	632900	151600	22.1	25,391	-	Yes	X	X	n/a
K612130	KCC	East Cliff	632900	151600	1.3	174	-	No	X	X	n/a
K612130	KCC	Eastern Docks	632900	151600	39.5	14,457	-	Yes	X	X	n/a
K612130	KCC	A2 Jubilee Way	632900	151600	11.3	17,596	-	Yes	X	X	n/a
612141A	KCC	E3307 Worthington St	631670	141580	9.1	1,364	-	No	X	X	n/a
K612141	KCC	B2011 Folkestone Rd	631670	141585	3.7	14,761	-	Yes	X	X	n/a
K612141	KCC	A256 Priory Road	631670	141585	5.5	13,449	-	Yes	X	X	n/a
K612141	KCC	Priory Street	631670	141585	7.3	7,525	-	Yes	X	X	n/a
K612141	KCC	A256 York Street	631670	141585	5.4	13,965	-	Yes	X	X	n/a
X712708	KCC	Wootton Lane (Wootton)	623000	146500	6.0	203	-	No	X	X	n/a
X712708	KCC	Wootton Lane (A2)	623000	146500	6.9	144	-	No	X	X	n/a
X712708	KCC	Geddinge Lane (Geddinge)	623000	146500	3.0	74	-	No	X	X	n/a
K814099	KCC	A256 Buckland Avenue	631000	142500	3.8	11,320	-	No	X	√	Relevant exposure
K814099	KCC	E3304 Minerva Avenue	631000	142500	0.6	1,122	-	No	X	√	Relevant exposure
K814099	KCC	A256 Barton Road	631000	142500	3.9	13,532	-	No	X	√	Relevant exposure
K814099	KCC	E3304 Cherry Tree Avenue	631000	142500	3.8	6,583	-	No	X	√	Relevant exposure

\*Heavy duty vehicles (HDV) >20% is considered as an unusually high proportion, which would warrant assessment if not previously considered.

## Appendix 2 - Bias Adjustment Factor Calculations

Start Date	End Date	Tube 1 $\mu\text{g m}^{-3}$	Tube 2 $\mu\text{g m}^{-3}$	Tube 3 $\mu\text{g m}^{-3}$	Triplicate Mean	Standard Deviation	Coefficient of Variation (CV)	95% confidence interval of mean	Period Mean	% Data Capture	Tubes Precision Check	Automatic Monitor Data Capture Check
02/01/2008	30/01/2008	50	51	50	50	1	1	1	38	100	Good	Good
30/01/2008	27/02/2008	60	58	58	59	1	2	2	56	93	Good	Good
27/02/2008	02/04/2008	41	42	42	42	1	2	2	38	100	Good	Good
02/04/2008	30/04/2008	61	58	61	60	2	3	4	53	100	Good	Good
30/04/2008	28/05/2008	51	54	53	52	1	3	4	42	100	Good	Good
28/05/2008	02/07/2008	49	48	35	44	8	18	20	40	100	Good	Good
02/07/2008	30/07/2008	43	46	42	44	2	4	4	38	100	Good	Good
30/07/2008	03/09/2008	44	44	43	44	0	1	1	35	99	Good	Good
03/09/2008	01/10/2008	39	42	-	41	2	6	21	34	99	Good	Good
01/10/2008	29/10/2008	40	46	-	43	5	11	41	37	100	Good	Good
29/10/2008	03/12/2008	43	45	44	44	1	2	3	37	100	Good	Good
03/12/2008	08/01/2009	47	47	48	47	1	2	2	43	100	Good	Good

Dover Old Town Hall Roadside Site	
Bias factor A	0.86 (0.83 – 0.9)
Bias B	16% (11% - 21%)
Diffusion Tubes Mean:	47 $\mu\text{g m}^{-3}$
Mean CV (Precision):	4
Automatic Mean:	41 $\mu\text{g m}^{-3}$
Data Capture for periods used:	99%
Adjusted Tubes Mean:	41 (39 – 43) $\mu\text{g m}^{-3}$

