

Armagh City and District Council

Supplementary Report on Stage 2/3 Review & Assessment of Local Air Quality

11th February 2005

1.0 Introduction

The report on the Stage 2/3 Review & Assessment of local air quality in the Armagh City and District Council area, 15th December 2003, concluded that on the basis of information available at that time, it was not possible to exclude the possibility of a breach of the prescribed objectives for SO₂. Additionally, this report had concluded that the risk of breach of the PM₁₀ objectives was negligible and therefore it was not proposed to do a further detailed scrutiny of PM₁₀ in the first round of review & assessment. However, further relevant information in the form of continuous monitoring data has subsequently become available. As a consequence, the Environment & Heritage Service, to whom this monitoring data is reported, suggested that the issue of PM₁₀ levels should be further addressed in the review & assessment process.

This supplementary Stage 2/3 report addresses all relevant information now to hand with regard to both SO₂ & PM₁₀ and concludes that on the basis of this, there is no requirement for further detailed scrutiny of these pollutants in the first round of review and assessment of local air quality.

The first complete round of review & assessment of local air quality in the Armagh City and District Council area therefore concludes that the risk of breach of the existing prescribed pollutant objectives is negligible, and there is no requirement for further detailed assessment at this time. It is not proposed that any AQMA declarations are currently necessary.

2.0 Sulphur Dioxide (SO₂)

SO₂ concentrations were modelled for the 1km² grids covering what was considered to represent a worst case scenario in terms of domestic coal burning. This modelling exercise concluded that it was not possible to conclude that SO₂ emissions arising from domestic fuel combustion, were not likely to exceed the prescribed air quality objective within Armagh. This was due to the lack of monitoring data required to verify the modelling results for SO₂ emissions. However, following the collection of ratified data from October 2003 to date, it has been concluded that the likelihood of exceedance of the prescribed limits is negligible and that no further assessment is required at this time.

Monitored SO₂ levels have been lower than would be expected and lower than the modelled SO₂ levels. Therefore, whilst monitored & modelled SO₂ levels differ significantly, the fact that (a) exhaustive checks by both Netcen and Environmental Monitoring Systems, Dublin, have not found any problems with the monitoring station, and (b) both modelling and monitoring results show SO₂ levels well below prescribed limits, the council is satisfied that there is no requirement to proceed with an AQMA declaration.

A number of QA/QC calibration tests were completed by AEA Technology Plc from October 2003. It was determined from these calibration exercises that there were no technical problems with the monitoring equipment which would negatively influence the SO₂ results. An additional investigation by EMS in November 2004, included the relocation of the sampling line inlet and the sampling line material. This further verified that there were no problems with the monitoring equipment.

3.0 Particulate Matter (PM₁₀)

At the date of submission of the Stage 2/3 report, PM₁₀ emissions were not identified as requiring a further detailed assessment, with the PM₁₀ modelling exercise documenting in that report, a predicted concentration (90th percentile 24hr mean) of 32 µg/m³. Subsequent to this, 2003 monitoring data submitted to the Environment & Heritage Service for the Lonsdale Road monitoring station, highlighted 46 exceedences of the 24 hour mean of 50 µg/m³. This is above the annual limit of 35 exceedences highlighted in LAQM TG(03). It was deemed necessary by the Environment & Heritage Service that this matter be acknowledged in the review and assessment reporting process.

2003 is the only period in which exceedance of the prescribed limits has been recorded, and this is at odds with the results of PM₁₀ modelling carried out for the area. As a result of the modelling exercise, it was determined that an exceedence of the prescribed limits was unlikely.

Armagh recorded 20 exceedences for year 2004, which is well short of the prescribed limit of 35 exceedences. Therefore, although the 2003 monitoring data suggested that there may be an issue with PM₁₀, it has been concluded for the following reasons that a decision on an AQMA declaration shall be deferred:

- ▣ 2004 PM₁₀ results showed only 20 exceedences of the prescribed 24 hour limits.
- ▣ DMRB Modelling (1st & 2nd versions) predicted PM₁₀ levels significantly lower than the prescribed limits.

It is proposed that monitoring will continue for SO₂ at Dobbin Street, NO₂ & PM₁₀ at Lonsdale Road and 8 No NO₂ Passive Sampling tubes at various locations around Armagh City for the next few years.

4.0 Conclusions & Recommendations

Armagh City and District Council concludes that it is not necessary to proceed to a further level of assessment of Sulphur Dioxide (SO₂) and PM₁₀ emissions.

It has been recommended that the Council continues to monitor the emissions of SO₂ and PM₁₀ using the continuous analysers currently in situ at Lonsdale Road (PM₁₀ & NO_x) and Dobbin Street (SO₂). The Council will monitor any exceedences of the prescribed limits identified and these will be included in the Progress Report, which is due for submission at the end of April 2005. (Ref: Table 1.3 Recommended timescales for submission of reviews and assessments and progress reports. LAQM TG(03))

The Local Air Quality Management Officer appointed to the District Councils across the Southern Group area, has commenced work on the strategy plans for improving air quality in Armagh. He will assist the Council with the formation and implementation of the strategy. The aims of the strategy are to prepare the council for amendments to the emission limits for pollutants due in 2005 (NO_x & SO₂) & 2010 (PM₁₀) and to introduce environmental projects to the general public, industry and statutory authorities in order to further improve the air quality

within the District of Armagh, which is now quantitatively recognised not to be significantly poor in terms of the European Directive Standards.