



2015 Updating and Screening Assessment for East Dorset District Council

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

August, 2015

Local Authority Officer	Gary Smith
Department	Planning and Health
Address	Council Offices, Furzehill, Wimborne, Dorset, BH21 4HN
Telephone	01202 795093
e-mail	gsmith@christchurchandeastdorset.gov.uk
Report Reference number	EDDC/15/1
Date	6 th August 2015

Executive Summary

An assessment of the current air quality situation within the administrative area of East Dorset District Council has been undertaken in line with the Defra LAQM Technical Guidance TG (09).

The report has assessed all available air quality monitoring data within the District against the air quality objectives, as well as any significant changes within the District since the last round of review and assessment that could impact on local air quality. These could include changes to the local road network, new industrial installations or new local development which could result in increased human exposure to the pollutants listed in the Air Quality Strategy 2007.

No significant changes or developments were identified since the 2012 Updating and Screening Assessment which were considered likely to lead to significant increases in any pollutant prescribed in the Air Quality Strategy 2007.

The overall results of this Updating and Screening Assessment indicates that East Dorset District Council is not required to proceed to a Detailed Assessment for any pollutant.

Progress reports will be submitted until the next round of review and assessment in 2018.

Table of contents

1	Introduction	6
1.1	Description of Local Authority Area	6
1.2	Purpose of Report.....	6
1.3	Air Quality Objectives	6
1.4	Summary of Previous Review and Assessments	7
2	New Monitoring Data	9
2.1	Summary of Monitoring Undertaken	9
2.1.1	Automatic Monitoring Sites	9
2.1.2	Non-Automatic Monitoring Sites	9
2.2	Comparison of Monitoring Results with Air Quality Objectives	13
2.2.1	Nitrogen Dioxide	13
2.2.2	PM ₁₀	18
2.2.3	Sulphur Dioxide.....	18
2.2.4	Benzene.....	18
2.2.5	Other pollutants monitored	18
2.2.6	Summary of Compliance with AQS Objectives	18
3	Road Traffic Sources	19
3.1	Narrow Congested Streets with Residential Properties Close to the Kerb	19
3.2	Busy Streets Where People May Spend 1-hour or More Close to Traffic.....	19
3.3	Roads with a High Flow of Buses and/or HGVs.	19
3.4	Junctions.....	19
3.5	New Roads Constructed or Proposed Since the Last Round of Review and Assessment.....	19
3.6	Roads with Significantly Changed Traffic Flows.....	19
3.7	Bus and Coach Stations	20
4	Other Transport Sources.....	21
4.1	Airports.....	21
4.2	Railways (Diesel and Steam Trains)	21
4.2.1	Stationary Trains.....	21
4.2.2	Moving Trains	21
4.3	Ports (Shipping)	21
5	Industrial Sources.....	22
5.1	Industrial Installations	22
5.1.1	New or Proposed Installations for which an Air Quality Assessment has been Carried Out.....	22
5.1.2	Existing Installations where Emissions have Increased Substantially or New Relevant Exposure has been Introduced	22

5.1.3	New or Significantly Changed Installations with No Previous Air Quality Assessment.....	22
5.2	Major Fuel (Petrol) Storage Depots.....	22
5.3	Petrol Stations.....	22
5.4	Poultry Farms.....	22
6	Commercial and Domestic Sources	23
6.1	Biomass Combustion – Individual Installations	23
6.2	Biomass Combustion – Combined Impacts.....	23
6.3	Domestic Solid-Fuel Burning	23
7	Fugitive or Uncontrolled Sources.....	24
8	Conclusions and Proposed Actions.....	25
8.1	Conclusions from New Monitoring Data	25
8.2	Conclusions from Assessment of Sources	25
8.3	Proposed Actions.....	25
9	References.....	26

List of Tables

- Table 1.1 Air Quality Objectives included in Regulations for the purpose of LAQM in England
- Table 2.1 Details of Non-Automatic Monitoring Sites
- Table 2.2 Results of Nitrogen Dioxide Diffusion Tubes 2014
- Table 2.3 Results of Nitrogen Dioxide Diffusion Tubes (2010 to 2014)

List of Figures

- Figure 1: NO₂ Tube Locations- A31
- Figure 2: NO₂ Tube Locations- Ashley Heath
- Figure 3: NO₂ Tube Locations- Ferndown
- Figure 4: NO₂ Tube Locations- West Parley
- Figure 5: Trends in Annual Mean Nitrogen Dioxide Concentrations measured at diffusion tube monitoring sites

Appendices

- Appendix A: QA/QC Data
- Appendix B: DMRB Calculations
- Appendix C: Uncorrected monthly NO₂ diffusion tube results

1 Introduction

1.1 Description of Local Authority Area

East Dorset District Council is situated in the south west of England within the County of Dorset, with Wimborne Minster, Verwood and Ferndown, the main urban areas. The main routes through the area are the, A31, A354, A350 and the A338. The primary source of local emissions of the pollutants listed in the air quality strategy is road traffic, with no other significant sources.

