UK Automatic Urban Network
London Air Quality Network
Affiliated Sites

Management Report
April to June 2003

Prepared for the Department for Environment, Food and Rural Affairs (DEFRA), Scottish Executive, Welsh Assembly Government and the DoE in Northern Ireland

KCLERG/MT/DEFRA/CMCU/110703
July 2003
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<td>Environmental Research Group</td>
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<tr>
<td>King's College London</td>
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<tr>
<td>4th Floor</td>
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<tr>
<td>Franklin-Wilkins Building</td>
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<td>150 Stamford St</td>
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<td>London SE1 9NN</td>
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<tr>
<td>Tel 020 7848 4044</td>
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<td>Fax 020 7848 4045</td>
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<tr>
<td>Name</td>
<td>Signature</td>
</tr>
<tr>
<td>Author</td>
<td>David Green</td>
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<tr>
<td>Reviewed by</td>
<td></td>
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<tr>
<td>Approved by</td>
<td>Gary Fuller</td>
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1 King’s ERG Interface with the Data Dissemination Unit (DDU)

1.1 Introduction

This report details the equipment performance for the AURN affiliate sites where ERG is contracted as CMCU by DEFRA under contract number EPG 1/3/168.

The report highlights issues causing data capture to fall below 90% during the quarter and also summarises issues causing annual data capture to fall below 90%.

1.2 Data Handling

Between April and June 2003, King’s College London Environmental Research Group (ERG) has estimated that over 99% of hourly e-mails arrived at the DDU to meet their timetabled requirements. Accurate figures of punctual e-mails can be obtained from the DDU.

2 Site Performance

2.1 Scaling of Data for April to June 2003

Scaling of data was carried out as in previous months using the zero and span readings from fortnightly calibration checks. Validation of data was carried out twice daily and reviewed again at the end of each month.

2.2 Quality Control / Quality Assurance (QA/QC)

The QA/QC Unit (AEA Technology plc) have carried out one routine equipment audit at the London affiliated AURN sites during this quarter (Camden Kerbside). The audit round started at the end of June, the other sites are scheduled for July and August, these dates are shown in Table 1.

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Table 1: QA/QC Audit Dates

2.3 Data for April to June 2003

Data capture rates for April, May and June are detailed in Table 2, Table 3, and Table 4. The data capture rates for each month are calculated from valid hourly averages, after excluding data lost due to calibration and the faults discussed. The overall data capture rates for the quarter April to June are detailed in the Table 5.
Specific issues affecting data collection and quality at each site are discussed in sections 2.3.1 to 0. Details of faults are given where data capture rates fall below 90% for the quarter.

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<tr>
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Table 3: Hourly Data Capture % for May 2003
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### Table 5: Hourly Data Capture % for April to June 2003

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### 2.3.1 Eltham

#### 2.3.1.1 Ozone 84%

8<sup>th</sup> April – 4<sup>th</sup> June 2003 348 Hours

Unstable readings were noticed by the LSO in April. A full service did not resolve the issue; a spare analyser was installed while the original was returned to the workshop for further investigation. Several parts in the measurement system were replaced before the analyser was returned to site. Periods of obviously noisy data were excluded from the data set during this period, repeated ESU visits also led to significant data loss.

### 2.3.2 Haringey Roadside

#### 2.3.2.1 Nitrogen Oxides 82.1%

24<sup>th</sup> May – 9<sup>th</sup> June 2003 386 Hours

The analyser was turned off due to an air conditioning fault.
2.3.3 Hackney

2.3.3.1 Nitrogen Oxides 84.5%
2nd April – 24th April 2003 235 Hours
The air conditioning unit malfunctioned leading to increased temperatures inside the monitoring cabin, triggering an alarm on the analyser. This data was excluded from the data set.
24th April – 26th April 50 Hours
A power cut led to no data being recorded.

2.3.4 Hounslow Roadside / Brentford Roadside

Brentford Roadside has been affiliated in place of Hounslow Roadside which was housed in a local authority building that is now due to be sold. This has necessitated its relocation to a cabin at the roadside of the A4 adjacent to the M4 flyover, outside the building where the previous monitoring equipment was housed. The sample inlet is approximately 10 metres closer to the kerb than the previous site. Data was affiliated from 20th June 2003.

2.3.5 Southwark Roadside

2.3.5.1 Carbon Monoxide 14.9%
16th April – 31st June 2003 1827 Hours
The infrared source has malfunctioned. The ESU are unable to source a replacement part due to the age and make of the analyzer. Funds for a replacement unit are being sort by the Local Authority.