Updating and Screening Assessment 2006

North Dorset District Council
May 2006

Executive Summary

An Updating and Screening Assessment (USA) has been performed for the seven UK criteria pollutants in the District of North Dorset. The aim of this assessment is to determine whether there is the potential for exceedences of any of the UK national air quality objectives. If this potential is identified a Detailed Assessment is recommended.

The results of this USA indicate that a Detailed Assessment will not be required for any of the seven pollutants assessed. None of the UK air quality objectives are likely to be breached within North Dorset District.

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1 Introduction

This report constitutes the second Updating and Screening Assessment (USA) of the air quality review and assessment requirements of the North Dorset District Council. A previous USA was completed in 2003.

The District of North Dorset is located in the south west of England. This is a predominantly rural area with very little industry. There are several Part B industrial processes, but no Part A processes.

1.1 Overview of Air Quality Legislation and Policy

1.1.1 Overview of Recent Air Quality Legislation and Policy

The provisions of Part IV of the Environment Act 1995 establish a national framework for air quality management, which requires all local authorities in England, Scotland and Wales to conduct local air quality reviews. Section 82(1) of the Act requires these reviews to include an assessment of the current air quality in the area and the predicted air quality in future years. Should the reviews indicate that the standards prescribed in the National Air Quality Strategy (NAQS) and the Addendum to the Strategy will not be met, the local authority is required to designate an Air Quality Management Area (AQMA). Action must then be taken at a local level to ensure that air quality in the area improves. This process is known as 'local air quality management'.

1.1.2 The Phased Approach to Review and Assessment

The second round of the Review and Assessment process has been split into two phases: an Updating and Screening Assessment and a Detailed Assessment.

The first phase, the Updating and Screening Assessment, has been designed to review the changes in air quality issues that have occurred within each local authority since the first round of review and assessment. These changes are assessed using appropriate screening methods. Therefore, it should cover:

- new monitoring data
- new objectives
- new sources of pollution
- significant changes to existing sources of pollution.

The Updating and Screening Assessment also re-examines locations and sources, e.g. road junctions, bus stations, domestic burning, fugitive sources, etc., that have been highlighted as issues during the previous round of Review and Assessment.

Where the Updating and Screening Assessment has identified a risk that an air quality objective may be exceeded, the local authority must undertake a Detailed Assessment. The aim of this assessment is to determine with as much certainty as is possible whether or not an air quality objective will be exceeded. If an exceedence is predicted, the local authority should designate an AQMA to cover the area of the exceedence.

1.1.3 National Air Quality Strategy (NAQS)

The NAQS identifies eight ambient air pollutants that have the potential to cause harm to human health. These pollutants are associated with local air quality problems, with the exception of ozone, which is instead considered to be a regional problem.

The Air Quality Regulations set standards for the seven pollutants that are associated with local air quality. These objectives aim to reduce the health impacts of the pollutants to negligible levels. The standards stated in the Air Quality Regulations are listed in Table 1.

The revised objectives for benzene, carbon monoxide and suspended particulate matter (PM_{10}), as detailed in the 'Air Quality (England)(Amendment) Regulations 2002', are included.

Table 1: UK Objectives included in the Air Quality Regulations 2000 and (Amendment) Regulations 2002

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	**Measured as**	
Benzene	16.25 μg/m^3 *All authorities*	running annual mean	31.12.2003
	5.0 μg/m^3 *Authorities in England and Wales only*	annual mean	31.12.2010
1,3-Butadiene	2.25 μg/m^3	running annual mean	31.12.2003
Carbon monoxide	10.0 mg/m^3 *Authorities in England, Wales and N. Ireland.*	maximum daily running 8-hour mean	31.12.2003
Lead	0.5 μg/m^3	annual mean	31.12.2004
	0.25 μg/m^3		31.12.2008
Nitrogen dioxide	200 μg/m^3 not to be exceeded more than 18 times a year	1 hour mean	31.12.2005
	40 μg/m^3	annual mean	31.12.2005
Particles (PM_{10}) (gravimetric) *All authorities*	50 μg/m^3 not to be exceeded more than 35 times a year	24 hour mean	31.12.2004
	40 μg/m^3	annual mean	31.12.2004
Particles (PM_{10}) (gravimetric) *Provisional objectives for England (not London) and Wales*	50 μg/m^3 not to be exceeded more than 7 times a year	24 hour mean	31.12.2010
	20 μg/m^3	annual mean	31.12.2010
Sulphur dioxide	350 μg/m^3 not to be exceeded more than 24 times a year	1 hour mean	31.12.2004
	125 μg/m^3 not to be exceeded more than 3 times a year	24 hour mean	31.12.2004
	266 μg/m^3 not to be exceeded more than 35 times a year	15 minute mean	31.12.2005

1.2 Changes Since Previous Updating and Screening Assessment

There have been no relevant changes within the District since the last Updating and Screening Assessment. Road traffic has increased as predicted.

