

**Evaluation of the First Round of the Local  
Air Quality Management Process**

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## **Report for DEFRA and the Devolved Administrations**

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## Contents

	<b>Executive Summary</b>	<b>3</b>
<b>1</b>	<b>Introduction: Aims and Objectives of the Evaluation Project</b>	<b>4</b>
<b>2</b>	<b>Evaluation Methodology</b>	<b>6</b>
<b>3</b>	<b>Review of Procedures and Tools</b>	<b>8</b>
<b>4</b>	<b>Evaluation Outcomes: Seminar</b>	<b>12</b>
<b>5</b>	<b>Evaluation Outcomes: Workshop</b>	<b>17</b>
<b>6</b>	<b>Evaluation and Discussion</b>	<b>20</b>
<b>7</b>	<b>Recommendations Arising from Evaluation</b>	<b>24</b>
<b>List of Tables</b>		
<b>Table 1:</b>	<b>Recommendations</b>	<b>24</b>
<b>List of Figures</b>		
<b>Figure 1:</b>	<b>Reports Received per Month of First Round of Review and Assessment</b>	<b>9</b>
<b>Figure 2:</b>	<b>Use of Support Mechanisms Supplied by Central Government</b>	<b>10</b>

**Appendices (in separate document)**

- Appendix 1:** Invitees to Seminar 23 November 2001
- Appendix 2:** Delegates to Seminar 23 November 2001
- Appendix 3:** Agenda for Seminar 23 November 2001
- Appendix 4:** Agenda for Workshop 28 January 2002
- Appendix 5:** Delegates to Workshop 28 January 2002
- Appendix 6:** Elements of LAQM that Worked Well and Those that Could be Improved Upon
- Appendix 7:** Background to the Review and Assessment Process
- Appendix 8:** Issues Raised During Seminar
- Appendix 9:** Issues Raised During Workshop
- Appendix 10:** Suggestions Arising During the Consultation Process

**List of Tables (in Appendix 7)**

- Table 1** Numbers of Authorities Completing the First Round of Review and Assessment and Numbers of Reports Submitted by Various DEFRA/DAs Deadlines.
- Table 2** Numbers of Local Authorities with AQMAs Declared and Proposed Within Stage 3 Reports at Each of the Deadlines Imposed by DEFRA/DAs
- Table 3** Local Authorities Intending to Proceed to Stage 2/3 Specified as Pollutant (as of December 2001)
- Table 4** Percentage of Reports Accepted by the Appraisers, by Pollutant (as of December 2001)

**List of Figures (in Appendix 7)**

- Figure 1:** Number of Helpdesk Queries by Stage and Pollutant
- Figure 2:** Number of Helpdesk Queries in Different Categories

## Executive Summary

- 1 A detailed evaluation of the first round of air quality Review and Assessment has been carried out. The primary aim of this evaluation is to inform the development of the next round of Review and Assessment.
- 2 A review of the procedures involved in the Review and Assessment process and the tools made available to assist Local Authorities is provided as background to the evaluation. The evaluation itself has been informed by two consultation exercises attended by air quality practitioners representing the Department for Environment, Food and Rural Affairs (DEFRA); the Devolved Administrations (DAs); the Greater London Authority (GLA); Local Authorities; Government Agencies; non-Governmental organisations; and consultants. Over one-hundred people have participated in the consultation exercises and detailed notes have been produced on the issues raised.
- 3 The consultation exercises have been supplemented by written submissions, with participants identifying those aspects of the process that they thought worked well and those that could usefully be improved upon.
- 4 Over 50 suggestions for the future of Review and Assessment have been distilled from the consultation exercises. These have been carefully evaluated leading to 32 recommendations for the next round and beyond. These cover the structure and timescale of the next round, the reinforcement of air quality within local Government, funding, and various detailed points about the process, as well as recommendations for matters to be taken up in the guidance for the next round.
- 5 A key recommendation is to carry out the next round in two steps
  - an *Updating and Screening Assessment*;
  - a *Detailed Assessment* of those pollutants and/or locations identified as requiring further work

The *Updating and Screening Assessment* should start when the Guidance is published and be completed within 3 months. The *Detailed Assessment* should be finished within 12 months of the start of the next round. The aim should be to have guidance ready by the end of 2002 to allow the next round to be completed by the end of 2003.

