

Dumfries and Galloway Council

Local Air Quality Management

Environment Act 1995 : Part IV

Detailed Assessment of Sulphur Dioxide [SO₂] at Cairnryan

1. Background

1.1 In terms of Part IV of the Environment Act 1995 every local authority is required to regularly review and assess the air quality in its area to determine whether the Government's air quality objectives will be met. The specific atmospheric pollutants for which objectives have been set are:-

- nitrogen dioxide (NO₂),
- sulphur dioxide (SO₂),
- particulate matter (PM₁₀),
- benzene (C₆H₆)
- 1,3 butadiene,
- carbon monoxide (CO),
- lead (Pb)
- polycyclic aromatic hydrocarbons (PAHs), and,
- ozone (O₃)

1.2 The objectives are based on standards set on health grounds and essentially consist of target concentrations to be achieved by specific dates. The current objectives which apply for the purposes of local air quality management in Scotland are prescribed in the Air Quality (Scotland) Regulations 2000 as amended by the Air Quality (Scotland) (Amendment) Regulations 2002. (Objectives for O₃ and PAHs have been set in the Government's Air Quality Strategy [January 2000] and addendum [February 2003] but have not been included in the regulations).

1.3 If the results of the review and assessment of air quality show that any of the prescribed objectives is not likely to be met by the requisite date the local authority is required to declare an air quality management area and produce an action plan with a view to meeting the objective concerned.

Background (Continued)

- 1.4 The conclusion of the initial review and assessment[†] of air quality in Dumfries and Galloway was that the air quality objectives were likely to be met. As a consequence no air quality management areas were declared in Dumfries and Galloway (which remains the position to date).
- 1.5 In 2003, as part of a second round of review and assessment Casella Stanger (consultants) were employed to carry out an initial updating and screening assessment[‡] (USA) of air quality in Dumfries and Galloway. The consultants supported the conclusions of the first round but, in line with the Department for Environment, Food and Rural Affairs' revised technical guidance* in relation to SO₂, concluded that a detailed assessment of the influence of shipping at the ferry terminals at Stranraer and Cairnryan would be required
- 1.6 As a result of enquiries made to Stenaline at Stranraer, and P&O at Cairnryan, it had been found that the number of ship movements per year in and out of both Stranraer and Cairnryan separately exceeded the relevant criterion in the technical guidance above which a detailed assessment of SO₂ was required.
- 1.7 However in the light of the impending wholesale re-location of Stenaline's ferry operation from Stranraer to Cairnryan (estimated to commence 2006) it was judged to be more cost-effective to make Cairnryan initially the focus of the detailed assessment albeit that if exceedences were found at Cairnryan or if Stenaline's proposed move fell through then monitoring should also be considered at Stranraer.

2. Detailed Assessment

- 2.1 TRL Ltd., (consultants), were initially engaged to conduct SO₂ monitoring at Cairnryan for six months commencing in December 2003. The monitoring period was thereafter extended for a full calendar year to enable accurate comparison with the SO₂ objectives.
- 2.2 The report of the consultants' findings is appended hereto. Throughout the monitoring period there were no exceedences of the 1-hour or 24-hour objectives and only 2 exceedences of the 15-minute objective (35 exceedences per year of the 15-minute objective are permitted).

Detailed Assessment (Continued)

- 2.3 Emissions from ships plying in and out of Stranraer may have had an effect at the monitoring position as they passed Cairnryan whereas the emissions from ships plying in and out of Cairnryan are less likely to have an effect on Stranraer which is approximately 4 miles to the south of the ferry terminal at Cairnryan. The direction of the prevailing wind is significant in this regard. (See map on page 4 of 4).
- 2.4 Therefore in the light of these results and Stenaline's impending move, it is not intended to carry out any further assessment e.g. modelling, nor to carry out any monitoring at Stranraer.
- 2.5 However when Stenaline re-locates to Cairnryan it is intended to repeat the monitoring exercise. If the move is aborted monitoring will be carried out at Stranraer.
- 2.6 The environmental impact assessment of the proposed move is awaited.
- 2.7 So far as the consultant's recommendations regarding the collection of data on port activity and traffic flow are concerned both the Scottish Executive and the Scottish Environment Protection Agency are of the opinion that such further analysis is not necessary at this stage and therefore these recommendations are not to be actioned at present.

3. Conclusion

- 3.1 There is no requirement to designate an air quality management area.

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† (i) Dumfries and Galloway Air Quality Review - Cordah/DUM.001/1999
(ii) Supplementary Air Quality Report - First-Stage Review and Assessment - Cordah/DUM.003/2000
(iii) Ambient Air Quality Monitoring Programme for 1,3 butadiene - BMT Cordah/DUM.005/2001
(iv) Review of 1,3 butadiene Data - Clyde Analytical Ref 37743R/DUM&GAL.SAM (2002)

‡ Dumfries and Galloway Council Local Air Quality Management - Updating and Screening Assessment Casella Stanger Ref. CS/AQ/141160102/CW July 2003

* Department for Environment, Food and Rural Affairs (DEFRA) - Part IV of the Environment Act 1995 - Local Air Quality Management Technical Guidance - LAQM.TG(03) 2003

Map showing relative positions of Stranraer and Cairnryan

(The prevailing wind is from the south-west)