1.2 Purpose of Report

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

The objective of this Updating and Screening Assessment is to identify any matters that have changed which may lead to risk of an air quality objective being exceeded. A checklist approach and screening tools are used to identify significant new sources or changes and whether there is a need for a Detailed Assessment. The USA report should provide an update of any outstanding information requested previously in Review and Assessment reports.

1.3 Air Quality Objectives

The air quality objectives applicable to LAQM in **England** are set out in the Air Quality (England) Regulations 2000 (SI 928), The Air Quality (England) (Amendment) Regulations 2002 (SI 3043), and are shown in Table 1.1. This table shows the objectives in units of microgrammes per cubic metre $\mu\text{g}/\text{m}^3$ (milligrammes per cubic

metre, mg/m³ for carbon monoxide) with the number of exceedences in each year that are permitted (where applicable).

Table 1.1 Air Quality Objectives included in Regulations for the purpose of LAQM in England

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Benzene	16.25 µg/m ³	Running annual mean	31.12.2003
	5.00 µg/m ³	Running 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	Running 8-hour mean	31.12.2003
Lead	0.5 µg/m ³	Annual mean	31.12.2004
	0.25 µg/m ³	Annual mean	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)	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
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

1.4 Summary of Previous Review and Assessments

1.4.1 First Round of Review and Assessment

Unlike the current format of the Updating and Screening Assessment, Detailed Assessment and Further Assessment, round one of the Review and Assessment process was split into four staged reports, with each being more detailed than the

last. East Dorset District Council completed its first round of Review and Assessment in November 2000 and concluded it was likely that all air quality objectives would be met.

1.4.2 Second Round of Review and Assessment

The second round of Review and Assessment for 2003, was completed in February 2004. The Updating and Screening Assessment (USA) concluded that East Dorset District Council was not required to proceed to the second stage Detailed Assessment for any of the prescribed air quality objectives. In line with the relevant Defra guidance the council was therefore required to produce an air quality Progress Report in April 2004 and April 2005. Progress Reports are required in years when local authorities are not carrying out their statutory three yearly Updating and Screening Assessment or carrying out Detailed Assessments. This ensures that air quality is continually being assessed. The 2004 and 2005 Progress Reports concluded that there had been no changes since the USA 2003 significant enough to result in exceedances of the air quality objectives, or require a Detailed Assessment.

1.4.3 Third Round of Review and Assessment

The 2006 USA again concluded that East Dorset District Council was not required to proceed to a Detailed Assessment, for any of the prescribed pollutants. The subsequent Progress Reports in 2007 and 2008 concluded that air quality within East Dorset was being maintained below the air quality objectives.

1.4.4 Fourth Round of Review and Assessment

The fourth round of review and assessment, comprising the 2009 USA and the 2010 and 2011 progress reports, concluded that none of the prescribed pollutants were at a level which required a detailed assessment.

1.4.5 Fifth Round of Review and Assessment

The fifth round of review and assessment, comprising the 2012 USA and the 2013 and 2014 progress reports, concluded that none of the prescribed pollutants were at a level which required a detailed assessment.

2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

There are no automatic air quality monitoring sites in the district.

2.1.2 Non-Automatic Monitoring Sites

The council operates 15 NO₂ diffusion tubes sites within its district. These locations are shown in Figures 1 to 4, with site details given in Table 2.1.

