

<u>REPORT TITLE</u>	Environment Act 1995 – Part IV Local Air Quality Management – Annual Status Report 2016
<u>Submitted by:</u>	Environmental Protection Team Manager – Darren Walters
<u>Portfolio:</u>	Operational
<u>Ward(s) affected:</u>	ALL

Purpose of the Report

To advise Committee of the findings of the statutory Annual Status Report for 2016 which covers the 2015 calendar year in respect of air quality within the Borough

Recommendations

That the report be received

1. Background

- 1.1. Local authorities in the UK have statutory duties for managing local air quality under [Part IV of the Environment Act 1995](#). District Councils have been required to review and assess air quality within their areas since 1997 for compliance against a range of pollutant objectives.
- 1.2. The Council has been carrying out reviews of air quality since December 1997; these involve measuring air pollution and trying to predict how it will change over the next few years. The review process aims to make sure that the national air quality objectives prescribed in the Air Quality Regulations http://uk-air.defra.gov.uk/assets/documents/National_air_quality_objectives.pdf will be achieved throughout the UK by the relevant deadlines. These objectives have been put in place to protect people's health and the environment.
- 1.3. Nationally, air pollution is estimated to reduce the life expectancy of every person in the UK by an average of 7-8 months with estimated equivalent health costs of up to £20 billion each year." (Source *The Air Quality Strategy for England, Scotland, Wales and Northern Ireland (Volume 1)*, HMSO, 2007).
- 1.4. The World Health Organisation, estimates that poor air quality within the UK costs the economy circa £54 billion which is equivalent to 3.7% of British GDP(based on 2010 data). It also accounts for 29,000 premature deaths annually. (Source: WHO Regional Office for Europe, OECD (2015). Economic cost of the health impact of air pollution in Europe: Clean air, health and wealth. Copenhagen: WHO Regional Office for Europe. <http://www.euro.who.int/en/media-centre/events/events/2015/04/ehp-mid-term-review/publications/economic-cost-of-the-health-impact-of-air-pollution-in-europe>)
- 1.5. Local authorities therefore have an important role in bringing about improvements in air quality and ensuring compliance with statutory requirements to reduce the impact on health and associated costs to the National Health Service and the wider economy
- 1.6. The findings of the previous reviews and assessments undertaken by your Officers were last reported to committee in December 2015.

2. Issues

Annual Status Report 2016

- 2.1 In accordance with its statutory duties, the Borough Council has recently completed its Annual Status Report for 2016 which is concerned with air quality within the Borough during the 2015 calendar year. A copy of the report can be found on line at <https://www.newcastle-staffs.gov.uk/all-services/environment/environmental-protection/air-quality-newcastle-under-lyme>
- 2.2 Previous assessments have identified nitrogen dioxide as the pollutant of concern, with a number of locations within the Borough exceeding the nitrogen dioxide annual mean objective.
- 2.3 This Annual Status Report considers all new monitoring data and assesses the data against the Air Quality Strategy (AQS) objectives. It also considers any changes that may have an impact on air quality.
- 2.4 The review of new diffusion tube monitoring data has not identified any locations outside of the four existing AQMA's, declared in December 2014 within the Borough where the AQS annual NO₂ objective was exceeded in 2016.
- 2.5 Monitoring of NO₂ concentration in the AQMAs and at a variety of locations across the Borough during 2015 shows, that there has been a general decrease in NO₂, with the majority of areas now being under the annual mean objective.

Town Centre AQMA

- 2.6 NO₂ concentrations have generally decreased each year from 2012 onwards within the Town Centre. Site 11 (34 London Road) shows a large spike in NO₂ concentration between 2012 and 2014 (increase of 25.7%), followed by a dramatic decrease in 2015 (decrease of 30.2%). Both Site 11 and Site K1 are continuing to have an annual mean concentration of around 40ug/m³. This AQMA will remain in place until such time as all sites measure an annual mean NO₂ concentration that is consistently below the annual mean legal limit.

Porthill-Wolstanton-Maybank AQMA

- 2.7 There has been a steady decrease in NO₂ concentration at the established diffusion tube monitoring sites within this AQMA over the past 5 years, with the average NO₂ concentration within the Porthill-Wolstanton-Maybank AQMA for 2015 being 31.45ug/m³.
- 2.8 In October 2015, diffusion tube monitoring site 103 (Grange Lane), was added to the monitoring network for this AQMA. Over the three months that it was in place (October to December 2015), it showed that there may be an exceedance of the 1-hour mean objective at this location. It is important to note that the diffusion tube had only been exposed for a three month period over the winter when NO₂ concentrations are naturally higher, and that the data collected had to be 'annualised', to gain an estimate of the annual mean concentration at this site.
- 2.9 This AQMA, and diffusion tube Site 103, will remain in place as there are a number of works planned which may impact upon this area, this includes the Etruria Valley Development scheme and the planned improvement works to the A500.