1.3 Previous Assessments

The 2003 Updating and Screening Assessment and the 2005 Progress Report each determined that the low level of industry and low traffic flows in the District mean that it is unlikely that any of the UK Air Quality Objectives will be exceeded, and so it was determined that a Detailed Assessment was not required.

2 Pollutant Checklists

Pollutant checklists for each of the seven pollutants are provided in this section. The checklist items have been taken from the appropriate 'box' in LAQM.TG(03) (January 2006 update).

2.1 Carbon Monoxide

Checklist Item (from Box 2.2)	Updating and Screening Assessment
Monitoring Data A) Monitoring data	Carbon monoxide is not monitored within North Dorset
Road Traffic- B) Very busy roads or junctions in built-up areas	There are no very busy roads or junctions in North Dorset (i.e. single carriageway roads where the AADT>80,000, or dual carriageway roads where the AADT>120,000, or motorways where the AADT>140,000). The busiest road in the authority is the A354 (Blandford Bypass, south-eastern section) which has an AADT of 19,800 (2004).
Conclusion	The assessment has indicated that the CO objective is unlikely to be exceeded at any location in the District, and therefore a Detailed Assessment for this pollutant will not be required.

2.2 Benzene

Checklist Item (from Box 3.2)	Updating and Screening Assessment
Monitoring Data A) Monitoring data outside an AQMA	Benzene is not monitored within North Dorset; there is no AQMA within the District.
B) Monitoring data within an AQMA	
Road Traffic- C) Very busy roads or junctions in built-up areas	There are no very busy roads or junctions in North Dorset (i.e. single carriageway roads where the AADT>80,000, or dual carriageway roads where the AADT>120,000, or motorways where the AADT>140,000). The busiest road in the authority is the A354 (Blandford Bypass, south-eastern section) which has an AADT of 19,800 (2004).
Industrial Sources D) New industrial sources	There are no petroleum processes or other industrial processes that emit sufficient quantities of benzene within North Dorset DC, or in neighbouring authorities, to consider for the purpose of this assessment.
E) Industrial sources with substantially increased emissions, or new relevant exposure.	
Other Sources F) Petrol stations	There are no petrol filling stations with an annual throughput of more than 2 million litres per year, near to a busy road (>30,000 vehicles per day), and within 10m of a sensitive receptor.
G) Major fuel storage depots (petrol only)	There are no major fuel depots within the authority
Conclusion	The assessment has indicated that the benzene objectives are unlikely to be exceeded at any location in the District, and therefore a Detailed Assessment for this pollutant will not be required.

2.3 1,3-butadiene

Checklist Item (from Box 4.2)	Updating and Screening Assessment
Monitoring Data A) Monitoring data	1,3-butadiene is not monitored within North Dorset
Industrial Sources B) New industrial sources	There are no new industrial processes within North Dorset or within neighbouring authorities, nor are there any industrial sources with increased emissions, or new relevant exposure to consider for the purpose of this assessment.
C) Industrial sources with substantially increased emissions, or new relevant exposure.	
Conclusion	The assessment has indicated that the 1,3-butadiene objective is unlikely to be exceeded at any location in the District, and therefore a Detailed Assessment for this pollutant will not be required.

2.4 Lead

Checklist Item (from Box 5.1)	Updating and Screening Assessment
Monitoring Data A) Monitoring data	Lead is not monitored within North Dorset
Industrial Sources B) New industrial sources	There are no new industrial processes within North Dorset or in the neighbouring authorities, nor are there industrial sources with increased emissions, or new relevant exposure to consider for the purpose of this assessment
C) Industrial sources with substantially increased emissions, or new relevant exposure.	
Conclusion	The assessment has indicated that the lead objectives are unlikely to be exceeded at any location in the District, and therefore a Detailed Assessment for this pollutant will not be required.