## 1. Introduction

- 1.1 In September 2001 Air Quality Consultants Ltd, in co-operation with the Air Quality Management Resource Centre of the University of the West of England (UWE), Bristol, was awarded a contract to carry out an evaluation of the first round of the Air Quality Review and Assessment process. Reviews and Assessments of air quality are a requirement of the local air quality management (LAQM) regime established under the Environment Act 1995. They are to be carried out by all district level and unitary Local Authorities in the UK. The first round of the Review and Assessment process is nearing completion and the Department for Environment, Food and Rural Affairs (DEFRA), and the Devolved Administrations (DAs) consider it an appropriate point in time to evaluate the process, in order to establish those elements that worked well and those that could be improved upon, with a view to informing the conduct of the next round, which is due for completion in 2003.
- 1.2 DEFRA and the DAs identified the main aims of the work to be:
- to compare the anticipation of the first round air quality Review and Assessment process with the final outcomes of the process and to evaluate the differences; and
  - to inform the second round of the air quality Review and Assessment process – by providing recommendations for amendments to the way the Review and Assessment process itself is carried out and by suggesting revisions to the statutory LAQM technical guidance.
- 1.3 The first part of the work was to involve six tasks:
- a review of the evolution of the National Air Quality Strategy (NAQS), 1997;
  - a statistical evaluation of the NAQS outcomes;
  - a review of the evolution of the Air Quality Strategy (AQS), 2000, and specific tools;
  - a statistical evaluation of the AQS outcomes;
  - a consideration of the wider tools and support mechanisms;
  - an evaluation of the appraisal checklist outcomes.
- This component of the project is reported in Chapter 3.
- 1.4 The main element of the work was to be focussed on putting forward recommendations for the second round of the Review and Assessment process, based on the lessons learnt from the first round. This was to be guided by the findings of a

consultation exercise, carried out by way of two participatory events designed to obtain feedback from practitioners in the first round of the LAQM process. The consultation outcomes are reported in Chapters 4-5, while the lessons learnt and recommendations arising from the evaluation are set out in Chapters 6 and 7.

## 2. Evaluation Methodology

- 2.1 The evaluation commenced with an examination of published reports and papers dealing with aspects of the LAQM process, together with the official documentation provided by DEFRA and the DAs to support the first round of Review and Assessment. In addition, the database maintained under the AQC/UWE contract to appraise Review and Assessment reports, has been used to generate statistics concerning: a) completion of the first round of Review and Assessment; b) Air Quality Management Areas (AQMAS) declared; c) pollutants being taken to various stages of the process; and d) acceptance of the Reports at each stage of the process. A collation of Helpdesk queries was undertaken using a 10% sample (every 10<sup>th</sup> query in the log). In addition, information has been taken from questionnaire surveys undertaken at UWE of all Local Authorities classified as urban<sup>1</sup>.
- 2.2 The consultation exercise consisted of two events a “Seminar” held at a DEFRA’s Ashdown House in London on 23rd November 2001 and a “Workshop” held at Birmingham City Council on 28th January 2002.
- 2.3 The seminar attendees consisted of 39 people specifically invited from:
- DEFRA , the Devolved Administrations and the GLA;
  - Government agencies;
  - The Helpdesks;
  - Organisations involved in the development of air quality science and policy (The Met Office, TRL, The National Society for Clean Air and Environmental Protection (NSCA));
  - Consultants who have undertaken significant work in Review and Assessment;
  - A number of Local Authorities.
- Invitees to the seminar and those who actually attended are listed in the appendices (Appendix 1 and Appendix 2).
- 2.4 The seminar was divided into two sections. In the morning an introduction to the aims and objectives of the evaluation project (especially with regard to future guidance) was given by DEFRA and the evaluation team, followed by presentations from three

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<sup>1</sup> For more information about air quality management research at UWE, see [www.uwe.ac.uk/aqm/research](http://www.uwe.ac.uk/aqm/research)



Local Authorities describing their experiences of the process. After lunch the attendees were divided into four ‘breakout groups’, each provided with a facilitator. These groups spent the afternoon discussing what they considered to be the main good points of the Review and Assessment process which should be kept/given further support, and those that could be done better next time. At the end of this session each group reported back on those points they considered to be the most important. The agenda for the seminar is included in Appendix 3.