Figure 1: NO₂ Tube Locations- A31

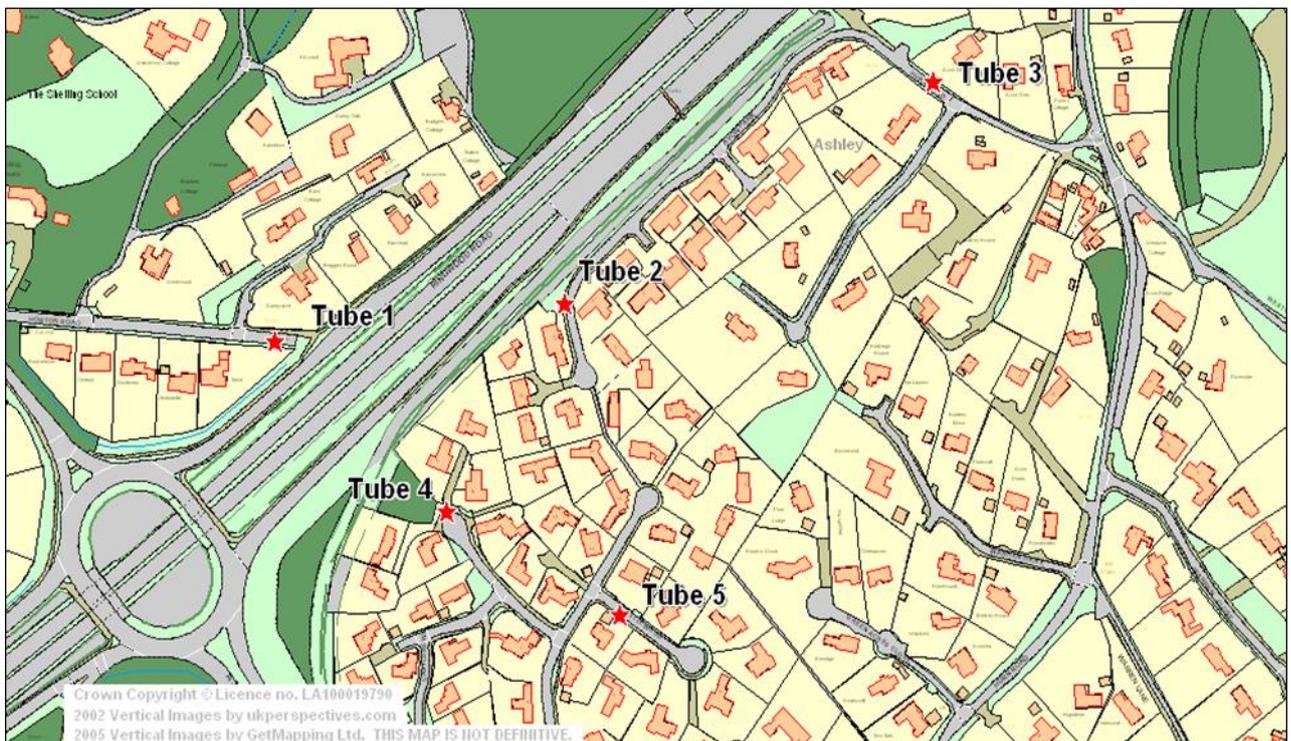


Figure 2 : NO₂ Tube Locations- Ashley Heath

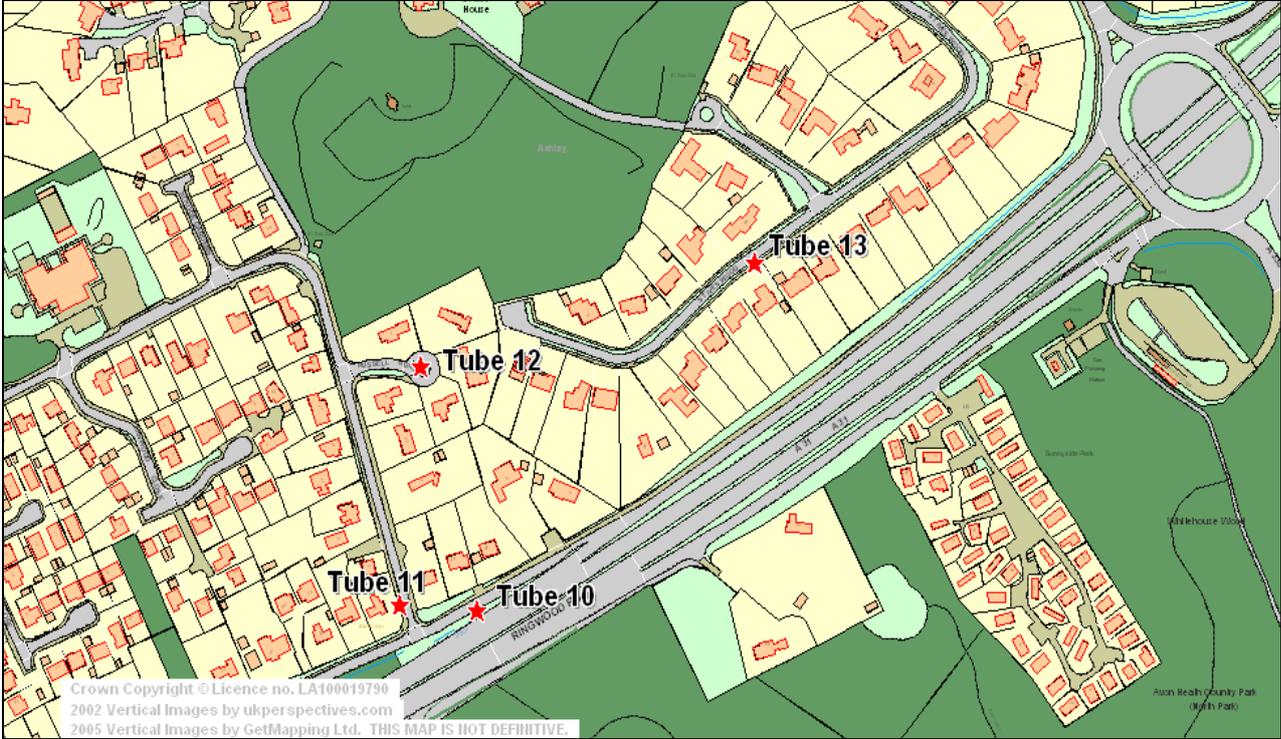


Figure 3: NO₂ Tube Locations- Ferndown

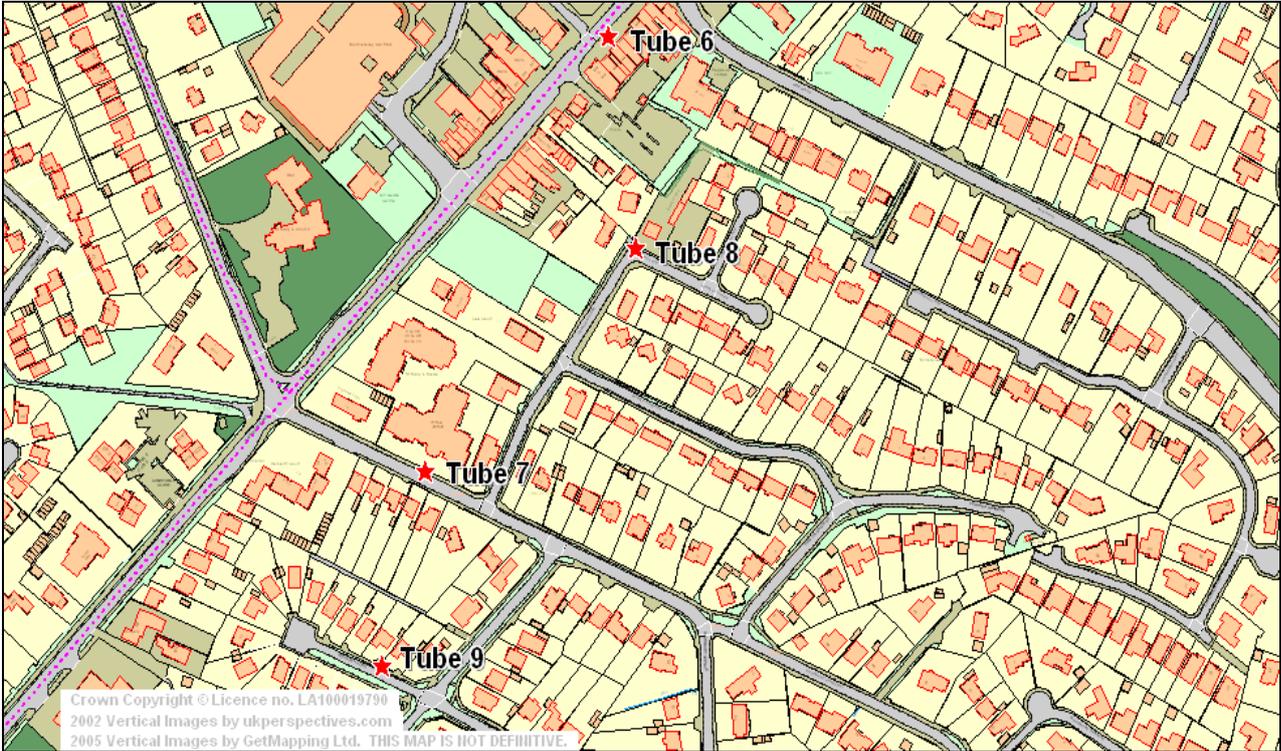


Figure 4: NO₂ Tube Locations- West Parley

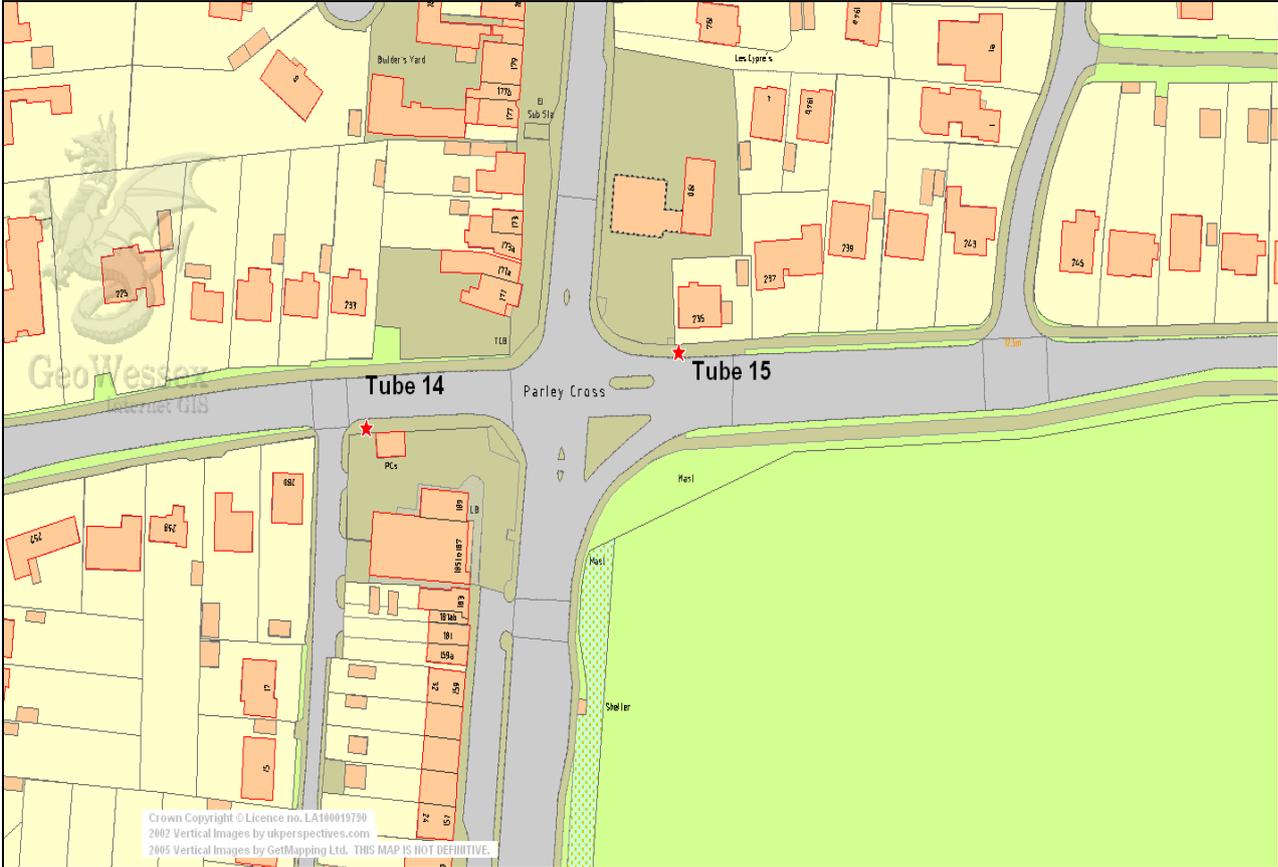


Table 2.1 Details of Non-Automatic Monitoring Sites

Site ID	Site Type	OS Grid Ref	Pollutants Monitored	In AQMA?	Relevant Exposure? (Y/N with distance (m) to relevant exposure)	Distance to kerb of nearest road (N/A if not applicable)	Worst-case Location?
1	Roadside	413298, 104528	NO ₂	N/A	Y	40m (1.1m)*	Y
2	Roadside	413488, 104543	NO ₂	N/A	Y	50m (0.8m)*	Y
3	Intermediate	413686, 104709	NO ₂	N/A	Y	60m (0.5m)*	Y
4	Background	413425, 104429	NO ₂	N/A	N	0.5m	n/a
5	Background	413521, 104368	NO ₂	N/A	N	0.9m	n/a
6	Roadside	407785, 100135	NO ₂	N/A	N	1.3m	Y**
7	Intermediate	407668, 99889	NO ₂	N/A	N	1.4m	Y**