2.5 Nitrogen Dioxide

Checklist Item (from Box 6.2)	Updating and Screening Assessment
Monitoring Data A) Monitoring data from outside an AQMA	Nitrogen dioxide is not monitored within North Dorset; there is no AQMA within North Dorset.
B) Monitoring data within an AQMA	
Road Traffic- C) Narrow congested streets with residential properties close to the kerb	There has been no change since the previous round of assessment; there are no narrow congested streets with residential properties close to the kerb where there is an AADT flow of above 10,000.
D) Junctions	Since the previous round of Review and Assessment, no new junctions with an AADT of over 10,000 and with relevant exposure within 10 m of the kerb have been identified. The previous round of Review and Assessment predicted a maximum concentration at a sensitive receptor near to a junction of 17.1 $\mu g/m^3$ in 2005.
E) Busy streets where people may spend 1 hour or more close to traffic	There has been no change since the previous USA; there are no busy streets where people may spend 1 hour or more close to traffic where there is an AADT flow of above 10,000.
F) Road with high flow of buses and/or HGVs	There has been no change since the USA; there are no roads with unusually high flows of buses and/or HGVs (i.e. greater than 25%)
G) New roads constructed or proposed since the previous round of R &A	There have been no new roads constructed or proposed since the previous round of Review and Assessment.
H) Roads with significantly changed traffic flows, or new relevant exposure.	No roads with an AADT of >10,000 have shown a significant increase (>25%) in traffic flow. There is no new relevant exposure.
I) Bus stations	There are no bus stations in North Dorset with relevant exposure within 10 m of the kerb.
Industrial Sources J) New industrial sources	There are no new industrial processes within North Dorset or within neighbouring authorities, nor are there industrial sources with increased emissions, or new relevant exposure to consider for the purpose of this assessment.
K) Industrial sources with substantially increased emissions, or new relevant exposure.	
Other Sources L) Aircraft	There is one airfield in North Dorset which caters for light aircraft only. This is a small airfield that does not exceed the criteria for passengers or freight and will therefore not be considered further for the purpose of this assessment.
Conclusion	The assessment has indicated that the nitrogen dioxide objectives are unlikely to be exceeded at any location in the District, and therefore a Detailed Assessment for this pollutant will not be required.

2.6 Sulphur Dioxide

Checklist Item (from Box 7.2)	Updating and Screening Assessment
Monitoring Data A) Monitoring data from outside an AQMA	Sulphur dioxide is not monitored within North Dorset; there is no AQMA within the District.
B) Monitoring data within an AQMA	
Industrial Sources C) New industrial sources	There are no new industrial processes within North Dorset or within neighbouring authorities, nor are there industrial sources with increased emissions, or new relevant exposure to consider for the purpose of this assessment.
D) Industrial sources with substantially increased emissions, or new relevant exposure.	
Domestic Sources E) Areas of domestic coal burning	There are no known areas where significant domestic coal (or smokeless fuel) burning takes place.
Boilers F) Small boilers >5MW$_{(\text{thermal})}$	There are no known boilers of greater than 5MW that burn coal or oil in the District.
Other Sources G) Shipping	None. The District is land-locked, and there are no busy waterways.
H) Railway :Locomotives	There are no locations where diesel locomotives are regularly stationary for 15mins (there is one single-track line through approximately 13km of the District, with a passenger station at Gillingham, and no other railway track).
Conclusion	The assessment has indicated that the sulphur dioxide objectives are unlikely to be exceeded at any location in the District, and therefore a Detailed Assessment for this pollutant will not be required.