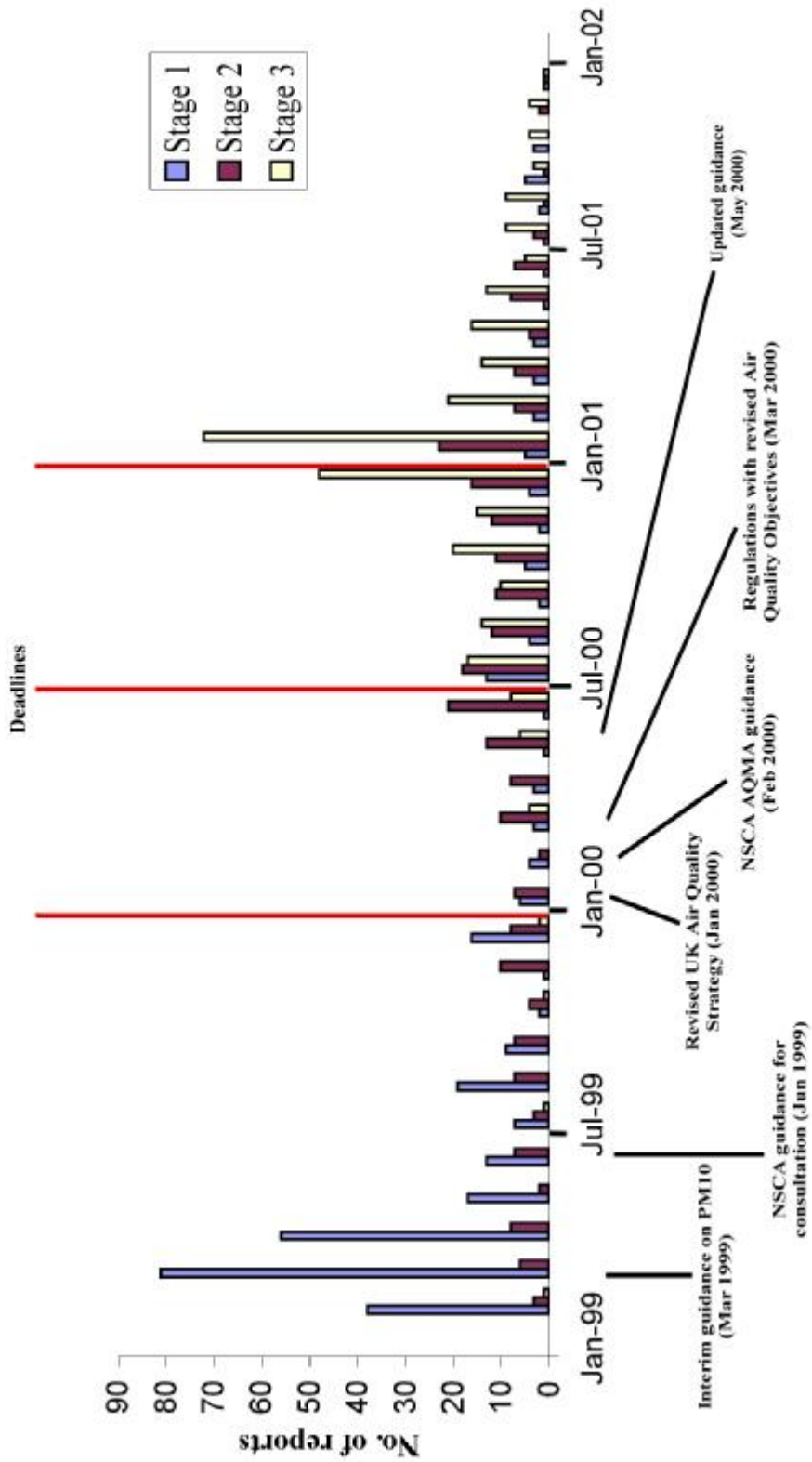
- 2.5 The workshop in January was organised with a similar framework, adjusted slightly based on experiences of the seminar (the agenda for the workshop can be found in Appendix 4). The event was widely advertised through the NSCA and Chartered Institute of Environmental Health (CIEH). A list of delegates is included in Appendix 5. Of 86 delegates (including speakers and the evaluation team) over half were from Local Authorities (53). The morning session consisted of presentations by DEFRA, the evaluation team and representatives of the Helpdesks. The breakout groups were established before lunch in order to spend time outlining what they saw as the main problems that they had experienced during the Review and Assessment process. Following lunch, the groups continued these separate sessions but were instructed to focus on possible solutions to the problems they had identified earlier. At the end of the afternoon each group’s facilitator then reported the main discussion points back to the whole workshop.
- 2.6 In addition to the workshop and seminar, all Local Authorities were given the opportunity to contact the evaluation team separately and provide them with a list of what they perceived to be five elements that worked well and those that could be improved upon, relating to the Review and Assessment process. A summary of these has been included in the appendices (Appendix 6).
- 2.7 The structure of the events enabled the evaluation team to observe discussions in each of the breakout groups. Invited facilitators were used so that the evaluation team could concentrate on recording the discussions.
- 2.8 The flipcharts and acetates generated by the discussion groups, together with the detailed notes taken by the evaluation team at these events, have been synthesised and are reported in Chapters 4 and 5.

### 3. Review of Procedures and Tools

- 3.1 The initial responsibility of Local Authorities under the Environment Act Part IV (Air Quality) is to carry out a Review and Assessment of air quality in their area. The timeframe for the first round of Review and Assessment, and key events influencing it, is presented in Figure 1. The process started at the beginning of 1998, but has taken longer than originally anticipated. Deadlines were changed on two occasions. By the final deadline of December 2000, 75% of Local Authorities had completed the process (including reports received to the end of January 2001 in Figure 1). This rose to 98% completed by end of 2001, leaving 2% of authorities still to complete after 4 years of Review and Assessment. Government imposed deadlines do help bring about Local Authority activity, as illustrated in Figure 1. The December 2000 deadline in particular produced a marked increase in the number of reports submitted to DEFRA and the DAs. This suggests that deadlines carefully calibrated to the work required of local authorities are most likely to be effective. Further details of the implementation of Review and Assessment can be found in Appendix 7.
- 3.2 It was initially anticipated that many (particularly rural) authorities would not proceed further than a Stage 1 assessment and that only large metropolitan areas and cities would be likely to declare AQMAs<sup>2</sup>. It was not anticipated therefore that the majority of Local Authorities would require a Stage 3 assessment. In the event, 71% of Local Authorities (excluding Northern Ireland, which is operating to a different timetable) proceeded to a Stage 3 assessment. The pollutants causing greatest challenges were initially anticipated to be nitrogen dioxide and PM<sub>10</sub>, although the level to which the annual mean nitrogen dioxide objective is now predicted to be exceeded was never anticipated. Road transport has long been recognised as a major contributor to air quality problems and it is thus no surprise that the vast majority of AQMAs are related to locations affected by road traffic.