### Appendix 3 - Nitrogen dioxide diffusion tube results 2008

Site Ref	Location	X	Y	Site type	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Average	Corrected Annual Mean 2008
DV01	High Street	631376	141949	R	45	59	36	50	-	34	36	33	38	39	44	49	42	36
DV04	Green Lane	630905	143362	B	27	43	23	29	34	21	-	21	15	26	28	-	27	23
DV10	Townwall St	632301	141465	I	65	82	53	56	71	54	68	-	57	64	63	70	64	<b>55</b>
DV05	Bench St	631997	141296	R	50	61	43	61	-	49	52	46	42	40	33	48	48	<b>41</b>
DV06/7/8	Town Hall1	631597	141748	R	50	59	42	60	52	44	44	44	27	54	44	47	47	<b>41</b>
DV13	Town Hall 2	631579	141760	F	69	73	63	78	66	65	56	58	58	65		59	64	<b>55</b>
DV14	Town Hall 3	631587	141736	F	55	72	50	71	79	66	51	44	55	57	52	72	60	<b>52</b>
DV15	Townwall 1	632248	141421	K	100	118		92			90	81	93	94	91	71	92	<b>79</b>
DV11/16/17	Gateway (triplicate)	632318	141430	K	55	64	43	57	62	51	55	45	49	44	43	45	51	<b>44</b>
DV12/18/19	St Martins (triplicates)	631573	140471	K	61	79	49	57	55	57	62	56	58	58	53	55	58	<b>50</b>
DV20/21/22	Town Hall A (triplicate)	631597	141748	F	71	79	67	82	70	69	61	59	58	68	63	68	68	<b>59</b>
DV23	Snargate A	631727	140966	F	67	74	-	72	98	74	56	58	62	61	-	66	69	<b>59</b>
DV24	Snargate B	631802	141079	F	71	74	66	76	76	56	54	65	56	67	52	61	64	<b>55</b>
DV25	Snargate C	631854	141164	F	77	79	61	68	64	56	54	61	54	65	54	61	63	<b>54</b>
DV26	1 King Lea	630902	140095	F	-	-	-	-	-	-	-	-	-	15	42	41	33	25
DV27	Castle Comm Sch	636984	151752	B	-	-	-	-	-	-	-	-	-	-	32	30	31	23

R= Roadside, B=Background., I=Intermediate, F=Façade. Exceedences of the annual mean objective are highlighted in bold.

## Appendix 4 - DMRB Assessment Inputs

Site Ref	Road Name	Receptor	Distance to receptor (m)	AADT (2008)	% HDV	Speed (kph)	Street canyon?	Background Concentrations		
								2008 NO <sub>x</sub> Annual Mean (µg/m <sup>3</sup> )	2008 NO <sub>2</sub> Annual Mean (µg/m <sup>3</sup> )	2008 PM <sub>10</sub> Annual Mean (µg/m <sup>3</sup> )
1	A258 Dover Road, Ringwould	1-4 Bell Cottages, Ringwould	6.9	16921	2.6	63.8	N	17.2	13.6	16.7
2	A258 London Road, Deal	314 London Road, Deal	6.0	13384	3.4	45.6	N	18.7	14.7	17.2
3	A258, Hacklinge	Martha House, Hacklinge	3.4	13731	4.0	58.0	N	15.8	12.6	16.6
4	A258 Prince of Wales Terrace, Deal	1-52 The Queens, Prince of Wales Terrace	8.4	12344	2.4	37.4	N	19.8	25.5	17.2
5	A257 Roman Road, Shatterling	Shatterling House, Roman Road, Shatterling	6.4	10803	3.1	88.9	N	15.3	12.3	16.5
6	A257 High Street, Wingham	112 High Street	5.4	13274	3.1	46.4	N	15.9	12.7	16.5
7	A256 Ramsgate Road, Richborough	Ebbsfleet House, Ebbsfleet Lane, Richborough	14.9	22582	6.4	58.0	N	16.1	12.9	16.5
8	Buckland Avenue / Barton Road	150 Buckland Avenue	12.1	12426	3.9	20.0	N	23	17.5	17.9
8	Buckland Avenue / Barton Road	150 Buckland Avenue	13.7	3853	2.2	20.0	N	23	17.5	17.9
9	Astor Avenue - Tower Hamlets Dover	39 Tower St, Tower Hamlets	4.8	6556	3.6	41	Y	26.7	19.8	18.12
10	Queen Street / Broad Street, Deal	7 Broad Street	5.6	7316	2.6	31	Y	19.8	15.5	17.2