2.7 PM_{10}

Checklist Item (from Box 8.4)	Updating and Screening Assessment
Monitoring Data A) Monitoring data from outside an AQMA	PM_{10} is not monitored within North Dorset; there is no AQMA within the District.
B) Monitoring data within an AQMA	
Road Traffic- C) Busy roads or junctions in Scotland	N/A
D) Junctions	Since the previous round of Review and Assessment, no new junctions with an AADT of over 10,000 and with relevant exposure within 10 m of the kerb have been identified. The previous round of Review and Assessment predicted a maximum concentration, at a sensitive receptor near to a junction, of less than 22 $\mu g/m^3$ (2004).
E) Roads with high flow if buses and/or HGVs	There has been no change since the previous round of assessment; there are no roads with unusually high flows of buses and/or HGVs (i.e. greater than 20%).
F) New roads constructed or proposed since last round of R&A	There have been no new roads constructed or proposed since the previous round of Review and Assessment.
G) Roads with significantly changed traffic flows, or new relevant exposure	No roads with an AADT of >10,000 have shown a significant increase (>25%) in traffic flow. There is no new relevant exposure.
H) Roads close to the objective during the second round of R&A	There were no roads close to the objective during the second round of Review and Assessment (the greatest number of exceedences predicted in 2004, at a sensitive receptor, was 5).
Industrial Sources I) New industrial sources	There are no new industrial processes within North Dorset or within neighbouring authorities, nor are there industrial sources with increased emissions, or new relevant exposure to consider for the purpose of this assessment.
J) Industrial sources with substantially increased emissions, or new relevant exposure.	
Domestic Sources K) Areas of domestic fuel burning	There are no known areas where significant domestic solid fuel burning takes place.
Other Sources L) Quarries/ landfill / opencast coal / handling of dusty cargo at ports etc	There are no landfill sites or opencast coal mines in North Dorset. The only quarries are small sandstone quarries (where no regular quarrying takes place), with no exposure within 1000m.
M) Poultry Farms	There are no poultry farms in the District where it is thought likely that emissions of PM_{10} could contribute to exceedences of the PM_{10} objectives.
N) Aircraft	There is one airfield in North Dorset which caters for light aircraft only. This is a small airfield that does not exceed the criteria for passengers or freight and will therefore not be considered further for the purpose of this assessment.
Conclusion	The assessment has indicated that the PM_{10} objectives are unlikely to be exceeded at any location in the District, and therefore a Detailed Assessment for this pollutant will not be required.

3 Conclusions

Each of the seven pollutants has been assessed according to the guidance contained within LAQM.TG(03), and its January 2006 update. It is concluded that the national air quality objectives for each pollutant are unlikely to be exceeded at any location in the District, and therefore a Detailed Assessment will not be required.

4 References

Defra, The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, 2000, http://www.defra.gov.uk/environment/airquality/strategy/index.htm

Defra, the Air Quality Strategy for England, Scotland, Wales and Northern Ireland: Addendum, 2003, http://www.defra.gov.uk/environment/airquality/strategy/abbedndum/index.htm

Defra, Local Air Quality Management, Policy Guidance LAQM.PG (03), 2003

Defra, Local Air Quality Management, Technical Guidance LAQM.TG (03), 2003

Defra, Local Air Quality Management, Technical Guidance LAQM.TG (03) Update, 2006

Defra, Local Air Quality Management, Technical Guidance LAQM.TG (03) Update Checklist, 2006

North District Council, Local Air Quality Updating and Screening Assessment, 2003

North Dorset District Council, Local Air Quality Progress Report, 2005

Appendix A: Traffic Data

Table 2: Traffic Flow Data

Road Name	Location	AADT	
		2003	2004
A350	North of Shaftsbury	9230	9610
A350	Grosvenor Road, Shaftesbury	n/a	n/a
A350	Christies Lane Shaftesbury	n/a	16900
A350	Iwerne Minster	3060	3180
A350	South of A357 Junction	n/a	n/a
A350	Blandford Bypass (North)	8800	8800
A350	Blandford Bypass (N.East)	13460	13460
A350	Blandford Bypass (East)	17850	17850
A350	Charlton Marshall	n/a	n/a
A350	Spetisbury	10200	10500
A350	Northof Sturminster Marshall	n/a	11100
A354	Canada Farm	5200	5260
A354	Pimperne	n/a	n/a
A354	Blandford Bypass (S.East)	18360	19800
A354	Blandford Bypass (South)	8700	8900
A354	Milborne St. Andrew	5500	5600
A30	Five Bridges	5020	5080
A30	Shaftesbury Bypass	n/a	n/a
A30	East of Shaftesbury	6500	6800
A357	North of Warr Bridge	3260	3080
A357	West of Shillingstone	6800	6700
B3081	West of Gillingham	4270	4440
B3081	Le Nebourg Way, Gillingham	n/a	n/a
B3081	East of Gillingham	9400	9700
B3081	South of Shaftesbury	7140	7500
B3082	East of Tarrant Keynestone	7240	7700
B3092	Milton on Stour	5830	6150
B3092	Hinton St. Mary	3140	3100
B3091	Manston - North West of village.	1830	1820
C13	Stourpaine	6100	6100

