

# 2015 Air Quality Updating and Screening Assessment for Telford and Wrekin Council

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

Date (08<sup>th</sup> July, 2015)

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## **Executive Summary**

In agreement with DEFRA, Telford and Wrekin Council have undertaken more of a comprehensive review of all relevant data from 2015, as opposed to undertaking a full Updating and Screening Assessment. It should be noted that since the last progress report the open cast coal mine ceased operations.

This review has shown that the air quality within the Borough of Telford and Wrekin shows very good compliance with AQ objectives, and that levels of pollutants within the Borough are relatively stable. They also show that emissions from Ironbridge Power Station have decreased with time, and that the open cast coal mine has ceased operations.

This would indicate that all measures undertaken to ensure the wholesomeness of the air quality of the Borough are currently working.

However, it is noted that an Air Quality Strategy is required, especially in light of the Boroughs plans to increase the numbers of homes and businesses within the Borough. This is to ensure the continued wholesomeness of the air of the Borough.

No further assessments are required for any of the pollutants monitored within the Borough.

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## 1 Introduction

## 1.1 Description of Local Authority Area

The borough of Telford and Wrekin is a predominantly rural area on the north-eastern edge of Shropshire. The borough has a population of 166,641 (2011 estimate, Office for National Statistics) covering 29,000 hectares with its major settlement being Telford, which incorporated the existing towns of Dawley, Madeley, Oakengates and Wellington upon its construction as a New Town. The market town of Newport is the boroughs second largest populated area.

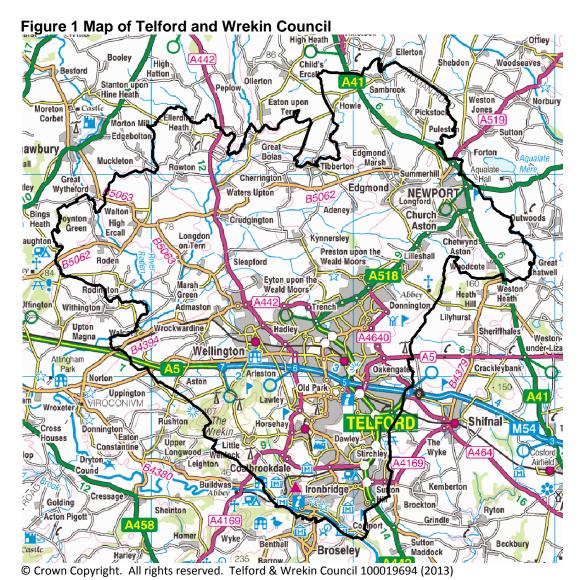
The main sources of air pollution in Telford and Wrekin are emissions from busy roads. The M54 traverses the Borough across the main central urban area, and the majority of the main roads within the Borough are also focussed in this area, including the A41, the A518, the A5, A442, A4169, and the A4640.

There are a number of registered Part A processes, 7 A1 and 11 A2 processes), 41 part B processes, 18 petrol stations, 6 dry cleaning installations and 4 small waste oil burners within the Borough. There is a main railway line traversing the centre of the Borough, as well as a rail freight terminal. A branch line to this supplies the Ironbridge Power Station. The Power Station at Ironbridge is also a source of emissions, although it is situated outside the Borough.

## 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 exceedances 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 micrograms per cubic metre ( $\mu g/m^3$ ), milligrams per cubic metre, ( $mg/m^3$ ) for carbon monoxide with the number of exceedances in each year that are permitted (where applicable).

Table 1 Air Quality Objectives included in Regulations for the purpose of LAQM in England

| in England                    |  |                     |            |
|-------------------------------|--|---------------------|------------|
|                               | Air Quality                            | Date to be achieved |            |
| Pollutant                     | Concentration                          | Measured as         | by         |
|                               | $16.25  \mu \text{g/m}^3$              | Running annual      | 31.12.2003 |
| Benzene                       | 10.23 μg/111                           | mean                | 31.12.2003 |
| Delizelle                     | $5.00  \mu \text{g/m}^3$               | Running annual      | 31.12.2010 |
|                               | 3.00 μg/111                            | mean                | 31.12.2010 |
| 1,3-Butadiene                 | 2.25 $\mu g/m^3$                       | Running annual      | 31.12.2003 |
| 1,5-bataaiche                 | 2.23 μβ/111                            | mean                | 31.12.2003 |
| Carbon monoxide               | 10.0 mg/m <sup>3</sup>                 | Running 8-hour      | 31.12.2003 |
|                               | _                                      | mean                | 31.12.2003 |
| Lead                          | 0.5 $\mu g/m^3$                        | Annual mean         | 31.12.2004 |
| Leau                          | $0.25 \ \mu g/m^3$                     | Annual mean         | 31.12.2008 |
|                               | 200 $\mu$ g/m <sup>3</sup> not to be   |                     |            |
| Nitrogen dioxide              | exceeded more than                     | 1-hour mean         | 31.12.2005 |
| Mitrogen dioxide              | 18 times a year                        |                     |            |
|                               | 40 $\mu g/m^3$                         | Annual mean         | 31.12.2005 |
|                               | 50 $\mu$ g/m <sup>3</sup> , not to be  |                     |            |
| Particles (PM <sub>10</sub> ) | exceeded more than                     | 24-hour mean        | 31.12.2004 |
| (gravimetric)                 | 35 times a year                        |                     |            |
|                               | 40 $\mu g/m^3$                         | Annual mean         | 31.12.2004 |
|                               | 350 $\mu$ g/m <sup>3</sup> , not to be |                     |            |
|                               | exceeded more than                     | 1-hour mean         | 31.12.2004 |
|                               | 24 times a year                        |                     |            |
|                               | 125 $\mu$ g/m <sup>3</sup> , not to be |                     |            |
| Sulphur dioxide               | exceeded more than                     | 24-hour mean        | 31.12.2004 |
|                               | 3 times a year                         |                     |            |
|                               | 266 $\mu$ g/m <sup>3</sup> , not to be |                     |            |
|                               | exceeded more than                     | 15-minute mean      | 31.12.2005 |
|                               | 35 times a year                        |                     |            |

## 1.4 Summary of Previous Review and Assessments

The table below outlines the work undertaken so far, the conclusions of the reports, and the summaries of any further action.