## Appendix 5 - DMRB Assessment Results

Site Ref	Road Name	Receptor	DMRB Assessment Results				Detailed assessment required?
			2008 NO <sub>x</sub> Annual Mean (µg/m <sup>3</sup> )	2008 NO <sub>2</sub> * Annual Mean (µg/m <sup>3</sup> )	2008 PM <sub>10</sub> Annual Mean (µg/m <sup>3</sup> )	2008 Number of exceedences of 24 hour PM <sub>10</sub>	
1	A258 Dover Road, Ringwould	1-4 Bell Cottages, Ringwould	33.0	20.8	18.4	1.7	No
2	A258 London Road, Deal	314 London Road, Deal	34.3	21.8	19.0	2.3	No
3	A258, Hacklinge	Martha House, Hacklinge	32.7	20.4	18.4	1.7	No
4	A258 Prince of Wales Terrace, Deal	1-52 The Queens, Prince of Wales Terrace	32.2	30.7	18.8	2.1	No
5	A257 Roman Road, Shatterling	Shatterling House, Roman Road, Shatterling	28.5	18.5	18.0	1.4	No
6	A257 High Street, Wingham	112 High Street	30.8	19.6	18.2	1.6	No
7	A256 Ramsgate Road, Richborough	Ebbsfleet House, Ebbsfleet Lane, Richborough	38.0	22.8	18.6	1.9	No
8	Buckland Avenue / Barton Road	150 Buckland Avenue	43.4	25.1	20.7	4.3	No
9	Astor Avenue - Tower Hamlets Dover	39 Tower St, Tower Hamlets	33.6	20.6	18.9	2.2	No
10	Queen Street / Broad Street, Deal	7 Broad Street	27.1	26.0	18.2	1.5	No

\* NO<sub>2</sub> concentrations calculated from NO<sub>x</sub> using the LAQM.TG (09) NO<sub>x</sub>:NO<sub>2</sub> conversion calculator.

## Appendix 6 - List of Industrial Processes

Process Name	Process Type	Address	New source since USA 2006?	Existing process with new exposure?	Substantial change >30%?	Potentially significant release with respect to AQOs?	Complaints?	Nomogram screening assessment required?	Detailed Assessment Required?
<b>Abba Commercials Ltd (DDC/266)</b>	PG 6/34a (06) Original Coating of Road Vehicles and Trailers	Whitecliff House Dover Kent CT17 0HL	Yes	No	No	No	No	No	No
<b>A B Crush Panelcraft Limited (DDC/W09) V2/P2</b>	PG1/ 1 Waste Oil Burner (Under 0.4Mw)	Five Oaks, Wootton Canterbury Kent CT4 6RY	No	No	No	No	No	No	No
<b>A Bird Limited (JMG/120) P2</b>	PG1/ 1 Waste Oil Burner (Under 0.4Mw)	Ramsgate Road , Sandwich CT13 9ND	No	No	No	No	No	No	No
<b>DIY Motorist (DDC/248) P2</b>	PG1/ 1 Waste Oil Burner (Under 0.4Mw)	Ellens Road Walmer, Deal Kent CT14 9JJ	No	No	No	No	No	No	No
<b>Poulton Service and Exhaust Centre Limited (formally Dover Toyota Limited) (W03) P2</b>	PG1/ 1 Waste Oil Burner (Under 0.4Mw)	Hollow Wood Road, Poulton Industrial Estate , Coombe Valley Road, Dover Kent CT17 0HL	No	No	No	No	No	No	No
<b>R P Greaves Limited (W06) P2</b>	PG1/ 1 Waste Oil Burner (Under 0.4Mw)	Transport Workshop, Poulton Close , Coombe Valley Road, Dover, Kent, CT17 0HL	No	No	No	No	No	No	No
<b>Rogers and Andrews Motors Limited (DDC/117) V1/P2</b>	PG1/ 1 Waste Oil Burner (Under 0.4Mw)	Lakeside Garage, Ramsgate Road Sandwich Kent CT13 9ND	No	No	No	No	No	No	No
<b>BP Townwall (PTL/021)</b>	PG1/14 Unloading of petrol into storage at service stations	Townwall Street Dover Kent CT16 1LN	No	No	No	No	No	No	No
<b>Casino Filling Station (PTL/037)</b>	PG1/14 Unloading of petrol into storage at service stations	Canterbury Road Wingham Kent CT3 1NL	No	No	No	No	No	No	No