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<sup>2</sup> Bartlett, T.; Brown, T.; McDonald, T.; Price, F. (1997) Local Authority Progress in Air Quality Management. Clean Air 27 (4) p97 - 98

**Figure 1: Reports received per month of first round of review and assessment**

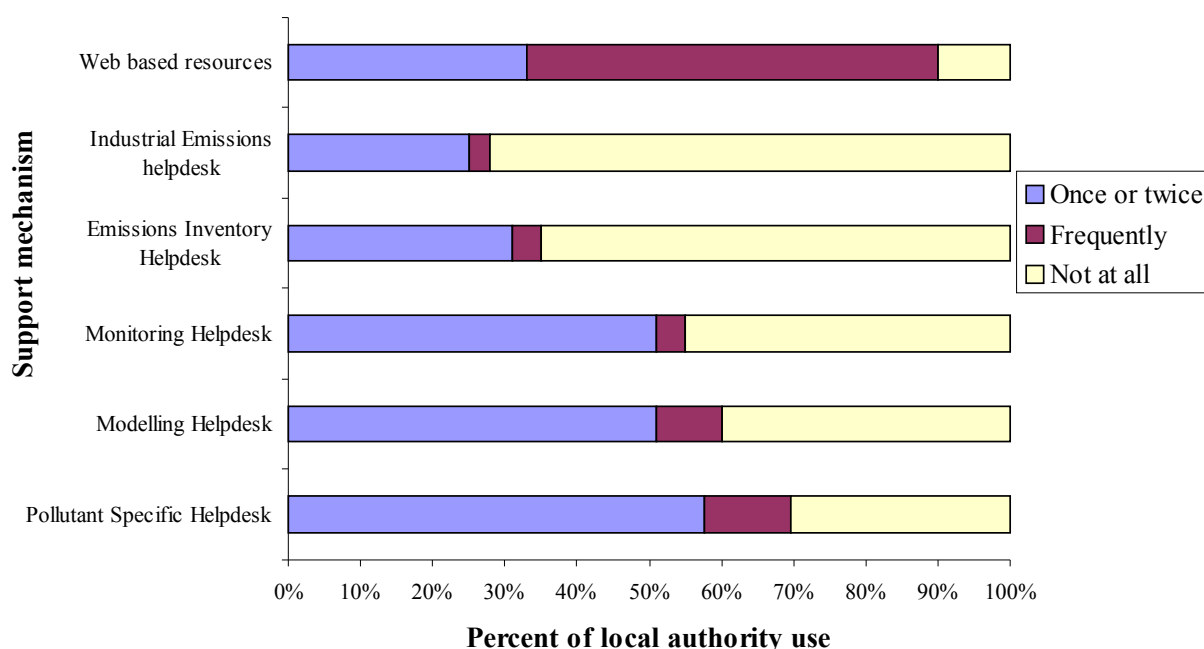


### Support Mechanisms for Review and Assessment

3.3 Following publication of the NAQS in March 1997, Local Authorities expressed concern about the lack of necessary tools or indeed expertise to undertake their LAQM responsibilities effectively. Central Government responded by making available national resources, which Local Authorities could draw upon. Resources included specific guidance documents; internet based information including monitoring data; emissions inventories; and telephone and email Helpdesks. Details of support mechanisms are covered in Appendix 7.

3.4 The use of the various tools provided to support the Review and Assessment process is summarised in Figure 2, based on questionnaire surveys undertaken at UWE<sup>3</sup>.

**Figure 2:** Use of Support Mechanisms Supplied by Central Government



3.5 The Review and Assessment Helpdesk has been well utilised by Local Authorities. The majority of queries during the first round were about nitrogen dioxide, especially

<sup>3</sup> Note that the questionnaires involve urban Local Authorities only.

during Stage 3 (Appendix 7, Figures 1 & 2). This is not surprising, as it is the pollutant for which most AQMAs have been declared.

### **Evaluation of Appraisal Checklist Outcomes**

- 3.6 A significant proportion, 22%, of Review and Assessment reports were not accepted by the appraisal process for a range of reasons. Some were minor issues, including not making clear whether any attempt had been made to identify solid-fuel or fuel-oil combustion sources >5 MWt or sources of fugitive PM<sub>10</sub>. Others were more serious including not validating the modelling or the diffusion tube data, or not considering road junctions. In many cases these concerns were relatively easily clarified by Local Authorities in further correspondence. However, in a small number of cases, further work was required to clear up the difficulties, occasionally leading to a rewriting of the report following further analysis. The feedback from the appraisal process should therefore have helped Local Authority understanding of air quality in their area. It should also have helped ensure consistency in the standard of evidence required to support the decision made.

## 4. Evaluation Outcomes: Seminar

- 4.1 The structure of the consultation seminar is shown in Appendix 3. The following section summarises the discussion points and conclusions reached by the working groups on the day. A more detailed listing of points raised is provided in Appendix 8. The topics dealt with have been structured under ten headings. The discussion and reporting was held under Chatham House rules. It should be emphasised that **no judgements** on the points raised are made in this Chapter.