8	Background	407804, 100016	NO ₂	N/A	N	0.9m	n/a
9	Background	407650, 99763	NO ₂	N/A	N	0.4m	n/a
10	Roadside	412782, 104118	NO ₂	N/A	N	1.3m	Y**
11	Intermediate	412733, 104127	NO ₂	N/A	Y	30m (1.2m)*	Y
12	Background	412749, 104262	NO ₂	N/A	N	0.8m	n/a
13	Background	412978, 104339	NO ₂	N/A	N	1.4m	n/a
14	Roadside	40838, 97986	NO ₂	N/A	Y	1.0m	Y
15	Roadside	408468, 98002	NO ₂	N/A	Y	1.0m	Y

*the distance provided is that to the main polluting road link relevant to the receptor. The distance in brackets is that to the nearest actual road, which in this case is a minor residential access road.

**the monitoring site is closer to the road link than the nearest relevant receptor.

2.2 Comparison of Monitoring Results with Air Quality Objectives

In order to assess the measured concentrations against the annual mean nitrogen dioxide air quality objective, both the tubes and the data need to be subject to quality assurance/quality control protocols. These allow for inherent uncertainty in the measured concentrations to be minimised.

All details of the QA/QC procedures that have been applied to the diffusion tube monitoring are given in Appendix A.

The overall purpose of the USA is to identify any possible exceedances of the Air Quality Objectives that are therefore required to be considered as part of a Detailed Assessment. In doing so it is vital to consider not only the measured concentrations against the objectives, but also relevant exposure. In cases where monitoring locations do not represent exposure, the façade distance calculation method as described in LAQM.TG (09), has been used. This has been clearly stated in the report.

2.2.1 Nitrogen Dioxide

The two air quality objectives that ambient concentrations of NO₂ need to be assessed against are as follows:

- An annual mean of 40 µg/m³; and
- The number of exceedances of the 1 hour mean of 200 µg/m³ (18 allowable exceedances in total).