**Appendix 6 (Continued) - List of Industrial Processes**

Process Name	Process Type	Address	New source since USA 2006?	Existing process with new exposure?	Substantial change >30%?	Potentially significant release with respect to AQOs?	Complaints?	Nomogram screening assessment required?	Detailed Assessment Required?
<b>Deal Service Station (PTL/019)</b>	PG1/14 Unloading of petrol into storage at service stations	47-51 London Road Deal Kent CT14 9TB	No	No	No	No	No	No	No
<b>Esso Buckland Mill (PTL/053) V1</b>	PG1/14 Unloading of petrol into storage at service stations	Crabble Hill Dover Kent CT17 0RZ	No	No	No	No	No	No	No
<b>Jubilee Service Station (PTL/012) V1</b>	PG1/14 Unloading of petrol into storage at service stations	Guston Wood, Jubilee Way Dover Kent CT15 5EH	No	No	No	No	No	No	No
<b>Malcolm Waite Limited (PTL/094) V1</b>	PG1/14 Unloading of petrol into storage at service stations	88 New Street Sandwich Kent CT13 9JP	No	No	No	No	No	No	No
<b>Pace Service Station (PTL/006)</b>	PG1/14 Unloading of petrol into storage at service stations	137 Dover Road, Walmer Deal Kent CT14 7NA	No	No	No	No	No	No	No
<b>Priory Service Station (PTL/011)</b>	PG1/14 Unloading of petrol into storage at service stations	6-12 Folkestone Road Dover Kent CT17 9RU	No	No	No	No	No	No	No
<b>Rana Petroleum Limited (PTL/004) V1</b>	PG1/14 Unloading of petrol into storage at service stations	Richborough Service Station Richborough, Sandwich Kent CT13 9NL	No	No	No	No	No	No	No
<b>Richborough Service Station (SH/247)</b>	PG1/14 Unloading of petrol into storage at service stations	Ramsgate Road Sandwich Kent CT13 9ND	No	No	No	No	No	No	No
<b>South Service Station (PTL/010)</b>	PG1/14 Unloading of petrol into storage at service stations	Limekiln Street Dover Kent CT17 9EE	No	No	No	No	No	No	No

**Appendix 6 (Continued) - List of Industrial Processes**

Process Name	Process Type	Address	New source since USA 2006?	Existing process with new exposure?	Substantial change >30%?	Potentially significant release with respect to AQOs?	Complaints?	Nomogram screening assessment required?	Detailed Assessment Required?
<b>Tesco White Cliffs (PTL/001)</b>	PG1/14 Unloading of petrol into storage at service stations	Service Station, White Cliffs Park Dover Kent CT16 3PS	No	No	No	No	No	No	No
<b>RMC South East Western Docks (EP16) V6/P2</b>	PG3/ 1 Blending, packing, loading and use of bulk cement	Cemex, Dover Train Ferry Dock, Dunkirk Ferry, Western Docks Dover Kent, CT17 9TF	No	No	No	No	No	No	No
<b>Hammill Bricks Limited (DDC/EP3) V1/P1</b>	PG3/ 2 Manufacture of heavy clay goods and refractory goods	Eastry Sandwich Kent CT13 0EH	No	No	No	No	No	No	No
<b>Hanson Brick Tilmanstone Works (DDC/119) V3/P1</b>	PG3/ 2 Manufacture of heavy clay goods and refractory goods	Tilmanstone Works, Pike Road Industrial Estate Eythorne, Nr. Dover Kent CT15 4ND	No	No	No	No	No	No	No
<b>Brett Concrete Limited Dover (DDC/111) V2/P2</b>	PG3/01 (04) Blending, Packing, Loading, Unloading and Use of Bulk Cement	Bulwark Street, Dover Western Docks Dover Kent CT17 9EQ	No	No	No	No	No	No	No
<b>Crushintons (DDC/257)</b>	PG3/16 (04) Mobile Crushing and Screening	Sandfield Farm Deal Kent CT14 6PP	Yes	No	No	No	No	No	No
<b>Ovenden Earth Moving Co Limited (DDC/254, 258, 259, 263, 267)</b>	PG3/16 (04) Mobile Crushing and Screening	Wellhead Farm, Wingham Well Canterbury Kent CT3 1NS	No, new permits	No	No	No	No	No	No
<b>T. W. Services - Richborough Hall WTS (DDC/265)</b>	PG3/16 (04) Mobile Crushing and Screening	Richborough Hall Waste Transfer & Recycling Centre Sandwich Kent CT13 9NW	Yes	No	No	No	No	No	No
<b>The Chunnel Group (DDC/199) V1/P2</b>	PG3/16 (04) Mobile Crushing and Screening	Chunnel House, 6-16 Canterbury Road Lydden, Dover Kent CT15 7ER	No	No	No	No	No	No	No