Kidsgrove AQMA

- 2.10 NO₂ concentrations have decreased each year from 2012 onwards within this AQMA. Sites 6 (106 Liverpool Road) and Site 93 (118 Liverpool Road) show the most noticeable decrease in NO₂ concentration, with an 18.9% and 21.9% reduction respectively, between 2012 and 2015. This AQMA will remain in place until such time as all sites measure an annual mean NO₂ concentration that is consistently below the annual mean legal limit.

Madeley AQMA

- 2.11 The NO₂ concentration in Madeley was above the annual mean legal limit between 2010 and 2012, and has remained within 10% of the annual mean for the past 3 years. Although there has

been a slight decrease in the annual mean NO₂ concentration, it is not enough to enable us to say with certainty that there will be no further exceedances at this location. As there is no significant decrease in the concentrations at this site, and due to the works that Highways England plan to implement for the M6 in this section (hard-shoulder running), this location will continue to be monitored.

Across the Borough of Newcastle under Lyme

- 2.12 There has been a general decrease in the annual NO₂ concentrations across the Borough over the past three years. This indicates that the strategies currently in place are already helping to reduce the NO₂ concentration within these areas of the Borough. However, work needs to be done to ensure that any further developments, and changes to the road networks across the Borough do not lead to an increase in the annual NO₂ concentration above the annual mean objective of 40µg/m³.

Particulate Matter (PM₁₀ and PM_{2.5})

- 2.13 Particulate matter, or PM, is the term used to describe particles found in the air, including dust, dirt and liquid droplets. PM comes from both natural and man-made sources, including traffic emissions and Saharan-Sahel dust. These particles can be suspended in the air for long periods of time, and can travel across large distances.
- 2.14 PM less than 10 micrometers in diameter (PM₁₀) poses a health concern because they can be inhaled into and accumulate in the respiratory system. PM less than 2.5 micrometers in diameter (PM_{2.5}) are referred to as "fine" particles and are believed to pose the greatest health risks, as they can lodge deeply into the lungs.
- 2.15 Particulate matter (PM₁₀) is measured using an automatic monitor located at Queens Gardens (Site CM1) within the Town Centre AQMA. Particulate matter (PM₁₀) levels within Newcastle-under-Lyme, continues to be well below the annual mean objective level of 40µg/m³, with the annual mean concentration for 2015 being 22.93µg/m³.
- 2.16 During 2015 there were 5 days when the 24hour mean objective of 50µg/m³ was exceeded. Three of these days were due to national levels of air pollution being high because of Saharan Dust and increased pollution levels being carried over to the UK from the continent. The other two days were due to local factors including Christmas and New Year celebrations.
- 2.17 Due to the health risk posed by PM_{2.5}, a new requirement has been brought in to monitor PM_{2.5} concentrations. As Newcastle-under-Lyme does not currently monitor for this fraction of particulate matter, an estimation of the PM_{2.5} concentration for 2015 has been made using the national factor for PM_{2.5} and the method set out in TG16. The estimated concentration for PM_{2.5} for 2015 is 16µg/m³.
- 2.18 Manmade PM_{2.5} is estimated to cause some 60 deaths per annum for adults over 30 years of age within the Borough.
- 2.19 The Borough Council, along with the Staffordshire County Air Quality Group and Staffordshire Public Health, is now looking at ways in which PM_{2.5} concentrations can be reduced at both a local and regional level.
- 2.20 Proposed actions arising from the 2016 Annual Status Report are as follows:
- Continue the current network of NO₂ diffusion tube monitoring in the District to identify future changes in pollutant concentrations;
 - Finalise the Air Quality Action Plan for the Newcastle under Lyme Town Centre AQMA;
 - Finalise the Air Quality Action Plan for the Maybank, Wolstanton and Porthill AQMA;

- Finalise the Air Quality Action Plan for the Kidsgrove AQMA;
- Finalise the Air Quality Action Plan for the Little Madeley AQMA;
- Proceed to an Annual Status Report in 2017.

3. **Reasons for Preferred Solution**

The Council is required to take the action outlined in this report in order to fulfil its statutory duties.

4. **Outcomes Linked to Sustainable Community Strategy and Corporate Priorities**

The action taken achieves the following priorities detailed within the Council Plan

- Priority 1 – A clean, safe and sustainable borough
- Priority 3 – A healthy and active community
- Council Plan Outcome 1.3 The negative impact that the Council, residents and local businesses have on the environment will have reduced

5. **Legal and Statutory Implications**

Where air quality is unlikely to meet or does not meet the statutory objectives, Section 83 of the Environment Act 1995 requires the Council by Order designate an Air Quality Management Area. The draft Orders are attached in appendices A to D.

6. **Financial and Resource Implications**

Existing budgets will be utilised to fund the work identified in this report.

7. **Background Papers**

- Environment Act 1995 – Part IV
- Local Air Quality Management Technical Guidance (LAQM.TG.16) (available at <http://laqm.defra.gov.uk/documents/LAQM-TG16-April-16-v1.pdf>)
- Air Quality Reports completed since 1997 available from <https://www.newcastle-staffs.gov.uk/all-services/environment/environmental-protection/air-quality-newcastle-under-lyme>