### Timescales and Goalposts

- 4.2 Problems with delays in guidance, changes in objectives and ‘unrealistic’ timescales were considered by many to be the major problems with the Review and Assessment process to date. Associated with this was the failure of the Review and Assessment process to synchronise with Unitary Development Plans (UDPs), Local Plans (LPs), Local Transport Plans (LTPs) etc., or with the Local Authorities budget cycle. There was a strongly expressed desire for clear timescales to be established for the next round, based on the date new guidance is issued.

### Guidance

- 4.3 TG4(00) was generally held to be very useful and the most helpful of the guidance documents. The main reason for this was that it was considered to be more prescriptive and directional than the other documents. Whilst many attendees asked for more prescriptive guidance in the future, it was clear that there were some areas where this may be feasible/suitable and some where it is not. Areas where procedure should be specified more clearly included monitoring quality assurance/quality control (QA/QC), emission factors, meteorological data (year to be used) and modelling resolution. It was felt by some that much of the guidance was focussed too strongly on traffic and there was a need to deal in greater detail with other issues such as industrial sources, sea salt, solid fuel/domestic sources, fugitive emissions and SO<sub>2</sub> and small boilers. Other areas where guidance was seen as inadequate or where further guidance would be helpful included conversion factors for PM<sub>10</sub> monitoring devices, use of the precautionary principle, declaration of whole boroughs as AQMAs and how to address new planning applications within AQMAs.

- 4.4 In the event of new guidance (and the next phase) being delayed it was suggested that interim ‘good practice’ guidance could be issued describing the sort of tasks that Environmental Health professionals in Local Authorities should be routinely attending to such as gathering and managing data efficiently, and building links with planners and transport departments so that they can ‘hit the ground running’ at the onset of the second phase.

### **Resources**

- 4.5 Many Local Authorities felt that there were inadequate resources available for what was (for many) an expensive exercise. Although Supplementary Credit Approvals (SCAs) were acknowledged as useful in England (an unrelated but similar scheme, Specific Capital Consent, operates in Scotland) not all Local Authorities were successful in obtaining them and some ‘debt-free’ councils were simply unable to apply. There were also timing problems with applying for SCA funds. The provision of funds through the Revenue Support Grant had not been made clear enough and although the money could not be ring-fenced it was felt that DEFRA should provide information for Environmental Health professionals in Local Authorities to allow them a better chance of securing these funds from their finance departments.

### **Helpdesks and Web sites**

- 4.6 The Helpdesks were generally seen as very useful resources although in some cases they were not used enough (possibly due to lack of advertising/promotion). Web sites were seen as a positive introduction, particularly FAQs and checklists. It was felt that the web sites could be expanded. Suggestions for this included: Mechanisms to flag up changes since previous visits, discussion pages, links to (new) datasets (e.g. detailed traffic info, Part A/B processes, boilers), ongoing research including small-scale research by Local Authorities. The services provided by the Review and Assessment Helpdesk in particular were viewed positively by the attendees.

### **Reports**

- 4.7 Some delegates thought that a standard framework for reports should be provided to make outcomes and approaches more easily comparable. It was considered that many reports wasted space by including national information rather than just focussing on the local issues (but this may have been necessary, as many local readers of the report are unlikely to be aware of the national context). The possibility of producing differing reports for different audiences (DEFRA/Appraisers, Council, general public etc) was briefly considered.

### **Co-ordination and Co-operation**

- 4.8 Another major problem encountered by many Local Authorities during the first phase of Review and Assessment was regarding co-operation and co-ordination of their efforts. Before detailing the problems, it must be stated that co-operation between Environmental Health professionals in different Local Authorities and the formation of regional groupings did work very well and this was one of the strongest positives to come out of the seminar. It was suggested that in the next round this could be encouraged (possibly financially?).
- 4.9 Beyond Environmental Health professionals within Local Authorities, communication and understanding appears to have been harder to accomplish. Whilst one of the strong points of the LAQM process has been that it has put air quality on the agenda, it can be argued that this is only regarding the agenda of Environmental Health departments. Overall there seemed to be little interest in the process from outside Environmental Health departments, principally in the context of the Planning and Transport departments, Chief Officers, and the Highways Agency (HA). Many attempts to provide planning/transport departments with air quality information led to the information being quickly redirected to Environmental Health departments because it was seen as exclusively their remit. It was therefore seen as important that these groups were approached from within their own hierarchies in order to put air quality on their agenda as well. The performance of the Highways Agency to date was critically commented upon and little prospect of improvement was identified. In contrast, the support provided by the Environment Agency was viewed positively. It should be pointed out that neither of these Agencies has a role in Scotland.
- 4.10 Another area where it seemed that co-operation was insufficient was with local Health Authorities. Whilst there was little in the process that required their direct involvement, it was acknowledged that as the desired endpoint of improved air quality was mainly in terms of health improvements, this would be beneficial. The imminent splintering of Health Authorities was seen as not boding well regarding this though.