**Table 2 Summaries of Reports** 

| Year | Outcomes | Summaries  |
|------|----------|--|
| 1998 | PR       | Prediction of exceedances  |
| 1999 | PR       | Prediction of exceedances  |
| 2000 | USA      | Not significantly affected by emissions (CO, Benzene, 1,3-                           |
|      |          | Butadiene, Pb, SO <sub>2</sub> , PM <sub>10</sub> ); any breaches will be negligible |
| 2001 | PR       | Prediction of exceedances  |
| 2002 | PR       | Declaration of AQMA  |
| 2003 | USA      | Exceedances of SO <sub>2</sub> from Ironbridge Power Station, and of                 |
|      |          | NO <sub>2</sub> from road traffic emissions in Ironbridge Gorge.                     |
|      |          | Review of AQMAs determined there would be no   |
|      |          | exceedances by 2005.   |
| 2004 | PR       | Detailed assessment of NO <sub>2</sub> and SO <sub>2</sub> from Ironbridge           |
|      |          | Power Station and vehicular traffic. Objectives will be met                          |
|      |          | in 2005 so no further work is necessary.   |
| 2005 | PR       | No exceedances of relevant air quality objectives,                                   |
|      |          | Revocation of AQMA   |
| 2006 | USA      | No exceedances of relevant air quality objectives                                    |
| 2007 | PR       | No exceedances of relevant air quality objectives                                    |
| 2008 | PR       | No exceedances of relevant air quality objectives                                    |
| 2009 | USA      | No exceedances of relevant air quality objectives                                    |
| 2011 | PR       | No exceedances of relevant air quality objectives (includes                          |
|      |          | data from 2010)  |
| 2012 | USA      | No exceedances of relevant air quality objectives                                    |
| 2013 | PR       | No exceedances of relevant air quality objectives                                    |

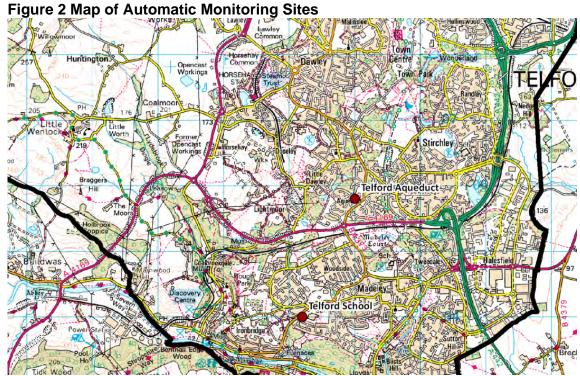
Currently, Telford and Wrekin do not have an air quality strategy. However, as part of this assessment process, it is considered that one needs to be implemented. This will ensure that air quality is given the significance it deserves, and will enshrine the Council's commitment to ensure that new development within the Borough will demonstrate zero impact.

## 2 New Monitoring Data

## 2.1 Summary of Monitoring Undertaken

#### 2.1.1 Automatic Monitoring Sites

There are currently two automatic monitoring stations within the Borough. These are utilised by E.ON and monitor emissions from the Ironbridge Power Station to fulfil a condition on their environmental permit, issued via the Environment Agency. The information from these stations is shared with the Council. These stations monitor  $SO_2$ , NO, and  $NO_2$ .



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**Table 3 Details of Automatic Monitoring Sites** 

| Site Name        | Site Type      | OS Grid Ref |        | Pollutants<br>Monitored               | Monitoring<br>Technique   | In<br>AQM<br>A? | Relevant Exposure? (Y/N with distance (m) to relevant exposure) | Distance to<br>kerb of<br>nearest road<br>(N/A if not<br>applicable) | Does this location represent worst-case exposure? |
|------------------|----------------|-------------|--------|---------------------------------------|---|-----------------|---|--|---|
| Telford Aqueduct | Urban backgrd. | 369000      | 305800 | SO <sub>2</sub> , NO, NO <sub>2</sub> | Fluorescence (SO <sub>2</sub> ),<br>chemiluminescence<br>(NO, NO <sub>2</sub> ) | N               | Y (25.2)  | 55.5   | Y   |
| Telford School   | Urban backgrd. | 368200      | 304000 | SO <sub>2</sub> , NO, NO <sub>2</sub> | Fluorescence (SO <sub>2</sub> ),<br>chemiluminescence<br>(NO, NO <sub>2</sub> ) | N               | Y (15)  | 130  | Y   |

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#### 2.1.2 Non-Automatic Monitoring Sites

Up until March 2011 Telford & Wrekin Council operated diffusion tubes for nitrogen dioxide at 12 locations within the authority. These included four triplicate tubes site located at various points across the Borough to enable the Council to have confidence in the precision of the results, as well as one blank tube that is analysed. For various reasons, Telford and Wrekin Council decided that it would no longer rely upon diffusion tube monitoring to assess the air quality within the Borough. After consultation with DEFRA (who ratified this decision), diffusion tube monitoring was ceased after March 2011.

#### 2.2 Comparison of Monitoring Results with AQ Objectives

As noted above, Telford and Wrekin Council does not currently undertake any diffusion tube monitoring. All comparisons relate to automatic monitoring stations in the southern urban area of the Borough.

#### **Automatic Monitoring Data**

There are two automatic monitoring stations within the Borough, as detailed in section 2.1.1 above. These are principally to monitor the effects of emissions from the Ironbridge Power Station operated by E.On. Please see the tables below for further information.

Table 4 Results of Automatic Monitoring for NO2: Comparison with Annual Mean Objective

| Site ID             | Site Type | Within | Valid Data   | Valid Data                     |                 | Annual Mean Concentration (μg/m³) |                             |                 |                             |                    |
|---------------------|-----------|--------|--|--------------------------------|-----------------|-----------------------------------|-----------------------------|-----------------|-----------------------------|--------------------|
|                     |           | AQMA?  | Capture for<br>Monitoring<br>Period % <sup>a</sup> | Capture<br>2012 % <sup>b</sup> | 2009-<br>2010*° | 2010-<br>2011* <sup>c</sup>       | 2011-<br>2012* <sup>c</sup> | 2012-<br>2013*° | 2013-<br>2014* <sup>c</sup> | 2014* <sup>c</sup> |
| Telford<br>School   | Urban     | N      | N/A  | 25                             | 18              | 18                                | 13                          | 8(45)           | 7                           | 7                  |
| Telford<br>Aqueduct | Urban     | N      | N/A  | 98                             | 12              | 9                                 | 9                           | 13              | 12                          | 12                 |

In bold, exceedance of the  $NO_2$  annual mean AQS objective of  $40\mu g/m^3$ 

A trend chart for both sites, providing  $NO_2$  hourly mean results since 2004 is shown below. There are two charts; one normal and one logged. Trend lines on the log chart for Telford Aqueduct shows that the levels of  $NO_2$  are slowly decreasing over time. However, the charts for Telford School show that after a long term decrease of  $NO_2$  levels in the area, there has been an increase in levels since around the end of 2012.