Appendix B: Industrial Processes

Company	Town	Details of Emissions Given	Process	Pollutant Emissions to Air	Sufficient Information?	Notes
BOCM Pauls Limited	Blandford Heights Blandford Forum Dorset DT11 7TL	Y	Animal Feed Compounder	Particulates, PM_{10}	Y	New part 2A process transferred from part B. Emission subject to suppression.
J & G Environmental Limited	Holland Way Holland way Industrial Estate Blandford Forum DT11 7TA	Y	Storage of Hazardous waste	Particulates	Y	Authorisation requires site to use apply best practice. It is unlikely that any release to air will result in an exccedence.
Faccenda Group Limited	Okeford Fitzpaine Blandford Forum Dorset DT11 0RQ	Y	Slaughterhouse, cutting plant	Steam, odours	Y	New part 2A process transferred from part B. Detailed assessments produced of odour.
Sigma – Aldrich Company Ltd	The Old Brickyard New Road Gillingham Dorset SP8 4XT	Y	Manufacture and Use of organic chemicals	Particulate, PM_{10}, VOCs	Y	No notifiable releases.

Table 3: Part B Industrial Processes

Name	Process
BOCM Pauls, Blandford Heights Industrial Estate, Blandford Forum, Dorset, DT11 7TL	Animal Feed Compounder - Production of animal feeds from the blending of raw materials
Hansons, Gannets Quarry, Todber, Sturminster Newton, Dorset, DT10 1HS	Production of pre-mix concrete / cement batching
ACL Structures, Holland Way Industrial Estate, Blandford Forum, Dorset, DT11 7TG	Coating of metal and plastic where >5t organic solvent used in 12m
ASD (Yeovil), Station Road, Stalbridge, Sturminster Newton, Dorset, DT10 2RW	Coating of metal and plastic where >5t organic solvent used in 12m
Hospital Metalcraft, Blandford Heights Industrial Estate, Blandford Forum, Dorset, DT11 7TE	Coating of metal and plastic where >5t organic solvent used in 12m
John Ballard, Holland Way, Blandford Forum, Dorset	Coating of metal and plastic where >5t organic solvent used in 12m
Snashell Steel, Pulham Business Park, Pulham, Dorchester, Dorset, DT2 7DX	Coating of metal and plastic where >5t organic solvent used in 12m
Ashley Wood, Tarrant Keyneston, Blandford Forum, Dorset, DT11 9JJ	Waste Oil Burner (<0.4MW rated thermal input)
C & O Tractors, Blandford Heights Industrial Estate, Blandford Forum, Dorset, DT11 7TF	Waste Oil Burner (<0.4MW rated thermal input)
C J Cox, Bagber, Sturminster Newton, Dorset, DT10 2HT	Waste Oil Burner (<0.4MW rated thermal input)
Crews Garage, Unit 25d, Sunrise Business Park, Higher Shaftesbury Road, Blandford Forum, Dorset, DT11 8ST	Waste Oil Burner (<0.4MW rated thermal input)
Olympian Renault, Sunrise Business Park, Blandford Forum, Dorset, DT11 8ST	Waste Oil Burner (<0.4MW rated thermal input)
Chantry Field SS, Chantry Fields, Gillingham, Dorset, SP8 4UA	Petrol Vapour Recovery
Cornwall Group SS, Blandford Road Service Station, Shillingstone	Petrol Vapour Recovery
Damory SS, Salisbury Road, Blandford Forum, Dorset, DT11 7LP	Petrol Vapour Recovery
Forge Garage, Bourton, Gillingham, Dorset, SP8 5PZ	Petrol Vapour Recovery
Ivy Cross SS, Shaftesbury, Dorset, SP7 8DS	Petrol Vapour Recovery
Redpost SS, Winterbourne Zelston, Blandford Forum, Dorset, DT11 9EU	Petrol Vapour Recovery
Ring St SS, Stalbridge, Dorset, DT10 7NQ	Petrol Vapour Recovery
Riverside Garage, West Stour, Gillingham, Dorset, SP8 5RJ	Petrol Vapour Recovery
Tesco SS, Stour Park, Blandford St Mary, Dorset, DT11 9PU	Petrol Vapour Recovery
Tesco SS, Christys Lane Shaftesbury, Dorset	Petrol Vapour Recovery
Mark Farwell Plant Hire Ltd, Downend Farm, Stourpaine, Blandford Forum, Dorset, DT11 8SY	Mobile Crushing and Screening Plant

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Rev No	Comments	Date
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