### **Action Plans**

- 4.11 Action Plans were held by a number of delegates to be the key to LAQM after a frustrating amount of time carrying out Stages 1 to 3 (seen by one person as “wasted time drawing lines on maps”). There was seen to be a need to deal with strategies over areas greater than single Local Authorities, and here regional groupings were seen as a major bonus. Overall though there was felt to be a lack of discussion and



guidance regarding Action Plans and that a Helpdesk would be useful (A Helpdesk was set up in February 2002, hosted by Casella Stanger). It was seen as important that any guidance on Action Plans included feedback from activities such as the research program, TRAMAQ, supported by the Department for Transport, Local Government and the Regions (DTLR)<sup>4</sup>.

### **Data Availability**

- 4.12 The widespread difficulties in obtaining the data necessary for Review and Assessment (in a usable form) were broadly unforeseen. The key datasets that were hard to obtain were for Part A and B processes, non-prescribed sources (such as boilers and domestic sources), traffic data (flows, speeds and vehicle mix), and suitable meteorological data (from a suitable site and covering all parameters necessary for dispersion modelling). In order to deal with the registered processes it was suggested that a national register (with web access) should be set up. There was also a need seen for guidance on appropriate methodologies for locating, investigating or estimating the importance of non-prescribed sources.
- 4.13 Problems with obtaining traffic data generally seemed to stem from a lack of understanding and unwillingness to actively participate on the part of other council departments and the Highways Agency. There was a general feeling that DEFRA/DTLR should approach these groups in order to educate them regarding their roles in LAQM. With regard to meteorological data, the future looked bleak due to the current program of closing meteorological observation stations or replacing them with automated sites that cannot provide cloud cover readings.

### **Pros and Cons of LAQM in General**

- 4.14 The development of the LAQM process was welcomed and largely seen as beneficial. The key points were that air quality had been clearly put on the agenda (although the agendas were limited and it is still fairly low down), a vast increase in the knowledge-base and scientific understanding of air pollution in the UK, the taking on board of local ownership of many air quality problems and the formation of formal and informal groups across and between councils and other institutions.
- 4.15 On the downside though, LAQM was seen to clash with other policies, such as urban regeneration and economic growth. Some felt that too much emphasis was put on

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<sup>4</sup> Details of projects available at <http://www.roads.dtlr.gov.uk/roadnetwork/research/compend/2001/>

analysis and too little on action. The need for councils to take ownership of the process was not emphasised enough and so many left much of the process to consultants. This led to problems regarding the in-house development of expertise for tackling the second round. Comments were also made about the fact that dealing with air quality at the local level led to lots of work being duplicated and meant that there was a great deal of inconsistency in how problems were assessed or dealt with.

### **Next Round**

- 4.16 There was a general optimism about the next round of Review and Assessment (at least with regard to those councils who had developed in house expertise and held on to it). It was hoped that DEFRA and the DAs would be able to issue guidance on time and set out a timetable which would be based on the date of its issue. There was considerable (but inconclusive) debate regarding whether the next round should contain three stages, with many feeling that to go back to Stage 1 would lead to repetition. Others pointed out that new pollutants were likely to be added and that new developments or processes may have taken place that would require initial screening.
- 4.17 It was seen as important that a full timescale should be laid out for the continuing programmes as soon as possible – along with an indication of what target years were to be covered in which rounds. It was suggested that a clear name for the next round/phase of the Review and Assessment process should be determined as soon as possible.

### **Conclusions**

- 4.18 Overall, feedback at the seminar was well-focussed and concerned specific issues and problems with the LAQM process, with little criticism of the general principles involved. Despite the number of difficulties that have been encountered, it is clear that knowledge and understanding of air pollution in the UK has developed considerably over the last five years. The evaluation process will be able to provide essential feedback into the ongoing LAQM process allowing many of the problems that have arisen to be resolved in the next phases.

## 5. Evaluation Outcomes: Workshop

- 5.1 As may have been expected, the majority of the outcomes from the January Evaluation workshop covered the same main topics as those from the November seminar. There were however some new issues raised, different perspectives given and also a slightly different attitude prevalent. Whereas the November seminar had included a majority of attendees from organisations involved in the structure of the Review and Assessment process, the majority of delegates at the January workshop were from Local Authorities. This seemed to contribute to a lesser feeling of ownership of the process amongst the delegates, and although problems were identified there appeared less enthusiasm to suggest solutions.
- 5.2 This Chapter briefly describes the main issues raised at the workshop, with particular regard to those arising from this different perspective. Again, a detailed list of comments is included in the appendices (Appendix 9). It should be emphasised that **no judgements** on the points raised are made in this Chapter

### Process

- 5.3 Overall the Review and Assessment process was held to have been beneficial in terms of increasing knowledge of air quality, providing a basis from which air quality issues can affect planning applications, UDPs, LTPs etc although it was generally acknowledged that understanding of air quality was still very much limited to environmental health departments. The structure of the process was also seen as good in that it allowed a gradual development of expertise and didn't commit all councils to a very intensive detailed process. A significant problem was identified as the political pressure on a council to declare or not to declare. Making the process more prescriptive was seen to be a way to reduce this problem.

### Resources/Awareness

- 5.4 There was a general need seen for air quality to be taken more seriously outside environmental health departments, whether this was due to targeting information/guidance at planners, transport planners, members etc., making it clear that money was available (in Revenue Support Grants etc) or by making the air quality strategies a statutory requirement (as with contaminated land).