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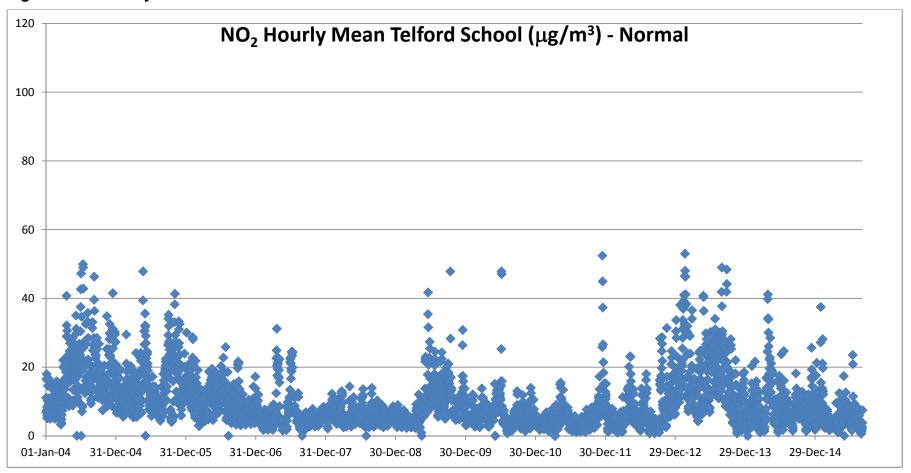
<sup>&</sup>lt;sup>a</sup> i.e. data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

bi.e. data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)

Means should be "annualised" as in Box 3.2 of TG(09) (http://lagm.defra.gov.uk/technical-guidance/index.html?d=page=38), if valid data capture is less than 75%

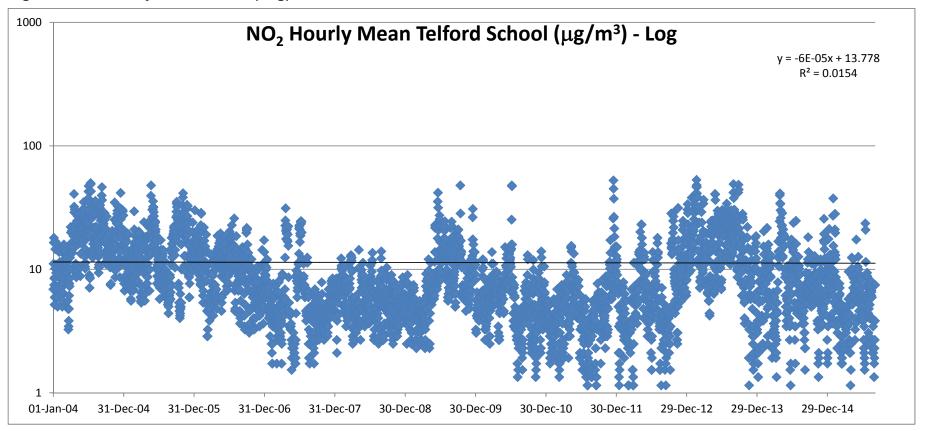
<sup>\*</sup> Annual mean concentrations for previous years are optional

Figure 3 NO2 Hourly Mean Values - Telford School

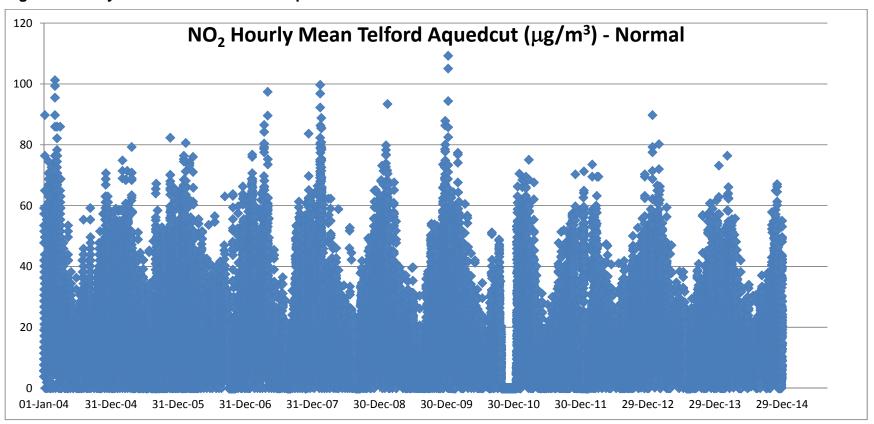


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Figure 4 NO2 Hourly Mean Values (Log) - Telford School

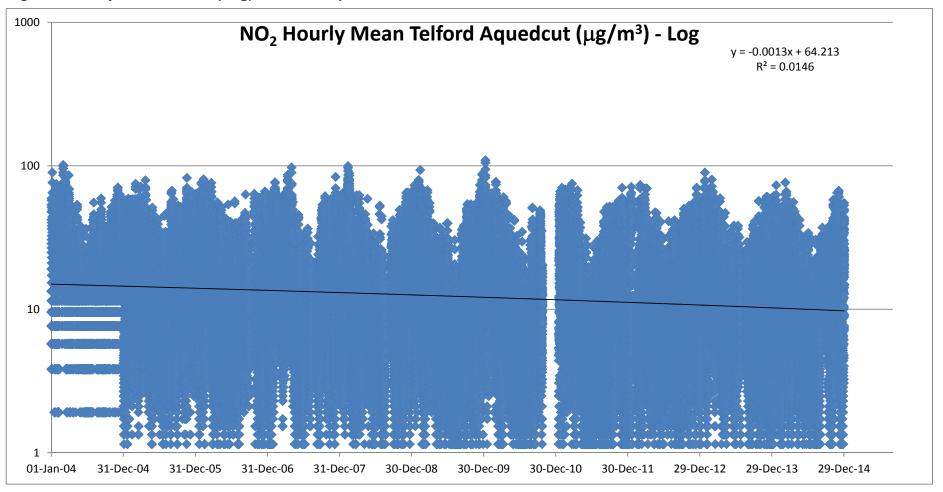






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## Figure 6 Hourly Mean Values (Log) - Telford Aqueduct



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Table 5 Results of Automatic Monitoring of Nitrogen Dioxide: Comparison with Annual Mean Objective

| Site ID  | Site Type | Within | Annual Mean Concentration 40μg/m <sup>3</sup> |                         |                         |                            |                            |           |  |
|----------|-----------|--------|---|-------------------------|-------------------------|----------------------------|----------------------------|-----------|--|
|          |           | AQMA?  | 2009-2010 <sup>*c</sup>                       | 2010-2011* <sup>c</sup> | 2011-2012 <sup>*c</sup> | 2012-2013 <sup>*b, c</sup> | 2013-2014 <sup>*b, c</sup> | 2014      |  |
| Telford  | Urban     | N      | 12 (96%)                                      | 9 (76%)                 | 9 (90%)                 | 10 (92%)                   | 11 (99%)                   | 12 (99%)  |  |
| Aqueduct | backgrd.  | IN     | 12 (90%)                                      | 3 (70%)                 | 9 (90%)                 | 10 (3270)                  | 11 (3370)                  | 12 (9970) |  |
| Telford  | Urban     | NI     | 12 (100%)                                     | 14 (95%)                | 0 (06%)                 | 10 (50%)                   | 7 (28%)                    | 8 (93%)   |  |
| School   | backgrd.  | N      | 12 (100%)                                     | 14 (95%)                | 9 (96%)                 | 10 (50%)                   | 7 (28%)                    | 8 (93%)   |  |

In bold, exceedance of the NO<sub>2</sub> hourly mean AQS objective (200μg/m³ – not to be exceeded more than 18 times per year)

#### Table 6 Results of Automatic Monitoring for Nitrogen Dioxide: Comparison with 1-hour mean Objective

| Site ID             |                   | Within | Number of Exceedances of Hourly Mean (200 μg/m³) |                         |                         |                |                |      |  |
|---------------------|-------------------|--------|--|-------------------------|-------------------------|----------------|----------------|------|--|
|                     | Site Type         | AQMA?  | 2009-2010*°                                      | 2010-2011* <sup>c</sup> | 2011-2012* <sup>c</sup> | 2012-2013*b, c | 2013-2014*b, c | 2014 |  |
| Telford<br>Aqueduct | Urban<br>backgrd. | N      | 0  | 0                       | 0                       | 0 (25%) (45)   | 0 (56%) (36)   | 0    |  |
| Telford<br>School   | Urban<br>backgrd. | N      | 0  | 0                       | 0                       | 0              | 0 (89%) (60)   | 0    |  |

In bold, exceedance of the NO<sub>2</sub> hourly mean AQS objective (200μg/m³ – not to be exceeded more than 18 times per year)

a i.e. data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

b i.e. data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%.)

