

5.0 Update and Screening Assessment for Lead

5.1 The national perspective

Since the 1 January 2000 the sale of leaded petrol in the United Kingdom has been banned. Emissions of lead are now restricted to a variety of industrial activities such as battery manufacture, paint manufacture and the use of radiation shielding.

Modelling and monitoring undertaken at a national level indicates that existing national policies should generally be sufficient to achieve the objectives for lead. However, some localised exceedances of the objective may occur close to major industrial processes.¹

5.2 The local perspective

In the First Stage Review and Assessment of Air Quality in York lead was assessed against the following objective:

'An annual average of 0.5mg/m³ or less to be achieved by the end of 2005.'

It was concluded that this objective would be met in York without the need for further action at a local level.

In the Second and Third Stage Review and Assessment of Air Quality in York lead was assessed against revised objectives which were:

'An annual mean of 0.5mg/m³ or less to be achieved by the end of 2004.'

'An annual mean of 0.25mg/m³ or less to be achieved by the end of 2008'

It was concluded that these objectives would also be met in York without the need for further action at a local level.

5.3 Scope of the update and screening assessment for lead

For the purpose of this update and screening assessment lead has been assessed against the current objective which is:

'An annual mean of 0.25mg/m³ or less to be achieved by the end of 2008'

¹ DEFRA Review and Assessment: Technical Guidance LAQM.TG (03) 2003

In accordance with the air quality guidance note LAQM.TG(03) the following items have been considered:

- Lead monitoring data
- New industrial sources
- Existing industrial sources with significantly increased emissions

5.4 Assessment of lead monitoring data for York

Previous reviews and assessments of air quality in York have not identified any risk of the current lead objectives being breached. Consequently no monitoring of lead has been undertaken in York.

National maps of estimated annual mean lead concentrations have not yet been made available to local authorities. However, monitoring has been undertaken at a national level close to 30 key industrial sites. This monitoring work has indicated that in general the 2004 and 2008 lead objectives are already being met in the United Kingdom. The only areas found to still be at risk of breaching the lead objectives are those located in close proximity to non-ferrous metal and foundry processes.

5.5 Assessment of lead from industrial sources

5.5.1 Assessment procedure

National monitoring and modelling suggests that any breaches of the current objectives for lead will be associated with industrial processes. For the purpose of assessing lead from industry local authorities are required to undertake the following:

1. Identify all new industrial sources of lead which have entered the area since the last round of reviews and assessments. Significant emitters of lead are listed in Annex 2 of technical guidance note LAQM.TG(03).
2. Identify all existing industrial sources of lead which have increased their emissions substantially since the last round of reviews and assessments.
3. If any new or substantially increased industrial sources of lead are identified the nomograms in section 5.21 of the technical guidance note LAQM.TG(03) should be used to assess the risk of breaching the objective levels.
4. If a risk of breaching the lead objectives is identified authorities should proceed to a detailed review and assessment.

5.5.2 Assessment of industry in York

Annex 2 of technical guidance note LAQM.TG(03) lists the following processes as being significant lead emitters:

- iron and steel
- non-ferrous metals
- manufacture and use of organic chemicals
- electrical and rotary furnaces
- hot and cold blast cupolas
- aluminium and aluminium alloy processes
- copper and copper alloy processes
- metal decontamination
- lead glass manufacture

For the purpose of this update and screening assessment all the Part A and Part B processes in the vicinity of York have been reviewed using information posted on the Internet (www.environment-agency.gov.uk), and by consulting the relevant public registers.

In accordance with guidance note LAQM.TG(03), City of York Council also needs to consider the impact of emissions stacks within neighbouring authorities, if there is the potential for these to be significant. Guidance note LAQM.TG(03) states :

- (a) For medium sized sources with chimneys between about 40 to 100 metres, impacts should be considered at a distance up to about 5 km from the authority boundary
- (b) For small sources with chimneys between about 20 to 40 metres, impacts should be considered at a distance up to about 2 km from the authority boundary
- (c) For fugitive emissions sources, impacts should be considered up to a distance of about 1 km from the authority boundary

A summary of all the authorised processes in and around York can be found at Appendix 1. It can be seen in Appendix 1 that there are no processes within 5 km of York that fall into the categories listed as being significant Lead emitters.

Please note : City of York Council's last Update and Screening Assessment, (submitted to DEFRA in May 2003) identified a number of organic chemical manufacturing processes within 50 km of York, these were :

- Tate & Lyle (Selby)
- Linpac Polymers (Selby)
- Clariant UK Ltd (Selby)
- Clariant UK Ltd (Northallerton)
- Clariant UK Ltd (Beverley)
- Croda Chemicals (Goole)

None of these processes have significant lead emissions. There is therefore no risk of industrial emissions giving rise to breaches of the current lead objectives in York.

5.6 Conclusions from the update and screening of lead

Based on this assessment it is concluded that City of York Council is not required to progress to a detailed assessment of lead at this time. It should however undertake a further update and screening exercise for lead in April 2009.