- 5.5 It was also felt that, whilst money was already available in some form, that this wasn't enough or necessarily readily accessible. Lack of awareness of the nature of the Review and Assessment process seemed to be behind many of the issues regarding difficult relationships with other bodies such as County Councils and the Highways Agency. Regional groupings were generally seen to be helpful on a number of levels, including sharing costs, exchanging views and co-ordinating approaches to external bodies.

### **Next Round**

- 5.6 It was generally held that things would be easier during the next round although no consistent view was forthcoming on what form it should take. Views included that it should remain a three stage process, that it should be a single report, that it should contain a simple checklist to determine what further work was required or that it should be radically different in order to avoid dull repetition. There was a strong desire for objectives and timescales to be fixed as early as possible and also to encourage a long-term view (e.g. by incorporating 2010 objectives before the next round). It was suggested that timing be more thought out this time round with respect to Local Authority budget cycles, the issue of guidance and UDPs and LTPs. The need for public consultation at every stage was seen to be unnecessary, as it was perceived that nothing useful was gained from consulting on a technical report. It was widely held that public consultation should be held back until action was proposed (e.g. declaring AQMAs or creating Action Plans).

### **Data Requirements**

- 5.7 Obtaining usable data was again seen as a major stumbling block. Meteorological data was seen as massively over-priced and many thought that DEFRA should come to an arrangement with the Met Office over this. The lack of suitable meteorological stations (and their constant decrease) was also seen as a threat to future air quality work. It was considered important for DEFRA to brief the HA and Environment Agency (EA) on what information they should be providing for the councils. Concern was expressed at a lack of information regarding a number of pollution sources, especially road junctions and fugitive PM<sub>10</sub> sources. It was also thought that minimum standards for model input data and for monitoring should be specified.

### **Guidance**

- 5.8 The structure and intention of guidance was welcomed with TG4(00) identified as the best example with the others held to be a bit too vague. It was generally seen more important for the guidance to be issued promptly than for it to be consulted (extensively) on. There was a desire for further guidance on which options to select from the range available. This would incorporate further information on fugitive sources, industrial processes in general (possibly providing some sort of industrial emission proforma). There was a need for guidance to be created for non environmental health audiences (especially transport planners).

### **Modelling**

- 5.9 Modelling was generally seen as being very inconsistent. This was largely due to variations in the source data used, in the model used and in the output (e.g. model resolution). Some thought that more prescriptiveness was required about the use of models, beginning with which models were approved (DEFRA endorse noise models so why not pollution ones) and could also include input data sources/quality and model resolution. In many cases modelling had to be carried out where the model or available traffic data was seen to be wholly inadequate. It was suggested in these cases that there should be a let-out clause permitting (temporary?) inaction.

### **Planning**

- 5.10 It was generally felt that more effort needed to be made by DEFRA/DTLR to get planners to actively participate in the air quality process. The suggestion in the English Local Government White Paper *"Strong Local Leadership - Quality Public Services"* that Air Quality Action Plans might be merged into LTPs was generally seen favourably. It was deemed a matter of urgency to get PPG23 released. There was seen to be a need to codify the processes for balancing different priorities (e.g. air quality, transport, economic development and regeneration).

### **Summary**

- 5.11 Overall, there was a feeling that the best had been made of a difficult process. It was accepted that things were likely to become easier during the next round but although air quality had been put firmly on the environmental health agenda many of the issues raised regarded a lack of understanding from other parties (HA, transport planners etc) or things moving in the opposite direction (e.g. meteorological stations being closed or automated). Part of this was attributed to the lack of a long-term framework for LAQM.

## 6. Evaluation and Discussion

- 6.1 The findings of the evaluation study are brought together and critically evaluated in this Chapter. The discussion is confined to those issues perceived to be key to the process, with detailed proposals for the way forward presented in Chapter 7. Other issues raised during the consultation are set out in Appendices 6, 8 and 9, while suggestions arising out of the consultation are set out and evaluated in Appendix 10.

### **Review & Assessment Process**

- 6.2 The Environment Act 1995 and subsequent Regulations have resulted in a major change in the way air quality is assessed and managed in the UK. The introduction of LAQM has devolved important responsibilities down to the Local Authority level. It has been a learning process for all stakeholders; from Government agencies to Local Authorities and the consultancies who have supported them. Many of the participants in the process have cited the greater understanding and wider dissemination of knowledge about air quality as being a key benefit. All stakeholders are now in a better position to integrate air quality into wider local policy areas. For example, air quality is now being treated as a material, and therefore important, element in many planning decisions.
- 6.3 The provision of the Helpdesks funded by DEFRA/DAs has been identified by the Local Authorities to be a very valuable contribution to the process, as has the provision of guidance documents, in particular the Pollutant Specific Guidance (LAQM.TG4(00)). The Appraisal process has also provided critically constructive feedback to the Local Authorities, which in most cases has been welcomed.
- 6.4 Where concerns have been identified, they have largely been about the details of implementation and not the Review and Assessment process itself. The principal concerns have been about the late provision of guidance and changes in objectives. This led to delays in completion of the first round of Review and Assessment, and the need to extend the deadline for submissions on several occasions (see Chapter 3 and Figure 1). There may have been unrealistic expectations from DEFRA/DAs as to the amount of work required and the time needed to undertake it, as well as the learning necessary by all parties. There have also been instances where insufficient time and resources have been made available by Local Authorities to meet even the extended

timescales. It is certainly expected that the next round will be achievable in a much shorter timescale. This should reduce the opportunity for new information and understanding to evolve, which might require changes to guidance, objectives etc..