<sup>&</sup>lt;sup>c</sup> If the period of valid data is less than 90%, include the 99.8<sup>th</sup> percentile of hourly means in brackets

<sup>\*</sup> Number of exceedances for previous years is optional

<sup>&</sup>lt;sup>a</sup> i.e. data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

bi.e. data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%.)

<sup>&</sup>lt;sup>c</sup> If the period of valid data is less than 90%, include the 99.8<sup>th</sup> percentile of hourly means in brackets

<sup>\*</sup> Number of exceedances for previous years is optional

Table 7 Percentile data for NOx monitoring, 2004-2014, Telford School

| Year | 90 <sup>th</sup><br>Percentile | 95 <sup>th</sup><br>Percentile | 98 <sup>th</sup><br>Percentile | 99 <sup>th</sup><br>Percentile | 99.9 <sup>th</sup><br>Percentile | Maximum<br>Hourly<br>Value |
|------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|----------------------------------|----------------------------|
| 2004 | 42                             | 52                             | 60                             | 65                             | 91                               | 101                        |
| 2005 | 29                             | 36                             | 44                             | 48                             | 59                               | 87                         |
| 2006 | 30                             | 38                             | 48                             | 55                             | 71                               | 91                         |
| 2007 | 22                             | 31                             | 41                             | 47                             | 65                               | 82                         |
| 2008 | 29                             | 42                             | 56                             | 63                             | 83                               | 110                        |
| 2009 | 26                             | 33                             | 43                             | 50                             | 71                               | 87                         |
| 2010 | 28                             | 36                             | 45                             | 51                             | 69                               | 96                         |
| 2011 | 35                             | 44                             | 54                             | 60                             | 77                               | 99                         |
| 2012 | 19                             | 24                             | 34                             | 43                             | 65                               | 94                         |
| 2013 | 30                             | 51                             | 74                             | 87                             | 126                              | 177                        |
| 2014 | 22                             | 41                             | 65                             | 82                             | 134                              | 316                        |

Table 8 Percentile data for NOx monitoring, 2004-2014, Telford Aqueduct

| Year | 90 <sup>th</sup><br>Percentile | 95 <sup>th</sup><br>Percentile | 98 <sup>th</sup><br>Percentile | 99 <sup>th</sup><br>Percentile | 99.9 <sup>th</sup><br>Percentile | Maximum<br>Hourly<br>Value |
|------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|----------------------------------|----------------------------|
| 2004 | 48                             | 57                             | 67                             | 73                             | 94                               | 101                        |
| 2005 | 32                             | 41                             | 48                             | 53                             | 64                               | 75                         |
| 2006 | 35                             | 43                             | 51                             | 58                             | 74                               | 82                         |
| 2007 | 26                             | 36                             | 48                             | 54                             | 66                               | 77                         |
| 2008 | 35                             | 47                             | 57                             | 63                             | 85                               | 101                        |
| 2009 | 30                             | 39                             | 50                             | 56                             | 71                               | 93                         |
| 2010 | 31                             | 40                             | 50                             | 55                             | 78                               | 109                        |
| 2011 | 24                             | 33                             | 44                             | 51                             | 66                               | 75                         |
| 2012 | 17                             | 27                             | 43                             | 57                             | 136                              | 206                        |
| 2013 | 18                             | 25                             | 37                             | 48                             | 112                              | 210                        |
| 2014 | 19                             | 27                             | 43                             | 62                             | 152                              | 251                        |

#### **Diffusion Tube Monitoring Data**

Telford & Wrekin Council does not undertake any diffusion tube monitoring.

#### 2.2.1 Particulate Matter

Since operations ceased at the Open cast coal mine in 2013 Telford & Wrekin Council does not undertake any particulate matter monitoring.

#### 2.2.2 Sulphur Dioxide

SO<sub>2</sub> is monitored at two automatic monitoring points located downwind of Ironbridge Power Station in fulfilment of a condition on their environmental permit:

#### "3.6 Monitoring

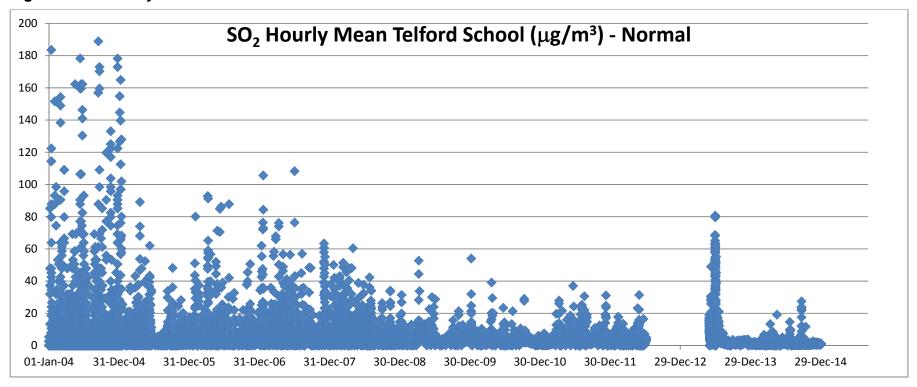
- 3.6.1 The operator shall, unless otherwise agreed in writing by the Agency, undertake the monitoring specified in the following tables in schedule 4 to this permit:
  - (a) point source emissions specified in tables S4.1, S4.2 and S4.3;
  - (b) annual limits specified in table S4.4; and
  - (c) surface water specified in table S4.5.
- 3.6.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.
- 3.6.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme specified in condition 3.6.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate) unless otherwise agreed in writing by the Agency.
- 3.6.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 4 tables S4.1, S4.2 and S4.3 unless otherwise specified in that schedule.
- 3.6.5 Within 6 months of the issue of this permit (unless otherwise agreed in writing by the Agency) the site reference data identified in the site protection and monitoring programme shall be collected and submitted to the Agency."

The assessment of emissions from this location was undertaken with data from 2014. Monitoring at the locations is still on-going.

See below each graph for a comment on what the data is showing.