It should be noted that it is only possible to directly assess against the 1 hour objective if hourly monitoring data is available. As all local monitoring within the District is conducted with diffusion tubes the approach suggested in LAQM. TG(09) has been adopted. The approach, based on empirical studies suggest that where the annual mean is less than 60 µg/m³, exceedances of the short term objective are unlikely.

Diffusion Tube Monitoring Data

The Council has been monitoring NO₂ using passive diffusion tubes for a number of years at 13 sites and in July 2009 added a further 2 sites in kerbside locations to establish baseline data to determine whether sites to assess relevant exposure in this area should be identified.

The 2014 results for all 15 locations, including data capture percentages, are given in Table 2.2. The full bias adjusted data for all sites from 2010 is given in Table 2.3. Uncorrected monthly results for each diffusion tube site are given in appendix B.

The results in table 2.2 show that none of the sites have measured an annual mean above the objective.

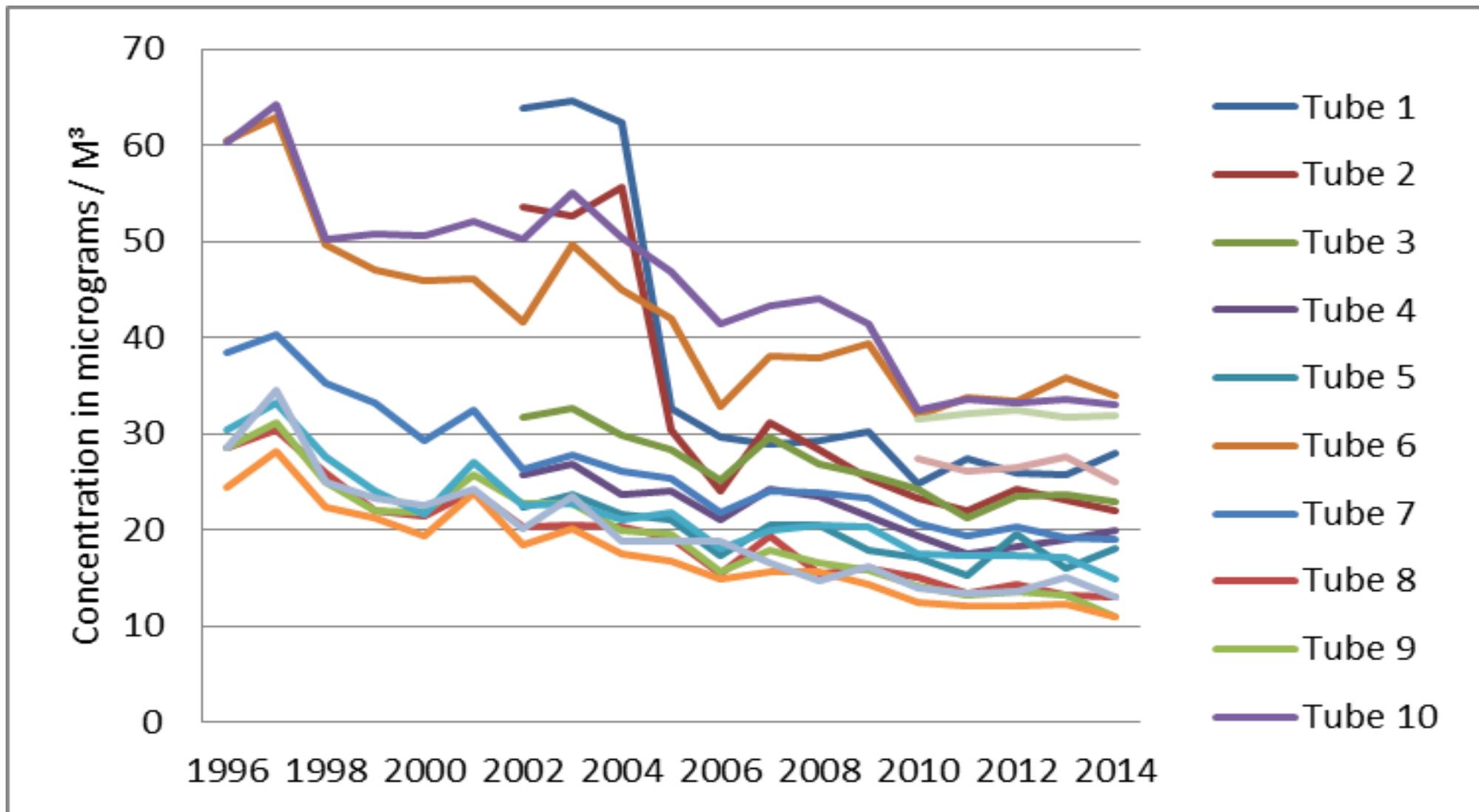
Table 2.2 Results of Nitrogen Dioxide Diffusion Tubes in 2014