**Appendix 6 (Continued) - List of Industrial Processes**

Process Name	Process Type	Address	New source since USA 2006?	Existing process with new exposure?	Substantial change >30%?	Potentially significant release with respect to AQOs?	Complaints?	Nomogram screening assessment required?	Detailed Assessment Required?
<b>R H Ovenden Limited (GE/219) V1/P3, (HL/229) P2</b>	PG3/16 (04) Mobile Crushing and Screening	Ovenden House, Wilcocks Close Aylesham Industrial Estate Canterbury, Kent CT3 3EP	No	No	No	No	No	No	No
<b>Wingham Timber and Mouldings Limited (DDC/097) V3/P3</b>	PG6/02 (04) Manufacture of Timber and Wood-Based Products	Wingham Industrial Estate, Goodestone Road Wingham, Canterbury Kent CT3 1AR	No	No	No	No	No	No	No
<b>Grainharvesters Limited (MRC/139) V4</b>	PG6/26 Animal feed compounding	The Old Colliery, Staple Road Wingham, Canterbury Kent CT3 1LS	No	No	No	No	No	No	No
<b>A B Crush Panelcraft Limited (DDC/EP13) V3/P1</b>	PG6/34 (04) Respraying of Road Vehicles	Five Oaks, Wootton Canterbury Kent CT4 6RY	No	No	No	No	No	No	No
<b>Charlton Bodies Limited (DDC/234) V1/P1</b>	PG6/34 (04) Respraying of Road Vehicles	Menzies Road, Port Zone Whitfield, Dover Kent CT16 2HQ	No	No	No	No	No	No	No
<b>Ambrosetti (UK) Limited (TDS/156) V3/P1</b>	PG6/34 Respraying of road vehicles	Auto Centre, Ramsgate Road Sandwich Kent CT13 9QN	No	No	No	No	No	No	No
<b>Jenkins &amp; Pain White Cliffs (GE/211) P1</b>	PG6/34 Respraying of road vehicles	White Cliffs Business Park Whitfield, Dover Kent CT16 3PT	No	No	No	No	No	No	No
<b>R P Greaves Limited (EP14) P1</b>	PG6/34 Respraying of road vehicles	Transport Workshop, Poulton Close , Coombe Valley Road, Dover, Kent, CT17 0HL	No	No	No	No	No	No	No

**Appendix 6 (Continued) - List of Industrial Processes**

Process Name	Process Type	Address	New source since USA 2006?	Existing process with new exposure?	Substantial change >30%?	Potentially significant release with respect to AQOs?	Complaints?	Nomogram screening assessment required?	Detailed Assessment Required?
<b>UCL Coachbuilders Limited (MRC/087) P1</b>	PG6/34 Respraying of road vehicles	UCL Coachbuilders Limited, Minters Industrial Estate, Southwall Road, Deal, Kent, CT14 9SR	No	No	No	No	No	No	No
<b>Marley Waterproofing (MRC/99) V3</b>	PG6/42 Bitumen and tar	Unit 4, Covert Road Aylesham Industrial Estate, Aylesham Canterbury, Kent CT3 3EQ	No	No	No	No	No	No	No
<b>Jilly's Professional Dry Cleaners (DDC/255)</b>	PG6/46 (04) Dry Cleaning	26 Park Street Deal Kent CT14 6AG	Yes	No	No	No	No	No	No
<b>Pfizer Ltd</b>	Pharmaceuticals	Ramsgate Road, Sandwich, Kent.	No	No	No	Yes	No	No	No, previously assessed