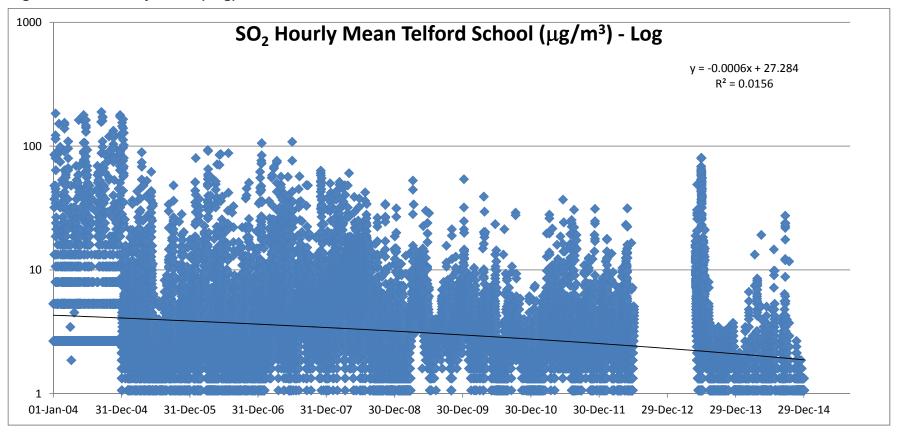
The graphs and tables below demonstrate not only compliance with the relevant air quality objectives, but also how the vast majority of all the monitoring data from the power station for SO<sub>2</sub> is significantly below the air quality objective.

Figure 7 SO2 Hourly Mean - Telford School



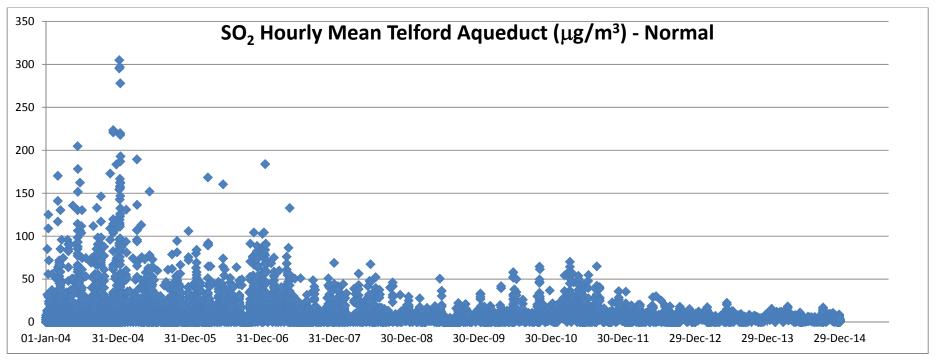
What is most evident from this chart is that there has been a significant improvement in air quality over time; specifically from the beginning of the assessment period in 2004. There was an increase towards the end of 2012 and beginning of 2013, then, the levels decreased towards the end of the assessment period.

Figure 8 SO2 Hourly Mean (Log) - Telford School

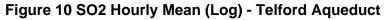


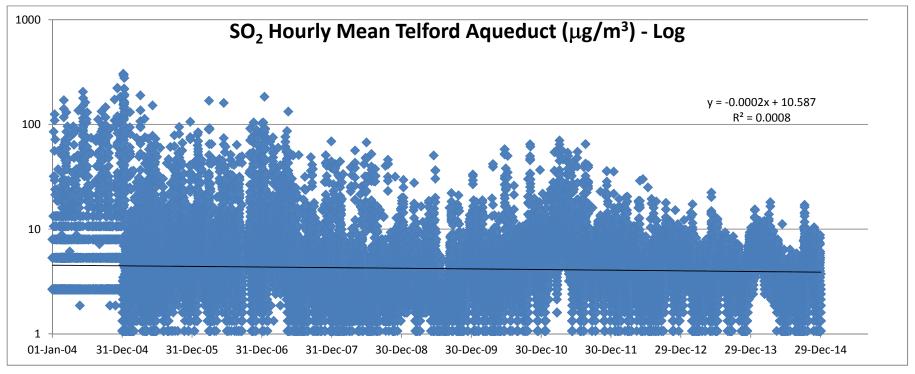
The log chart for Telford School demonstrates a steady decrease in SO<sub>2</sub> levels at the monitoring station throughout the entire monitoring period.

Figure 9 SO2 Hourly Mean - Telford Aqueduct



This chart for Telford Aqueduct demonstrates a steady decrease in  $SO_2$  levels at the monitoring station since 2004. It shows a slight increase in levels during 2010 and a steady decrease in levels since 2010 until the end of the monitoring period.





The log chart for Telford Aqueduct demonstrates a steady decrease in  $SO_2$  levels at the monitoring station, followed by an increase at the end of 2010, which was followed by a subsequent decrease.

Table 9 Percentile data for SO<sub>2</sub> monitoring, 2007-2014; Telford Aqueduct

| Year | SO <sub>2</sub> 90 <sup>th</sup> | SO <sub>2</sub> 95 <sup>th</sup> | SO <sub>2</sub> 98 <sup>th</sup> | SO <sub>2</sub> 99 <sup>th</sup> | SO <sub>2</sub> 99.9 <sup>th</sup> | SO <sub>2</sub> |
|------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|------------------------------------|-----------------|
|      | Percentile                       | Percentile                       | Percentile                       | Percentile                       | Percentile                         | Maximum         |
|      |                                  |                                  |                                  |                                  |                                    | Hourly          |
|      |                                  |                                  |                                  |                                  |                                    | Value           |
| 2004 | 5.6                              | 10.6                             | 34.6                             | 77.1                             | 242.8                              | 396.3           |
| 2005 | 9.6                              | 13.3                             | 25.5                             | 41.7                             | 116.8                              | 288.8           |
| 2006 | 8.8                              | 11.4                             | 23.7                             | 42.2                             | 114.4                              | 232.2           |
| 2007 | 6.4                              | 8.8                              | 14.6                             | 23.1                             | 67.2                               | 230.4           |
| 2008 | 4.8                              | 5.9                              | 7.7                              | 11.7                             | 49.2                               | 101.6           |
| 2009 | 5.3                              | 6.7                              | 8.8                              | 11.4                             | 27.9                               | 83.3            |
| 2010 | 8                                | 9.3                              | 12                               | 15.7                             | 55                                 | 110.1           |
| 2011 | 8.2                              | 9.6                              | 13.8                             | 19.7                             | 60.3                               | 110.9           |
| 2012 | 7.2                              | 8.2                              | 9.3                              | 10.4                             | 12.5                               | 35.4            |
| 2013 | 5.6                              | 6.4                              | 6.9                              | 7.5                              | 8.5                                | 22.3            |
| 2014 | 6.7                              | 7.5                              | 8.3                              | 8.8                              | 9.6                                | 18.1            |