Site ID	Location	Type	Within AQMA?	Data Capture in months for 2014	Annual mean concentrations 2014 ($\mu\text{g}/\text{m}^3$) adjusted for bias*
1	Tawa, Horton Road, Ringwood	Kerbside	N	12	28
2	22, Avon Park Ringwood	Kerbside	N	12	22
3	3, Hurn Road, Ringwood	Intermediate	N	12	23
4	45, Davids Lane, Ringwood	Background	N	12	20
5	9, Castlewood, Ringwood	Background	N	12	18
6	392, Ringwood Road, Ferndown	Roadside	N	12	34
7	47, Dudsbury Avenue, Ferndown	Intermediate	N	12	19
8	11, Fernlea Close, Ferndown	Background	N	12	13
9	2, Melbury Close, Ferndown	Background	N	12	11
10	24, Ringwood Road, St Ives	Kerbside	N	12	33
11	32 Ringwood Road, St Ives	Intermediate	N	12	15
12	3, Russell Gardens, St Ives	Background	N	12	11
13	14 St Ives Wood, St Ives	Background	N	12	13
14	Public conveniences, Christchurch Road, West Parley	Kerbside	N	12	25
15	235 Christchurch Road, West Parley	Kerbside	N	12	32

Table 2.3 Results of Nitrogen Dioxide Diffusion Tubes (2010 to 2014)

Site ID	Location	Type	Within AQMA ?	Annual mean concentrations ($\mu\text{g}/\text{m}^3$) adjusted for bias				
				2010	2011	2012	2013	2014
Tube 1	Tawa, Horton Road, Ringwood	Kerbside	N	25	27	26	26	28
Tube 2	22, Avon Park Ringwood	Kerbside	N	23	22	24	23	22
Tube 3	3, Hurn Road, Ringwood	Intermediate	N	24	21	24	24	23
Tube 4	45, Davids Lane, Ringwood	Background	N	19	17	18	19	20
Tube 5	9, Castlewood, Ringwood	Background	N	17	15	20	16	18
Tube 6	392, Ringwood Road, Ferndown	Roadside	N	32	34	33	36	34
Tube 7	47, Dudsbury Avenue, Ferndown	Intermediate	N	21	19	20	19	19
Tube 8	11, Fernlea Close, Ferndown	Background	N	15	13	14	13	13
Tube 9	2, Melbury Close, Ferndown	Background	N	14	13	14	13	11
Tube 10	24, Ringwood Road, St Ives	Kerbside	N	32	34	33	34	33
Tube 11	32 Ringwood Road, St Ives	Intermediate	N	18	17	17	17	15
Tube 12	3, Russell Gardens, St Ives	Background	N	13	12	12	12	11
Tube 13	14 St Ives Wood, St Ives	Background	N	14	13	14	15	13
Tube 14	Public conveniences, Christchurch Road, West Parley	Kerbside	N	27	26	26	28	25
Tube 15	235 Christchurch Road, West Parley	Kerbside	N	31	32	32	32	32

Figure 5 Trends in Annual Mean Nitrogen Dioxide Concentrations measured at Diffusion Tube Monitoring Sites



2.2.2 Particulate Matter PM₁₀

There are no PM10 monitoring sites in the District.

2.2.3 Sulphur Dioxide

There are no Sulphur Dioxide monitoring sites in the District.

2.2.4 Benzene

There are no Benzene monitoring sites in the District.

2.2.5 Other pollutants monitored

There are no other pollutant monitoring sites in the District.

2.2.6 Summary of Compliance with AQS Objectives

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

3 Road Traffic Sources

3.1 Narrow Congested Streets with Residential Properties Close to the Kerb

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

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

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

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

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

3.4 Junctions

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

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

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

3.6 Roads with Significantly Changed Traffic Flows

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

3.7 Bus and Coach Stations

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

4 Other Transport Sources

4.1 Airports

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

4.2 Railways (Diesel and Steam Trains)

4.2.1 Stationary Trains

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

4.2.2 Moving Trains

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

4.3 Ports (Shipping)

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

5 Industrial Sources

5.1 Industrial Installations

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

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

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

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

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

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

5.2 Major Fuel (Petrol) Storage Depots

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

5.3 Petrol Stations

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

5.4 Poultry Farms

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

6 Commercial and Domestic Sources

6.1 Biomass Combustion – Individual Installations

East Dorset District Council confirms that there are no biomass combustion plant in the Local Authority area.

6.2 Biomass Combustion – Combined Impacts

East Dorset District Council confirms that there are no biomass combustion plant in the Local Authority area.

6.3 Domestic Solid-Fuel Burning

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

7 Fugitive or Uncontrolled Sources

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

8 Conclusions and Proposed Actions

8.1 Conclusions from New Monitoring Data

East Dorset District Council monitors for NO₂ using diffusion tubes at 15 sites across the district. Assessment of the 2014 monitoring data confirms that there are no exceedances at any of the monitoring sites of the NO₂ objective.

There are no AQMA's within district and as such there is no need to proceed to a detailed assessment.