Table 10 Percentile data for SO<sub>2</sub> monitoring, 2007-2014; Telford School

| Year | SO <sub>2</sub> 90 <sup>th</sup> | SO <sub>2</sub> 95 <sup>th</sup> | SO <sub>2</sub> 98 <sup>th</sup> | SO <sub>2</sub> 99 <sup>th</sup> | SO <sub>2</sub> 99.9 <sup>th</sup> | SO <sub>2</sub> |
|------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|------------------------------------|-----------------|
|      | Percentile                       | Percentile                       | Percentile                       | Percentile                       | Percentile                         | Maximum         |
|      |                                  |                                  |                                  |                                  |                                    | Hourly          |
|      |                                  |                                  |                                  |                                  |                                    | Value           |
| 2004 | 5.3                              | 10.6                             | 29.3                             | 58.5                             | 186.2                              | 396.3           |
| 2005 | 4                                | 6.2                              | 11.9                             | 19.2                             | 56.1                               | 167.3           |
| 2006 | 4.8                              | 6.9                              | 12.5                             | 22.9                             | 90.9                               | 162.5           |
| 2007 | 7.7                              | 9.3                              | 16.2                             | 26.6                             | 68.3                               | 159.1           |
| 2008 | 12.2                             | 14.6                             | 16.8                             | 17.8                             | 41                                 | 97.9            |
| 2009 | 5.3                              | 6.1                              | 7.7                              | 9.3                              | 25.2                               | 93.4            |
| 2010 | 3.5                              | 4                                | 5.1                              | 6.1                              | 18.3                               | 66.8            |
| 2011 | 4                                | 4.8                              | 6.4                              | 9.3                              | 27                                 | 55.1            |
| 2012 | 4.3                              | 4.8                              | 6.1                              | 7.5                              | 10.4                               | 31.4            |
| 2013 | 3.5                              | 5.6                              | 11.2                             | 16.0                             | 43.9                               | 80.6            |
| 2014 | 1.6                              | 1.9                              | 2.4                              | 2.9                              | 5.6                                | 27.4            |

Table 11 Results of Automatic Monitoring of SO<sub>2</sub> for 2014: Comparison with Annual Mean Objective

| Sito ID          | Site Turns          | Within<br>AQMA? | Valid Data Capture for monitoring Period % | Valid Data<br>Capture<br>2014(%) <sup>b</sup> | Number of Exceedances (percentile in bracket μg/m³) |                                 |                                  |
|------------------|---------------------|-----------------|--|---|---|---------------------------------|----------------------------------|
| Site ID Site Typ | Site Type           |                 |  |   | 15-minute Objective<br>(266 μg/m³)                  | 1-hour Objective<br>(350 μg/m³) | 24-hour Objective<br>(125 μg/m³) |
| 1                | Telford<br>Aqueduct | N               | N/A  | 99  | 0   | 0                               | 0                                |
| 2                | Telford School      | N               | N/A  | 92  | 0   | 0                               | 0                                |

In Bold, exceedance of the relevant AQS objective (15-min mean = 35 allowed/year; 1-hour mean = 24-hour mean = 3 allowed/year)

<sup>&</sup>lt;sup>a</sup> i.e. data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

b i.e. data capture for the full clanadar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)

<sup>&</sup>lt;sup>c</sup> if data capture for full calendar year is less than 90%, include the relevant percentile in bracket (in μg/m³): 15 min mean = 99.9<sup>th</sup>; 1-hour mean = 99.7<sup>th</sup>; 24-hour mean = 99.2<sup>th</sup> percentile

#### 2.2.3 Benzene

Telford and Wrekin Council do not monitor for Benzene.

#### 2.2.4 Other pollutants monitored

No other pollutants are monitored

#### **Summary of Compliance with AQS Objectives**

Telford and Wrekin Council has examined the results from monitoring in the borough. Concentrations are all below the objectives, therefore there is no need to proceed to a Detailed Assessment.

## 3 Local Transport Plans and Strategies

The Transport Act 2000 requires all Highway Authorities to produce a LTP which sets out a strategy and action plan for improving local transport.

The third LTP for Telford ad Wrekin has now been prepared and sets out how we plan to manage, maintain and develop the borough's transport network over the period 2011 to 2026.

This covers all forms of travel including car and motorcycle based travel, public transport, walking and cycling.

The LTP is comprised of two parts:

- A Strategy setting out the policies. This will be periodically reviewed.
- An implementation Plan setting out a programme of works that will deliver the strategy. This will be reviewed every 3 years.

For the full report please click the link below.

http://www.ttelford.gov.uk/info/100011/transport and streets/516/transport policy/3

## **4** Other Transport Sources

### 4.1 Airports

There are no airports within the Borough of Telford and Wrekin Council.

Telford and Wrekin Council confirms that there are no airports in the Local Authority area.

### 4.2 Railways (Diesel and Steam Trains)

There are no issues with stationary trains within the Borough. The main areas of exposure within the Borough are at the stations. 182 trains a week pass through the Borough.

#### 4.2.1 Stationary Trains

The stations within the Borough are: Telford Central, Oakengates, and Wellington. Whereas all trains travelling along the line stop at Telford Central and Wellington, only every other train stops at Oakengates. Within 15 metres of the following train stations are:

Telford Central: train station, railway land, A442 slip road, M54 motorway, car park. Oakengates: train station, railway land, roads, garden at rear of one domestic property, car parks

Wellington: train station, railway land, Victoria Road (B Road), bus station, rear yards of bank and shop, war memorial and car park.

There is also a freight terminal within the Borough, however the use of this is exceedingly limited, and as such there is no need to assess this.

There are no occasions when the criteria in the Technical Guidance are exceeded to warrant further assessment.

Telford and Wrekin 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

The railway line that runs through Telford is not identified as one of those lines that have a large number of diesel locomotives running through. As such, there are no occasions when the criteria in the Technical Guidance are exceeded to warrant further assessment.

Telford and Wrekin 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)

There are no shipping ports within the Borough of Telford and Wrekin Council.

Telford and Wrekin Council confirms that there are no ports or shipping that meet the specified criteria within the Local Authority area.

## 5 Road Traffic Sources

There has been no significant road development that occurred since the last USA was undertaken.

# 5.1 Narrow Congested Streets With Residential Properties Close to the Kerb.

There have been no significant changes since the last USA was undertaken.

#### 5.1.1 Busy Streets Where People May Spend 1-Hour or More Close to Traffic

There have been no significant changes since the last USA was undertaken.

#### 5.1.2 Roads with a High Flow of Buses and /or Heavy Goods Vehicles

There have been no significant changes since the last USA was undertaken.

#### 5.1.3 Junctions

There have been no significant changes since the last USA was undertaken.

## 5.1.4 New Roads Constructed or Proposed Since the Last Round of Review and Assessment.

There have been no significant changes since the last USA was undertaken.

## **5.2** Other Transport Sources

There have been no significant changes that have occurred since the last USA was undertaken.

## 6 Industrial Sources

## 6.1 Industrial Installations

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

Telford and Wrekin Council currently has 80 permitted processes within the area of the Council, as well as outstanding applications for two new permits. These permitted processes are a mixture of both A2 and Part B permits. There are currently a total of 7 A1 permitted processes within the area of the Authority. All of these applications have been assessed upon application.

**Table 12 Active Permitted Processes** 

| Туре  | Business                        | Date Permit |
|-------|---------------------------------|-------------|
| 71    |                                 | Granted     |
| PPCB  | Besblock Limited Site 1         | 01-Mar-03   |
| PPCB  | Besblock Limited Site 2         | 15-Apr-03   |
| PPCB  | Ce Do                           | 21-Jul-08   |
| PPCB  | Cemex UK Materials Ltd          | 05-Aug-03   |
| PPCB  | Defence Support Group           | 11-Dec-07   |
| PPCB  | Denso Manufacturing UK Ltd      | 06-Jun-06   |
| PPCB  | Elite Precast Concrete Ltd      | 15-Oct-10   |
| PPCB  | Ennstone Johnston Limited       | 25-May-05   |
| PPCB  | Ennstone Johnston Ltd           | 01-Jun-06   |
| PPCB  | Ennstone Johnston Ltd           | 28-Apr-06   |
| PPCB  | F.P. McCann Limited             | 31-Mar-09   |
| PPCB  | GKN Aluminium Structures Ltd    | 01-Apr-05   |
| PPCB  | Grange Fencing Ltd              | 05-Aug-03   |
| PPCB  | Grange Fencing Ltd              | 15-Apr-03   |
| PPCB  | John G Russell (Transport) Ltd  | New         |
| PPCB  | Link 51                         | 25-Mar-05   |
| PPCB  | Link Lockers                    | 01-Apr-06   |
| PPCB  | Classic Furniture Group Limited | 27-Jan-12   |
| PPCB  | Madeley Brass Castings          | 07-Apr-05   |
| PPCB  | Supreme Concrete Ltd.           | 12-Apr-04   |
| PPCB  | TAFS (Salop) Ltd                | 31-Mar-04   |
| PPCB  | Reflex Flexible Packaging       | 01-Apr-06   |
| PPCB  | Telford Copper Cylinders Ltd    | 07-Mar-05   |
| PPCB  | Telford Crematorium Limited     | 26-Mar-04   |
| PPCB  | TTI Nitriding Services Ltd      | 15-Jul-09   |
| PPCB  | UK Coal Ltd                     | 17-Nov-10   |
| PPCB  | Weber                           | 25-Mar-10   |
| PPCB  | Webster Wilkinson Limited       | 26-Feb-04   |
| PPCB  | Wrekin Shell Mouldings Limited  | 18-Aug-04   |
| PPCB  | 24/7 Concrete                   | 23-Jan-12   |
| PPCB  | Ricoh UK Products Ltd.          | 02-May-08   |
| PPCB  | Elite Precast Concrete Ltd.     | 15-Apr-10   |
| PPCB  | KN Wheels Ltd.                  | 01-Apr-05   |
| PPCB  | Hope Cement Limited             | 10-Apr-03   |
| PPCA2 | TCL Packaging                   | New         |
| PPCA2 | Aga Consumer Products Limited   | 07-Feb-05   |
| PPCA2 | Bischof And Klein (UK) Ltd      | 23-Feb-12   |
| PPCA2 | Blockleys Brick Ltd             | 25-Apr-13   |
| PPCA2 | GKN Autostructures              | 31-Mar-06   |
| PPCA2 | GKN Off Highway Systems Ltd     | 16-Aug-05   |
| PPCA2 | Joseph Ash Galvanizing Telford  | 13-Jul-04   |
| PPCA2 | Mahle Filter Systems UK Ltd     | 12-Jun-07   |

| PPCA2 | Metokote UK Ltd                            | 03-Mar-06 |
|-------|--|-----------|
| PPCA2 | Saint Gobain                               | 15-Nov-04 |
| PPCA2 | W. Corbett & Company (Galvanizing) Limited | 31-Mar-05 |
| PPCA2 | Precision Colour Printing Limited          |           |
| PPCA2 | TCL Packaging Limited                      |           |
| VREF  | Autocraft Telford                          | 12-Apr-05 |
| VREF  | Doseley Motors Ltd                         | 08-Apr-04 |
| VREF  | Furrows (Telford) Ltd.                     | 07-Mar-05 |
| VREF  | SIM Vehicle Consultancy Ltd                | 07-Mar-05 |
| VREF  | GS Unwin                                   | 01-Apr-04 |
| PFS   | ASDA Stores Ltd                            | 14-Apr-05 |
| PFS   | ASDA Stores Ltd. (Southwater)              | 05-Mar-14 |
| PFS   | Trustees Of Telford Shopping Centre Trust  | 04-Aug-05 |
| PFS   | Furrows Limited                            | 14-Apr-05 |
| PFS   | Furrows Limited                            | 14-Apr-05 |
| PFS   | J Sainsbury PLC                            | 14-Apr-05 |
| PFS   | Arina Ltd                                  | 14-Apr-05 |
| PFS   | Morrisons                                  | 04-Aug-05 |
| PFS   | Mound Way Service Station                  | 04-Aug-05 |
| PFS   | Murco Petroleum Ltd                        | 14-Apr-05 |
| PFS   | NIX Service Station                        | 14-Apr-05 |
| PFS   | Red Lion Service Station                   | 14-Apr-05 |
| PFS   | Shell UK Limited                           | 14-Apr-05 |
| PFS   | Shell UK Ltd                               | 14-Apr-05 |
| PFS   | Shell UK Ltd                               | 01-Jan-04 |
| PFS   | Shell UK Ltd                               | 14-Apr-05 |
| PFS   | Tesco Stores Limited                       | 14-Apr-05 |
| PFS   | Trench Lock 24/7                           | 14-Apr-05 |
| DC    | Creases Dry Cleaners                       | 10-Apr-08 |
| DC    | Madeley Laundry & Dry Cleaning             | 17-Oct-06 |
| DC    | Peter Posh Ltd                             | 15-Nov-06 |
| DC    | Pritchards Of Shropshire Ltd               | 18-Oct-06 |
| DC    | Samuels Of Shropshire Ltd                  | 17-Oct-06 |
| DC    | Timpson Ltd                                | 05-Sep-06 |
| SWOB  | Dynorod                                    | 31-Aug-06 |
| SWOB  | Hadley Test & Repair                       | 09-Mar-10 |
| SWOB  | Marks Motor Mechanics                      | 17-Dec-07 |
| SWOB  | McPhillips (Wellington) Limited            | 30-Sep-09 |
| SWOB  | Peter Morris Cars                          | 01-Mar-04 |

These applications were either assessed when the applications were submitted via the processes as laid out in the Environmental Permitting Regulations, or they were of limited significance due to low emissions and so were not considered worthy of further assessment.

There are currently two new applications for new permitted processes; these are:
Grange Fencing (Part A2 Activity)
Mahle (Part B Activity)

Of all the assessments that have been undertaken, or are currently being evaluated, relating to industrial emissions, none have shown that these installations have either substantially increased, or introduced, relevant or new exposures.

Telford & Wrekin 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

An assessment has shown that there are no installations where emissions have increased substantially, or new, relevant exposure, has been introduced.

Telford & Wrekin 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 no new, or significantly changed, installations with any previous air quality assessment.

Telford & Wrekin 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.

## 6.2 Major Fuel (Petrol) Storage Depots

There are no major fuel (petrol) storage depots within the Borough.

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

#### 6.3 Petrol Stations

Telford & Wrekin Council confirms that there are no petrol stations meeting the specified criteria.