8.2 Conclusions from Assessment of Sources

No changes or developments have been identified since the 2012 USA which are likely to lead to significant increases in any pollutant prescribed in the Air Quality Strategy. Therefore a detailed assessment is not required.

8.3 Proposed Actions

The updating and screening assessment has not identified the need at this time to proceed to a detailed assessment for any pollutant.

It is not considered necessary for any additional monitoring or to modify the existing monitoring programme.

The Council will continue to monitor air quality across the district and will submit a Progress Report in 2016.

9 References

East Dorset District Council, Updating and Screening Assessment, 2006.

East Dorset District Council, Progress Report, 2007.

East Dorset District Council, Progress Report, 2008.

East Dorset District Council, Updating and Screening Assessment, 2009.

East Dorset District Council, Progress Report, 2010.

East Dorset District Council, Progress Report, 2011.

East Dorset District Council, Updating and Screening Assessment, 2012.

East Dorset District Council, Progress Report, 2013.

East Dorset District Council, Progress Report, 2014.

Defra, Part IV of the Environmental Act 1995 Local Air Quality Management Technical Guidance LAQM.TG(09), 2009.

Defra, Part IV of the Environmental Act 1995 Local Air Quality Management Policy Guidance LAQM.PG(09), 2009.

Defra website – bias adjustment spreadsheet;
http://laqm.defra.gov.uk/documents/Database_Diffusion_Tube_Bias_Factors-v03_14-Final-v2.xls

Defra website QA/QC scheme; <http://laqm.defra.gov.uk/diffusion-tubes/qa-qc-framework.html>

Appendices

Appendix A: QA/QC Data

Appendix B: DMRB Calculations

Appendix C: Uncorrected monthly NO₂ diffusion tube results

Appendix A: QA/QC Data

Factor from Local Co-location Studies (if available)

No local co-location studies are available and so national diffusion tube bias adjustment factors are used as detailed below.

Diffusion Tube Bias Adjustment Factors

Bias adjustment is effectively a calculated factor which shows whether diffusion tubes are over or under reading ambient concentrations and therefore allows for a correction to be made.

As there is no local automatic monitoring, East Dorset District Council uses a national factor as given in a spreadsheet on the review and assessment web site for Gradko Laboratories using a preparation method of 50%TEA/acetone. Version 03_14 of the spreadsheet was used and can be accessed on-line at;

http://laqm.defra.gov.uk/documents/Database_Diffusion_Tube_Bias_Factors-v03_14-Final-v2.xls

For Gradko International with a tube preparation method of 50% TEA/acetone the bias adjustment factor for 2014 is 0.98.

Discussion of Choice of Factor to Use

Only the national bias adjustment factor has been used as no local factor is available.

PM Monitoring Adjustment

The Council does not carry out any local monitoring for PM₁₀.

Short-term to Long-term Data Adjustment

It was not necessary to carry out a period adjustment.

QA/QC of Automatic Monitoring

East Dorset District Council does not carry out any automatic monitoring.

QA/QC of Diffusion Tube Monitoring

The Workplace Analysis Scheme for Proficiency (WASP) tests the performance of laboratories measuring exposure to substances in ambient air. The scheme is administered by the Health and Safety Laboratory on behalf of DEFRA. Gradko International Ltd participate in the WASP scheme and have achieved a satisfactory level of compliance indicating confidence in the analysis of the diffusion tubes submitted to it.

Appendix B: DMRB Calculations

In accordance with the LAQM.TG(09) guidance there have been no significant changes to the local road network in the District to require DMRB calculation to be undertaken.

Appendix C: Uncorrected monthly NO₂ diffusion tube results

	Tube 1	Tube 2	Tube 3	Tube 4	Tube 5	Tube 6	Tube 7	Tube 8	Tube 9	Tube 10	Tube 11	Tube 12	Tube 13	Tube 14	Tube 15
Jan-14	40	23	23	24	17	37	25	19	16	42	1	14	18	24	33
Feb-14	35	21	21	20	48	48	22	14	15	36	20	13	14	22	32
Mar-14	29	24	27	21	17	45	23	17	16	41	22	14	16	34	34
Apr-14	27	25	26	20	15	37	19	13	11	35	16	11	13	29	33
May-14	29	18	20	15	12	35	18	10	9	34	15	10	11	27	37
Jun-14	25	21	23	18	15	33	18	12	10	33	17	11	12	28	37
Jul-14	18	23	27	18	13	30	17	10	9	30	11	8	8	29	29
Aug-14	21	19	23	18	7	27	15	9	8	29	12	9	9	19	30
Sep-14	25	24	24	20	18	39	22	16	14	40	20	12	15	34	35
Oct-14	32	22	19	19	17	34	17	13	11	37	17	13	14	24	35
Nov-14	35	29	24	26	19	25	15	11	10	23	15	11	12	18	24
Dec-14	24	24	28	22	18	28	22	15	15	30	16	13	14	24	31