#### 6.4 Poultry Farms

There are a number of poultry farms within the borough. However, none of these farms meet the initial criteria as set out within the technical guidance document; these are farms housing more than 400,000 birds if mechanically ventilated, 200,000 birds if naturally ventilated, or 100,000 birds of any turkey unit. Therefore, it is not necessary to proceed to a further detailed assessment.

Telford & Wrekin Council confirms that there are no poultry farms meeting the specified criteria

#### 6.5 Commercial and Domestic Sources

#### 6.6 Biomass Combustion – Individual Installations

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

## 6.7 Biomass Combustion – Combined Impacts

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

## 6.8 Domestic Solid-Fuel Burning

The assessment of domestic solid fuel burning considers SO<sub>2</sub> emissions from those areas which have a significantly large number of houses that use solid fuel for heating purposes.

Telford & Wrekin Council confirms that there are no areas of significant domestic fuel use in the Local Authority area.

## 6.9 New Developments with Fugitive or Uncontrolled Sources

There have been no new developments which could give rise to issues from fugitive or uncontrolled sources.

Telford & Wrekin Council confirms that there are no new or newly identified Local developments which may have an impact on air quality within the Local Authority area.

Telford and Wrekin Council confirms that all the following have been considered:

- Road traffic sources
- Other transport sources
- Industrial sources
- Commercial and domestic sources
- New developments with fugitive or uncontrolled sources.

## 7 Local/Regional Air Quality Strategy

Telford and Wrekin Council do not have an air quality strategy due to the excellent air quality within the Borough. However, the Council is currently producing a strategy to formally adopt its position of assessing all those planning applications that may be detrimental to the air quality of the Borough; a process that is currently being utilised.

## **8** Fugitive or Uncontrolled Sources

The assessment of fugitive and uncontrolled sources considers the PM10 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.

Telford & Wrekin Council confirms that there are no potential sources of fugitive particulate matter emissions in the Local Authority area.

## 9 Planning

As stated above, Telford and Wrekin Council currently assess all planning applications that may be detrimental to the excellent air quality of the Borough. As such, applicants are asked to show how their development will affect air quality via reports submitted to fulfil conditions. An air quality strategy is being looked into to formally adopt this position. As such, there are a number of planning applications that are being looked into with regard to air quality. A number of these are discussed below.

An outline application for the erection of a mixed use development comprising of up to 470No. dwellings (Use Class C3), a primary school (Use Class D1), a commercial area (Use Class B1), clinic and health centres (Use Class D1), retail units (Use Class A1), financial and professional services (Use Class A2), restaurant and cafes and/or hot food takeaways (Use Classes A3 and A5) with associated allotments, sport and recreational facilities, open space, biodiversity enhancement and access (TWC/2014/0113) was submitted, which included an air quality report. It was concluded that air quality issues associated with the development are considered acceptable.

Outline application for the erection of a mixed use development comprising of up to 540No. dwellings (Use Class C3), a local centre (Use Class A1) and public open space with associated access and landscaping following the demolition of existing factory (TWC/2014/0746) was submitted with an air quality report. The report concluded that the effect of the development on air quality at existing locations is expected to be negligible. Therefore, air quality is acceptable at the proposed receptors and the site is suitable for its proposed uses, from an air quality perspective.

Outline application for residential development of up to 1100 dwellings, a commercial/employment centre (use classes B1a, A1, A2, A3, A4 and C3 uses) retention of existing farm shop, garden centre and play barn, erection of a primary school, local centre (use classes A1, A2, A3, A4, A5, C3 and D1 and D2 (community building) a retirement village, with associated strategic landscaping, attenuation areas, opens space, highways and other associated infrastructure with detailed approval for access arrangements from Castle Farm Way (A4640) and Watling Street (A5) (TWC/2014/0980). It was concluded that air quality issues associated with the development are considered acceptable.

## 10 Climate Change Strategies

Telford and Wrekin Council are a leader in the community, providing services and managing buildings and vehicles. As such, everything the Council does have an impact. Telford and Wrekin Council are committed to reducing our environmental impact and want everyone who works for us to cut their energy use too.

Most of the energy that the Council uses comes from heating and powering the 180 buildings that the Council run. Schools use a lot of energy, so do leisure centres. There are 22,850 lampposts and street signs in Telford and Wrekin.

Telford and Wrekin Council have put together a <u>strategy 'A Climate for Change'</u> which sets out their local response to tackling climate change.

In conjunction with the Carbon Trust, Telford and Wrekin Council have devised and implemented a Carbon Management Programme, which lists a number of key tasks to reducing our impact.

The Council has been implementing the Carbon Management Programme and we have already made substantial carbon savings, including:

- Installed a power management system at Civic Offices Saving 180 tonnes of CO<sub>2</sub> per vear
- Put in energy efficient lighting throughout Darby House Saving 45 tonnes of CO<sub>2</sub> per year
- Fitted covers at seven swimming pools Saving 140 tonnes of CO<sub>2</sub> per year
- Installed Combined Heat and Power (CHP) systems and Biomass boilers in a number of key buildings.
- Installed Half-hourly energy meters in a number of key sites

The Council is included in the Carbon Reduction Commitment (CRC) programme and is working at length to improve the energy efficiencies of its estate and buildings. The Council are working with the Schools to reduce their environmental impact via the Low Carbon Collaborative Schools Project.

Amongst other things, they also:

- Automatically turn off our computers at night
- Run the Low Carbon Programme in schools
- Operate waste minimisation and recycling in our offices
- Run the "Carshare Shropshire and Telford" journey sharing scheme for employees in Telford & Wrekin

The following issues have been identified as areas that Local Authorities can have a significant impact and influence upon:

- Reducing Energy Consumption from residential and commercial uses
- Increasing Renewable Energy Capacity in the borough
- Reducing Fuel Poverty
- Construction Standards (including Building Regulations Part L, Code for Sustainable Homes, BREEAM)
- Aiding the transition towards a Low-Carbon Economy

Planning Policy can shape the development of the Borough, renewable energy, district heating and low carbon buildings will play a big part in large-scale development.

## 11 Conclusions and Proposed Actions

## 11.1 Conclusions from New Monitoring Data

There have been no relevant exceedances of air quality objectives.

Telford & Wrekin Council has no AQMAs. Therefore, there is no need to progress to a Detailed Assessment.

#### 11.2 Conclusions from Assessment of Sources

This USA has assessed all sources of pollution within Telford & Wrekin Council's area. There have been a number of Part A2 and B processes within the Borough in the time period of this assessment. These processes have been considered via the environmental permitting regime with regards to their impact on likely breaches of air quality objectives, and it is considered that a Detailed Assessment isn't necessary.

#### 11.3 Overall Conclusions

Emissions from industry namely the power station at Ironbridge (which is outside the Borough) are relatively minor, and have seen dramatic improvement in their emissions over the past decade.

As such, it can be concluded that, currently, the air in Telford and Wrekin Councils area is excellent.

### 11.4 Proposed Actions

Proposed actions arising from the USA are:

• Progress to the 2015 progress report.

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