- 6.5 The challenge now is to move forward from the ‘discovery’ phase of the first round of Review and Assessment to the ‘routine integration’ of Review and Assessment into the work of the Local Authorities. This next phase needs to be seen as an updating of what has gone before. The first round of Review and Assessment was seen by some to be fairly onerous, with the production of three or more reports, potentially with consultation on each. Local Authorities should not see the second round in the same light. One way to ensure this will be to change the format for reporting and emphasise that the second round will be an updating exercise, not a repetition of the first round. This should allow the next round of Review and Assessment to be compressed into a shorter period.
- 6.6 The three-stage process used in the first round had the benefit of focussing effort onto those pollutants that were most likely to exceed the objectives. There were, however, limitations, in particular related to Stages 1 and 2. The initial guidance for Review and Assessment LAQM.TG4(98) was in a number of respects too precautionary, leading to some unnecessary assessment work at Stages 2 and 3. This was addressed to a large extent in the revised guidance, LAQM.TG4(00), issued in May 2000, which provided improved screening tools for the Stage 1 assessments.
- 6.7 It would be sensible to retain the concept of the staged approach during the next round, but to commence with a simple updating exercise. The next round would thus fall into two separate steps:
1. an updating of basic information, which may require a screening assessment of certain sources, which may lead to
  2. a detailed assessment of certain sources.
- 6.8 The updating will need to address those matters that have changed since the first round. Local Authorities will have to take account of:
- new or revised objectives;
  - revised guidance;
  - changed local circumstances.
- The changes to the objectives are expected to be those for carbon monoxide, which will be so small as to not require a new assessment, and benzene, which is more

substantial and is likely, in many cases, to require a screening assessment. There may also be changes for PM<sub>10</sub>, dependent on the decisions about new objectives. The revised guidance may also focus attention for some authorities on narrow congested streets with exposure close to the kerb, as these situations were not considered during the first round. This could lead to some authorities having to carry out further detailed assessment work for nitrogen dioxide.

- 6.9 Looking beyond the next round of Review and Assessment, it is considered important that a longer-term vision be developed. The process is currently seen to be too stop-start, with most Local Authorities completing their first round then doing little for several years until the next round. This does not help to integrate LAQM into the routine work of Local Authorities. Thus beyond the next round of Review and Assessment, which has already been announced, it may be appropriate to move towards a system of a yearly updating of the Review and Assessment by the Local Authority. Although this suggestion was proposed and supported at the Workshop, it should be tested more widely through a consultation exercise before a decision is made.

### **Guidance**

- 6.10 It is clear from the evaluation exercise, that stakeholders would welcome a greater degree of prescription in carrying out reviews and assessments. It is also clear that of the four technical guidance documents, the approach taken in LAQM.TG4(00) was preferred. This document was already moving towards a more prescriptive approach compared with the earlier version (LAQM.TG4(98)), including a greater use of nomograms. It would clearly be appropriate to continue this trend and provide more tools to assist with the assessment. The provision of computer based tools is seen within Local Authorities as particularly beneficial, with the best example being the provision of the Stanger spreadsheet version of the DMRB for road traffic calculations.
- 6.11 Worked examples in the guidance were welcomed. They explained clearly how to carry out some of the more complicated steps in the assessment. Those in LAQM.TG4(00) did not, however, cover the detailed Stage 3 work. More worked examples covering some of the detailed elements of Stage 3 type assessments should be provided. The provision of a range of completed Stage 3 reports on the Review and Assessment web site has, in part, served this role. But this is not a substitute for worked examples. It has become apparent that an extremely wide range of approaches



has been applied to Stage 3 assessments, and this inevitably leads to potential differences in results and concerns about consistency from one area to another. While it is not considered appropriate to constrain Local Authorities in their choice of approach to detailed assessments, it is considered appropriate to provide clear guidance as to those elements that need to be addressed to ensure a sufficiently accurate outcome.

- 6.12 In a number of cases during the first round, the Stage 3 assessment covered a very large geographical area, with modelling often extending to a whole Local Authority. This approach is not suited to the focus of LAQM, which is on the identification of hot-spots. Large-area modelling does not provide the spatial resolution necessary to identify hot-spots clearly, and thus does not make best use of limited Local Authority resources. The next round should emphasise the identification of hot-spots. This will be helped by setting out the required spatial resolution of modelling, which generally should be down to the order of a few metres.
- 6.13 An important element of assistance for Local Authorities during the first round was that provided by the Helpdesks. These were well used by some authorities, but it is considered that all authorities would benefit from making greater use of the Helpdesks. This would minimise concerns arising during the appraisals carried out by DEFRA/DAs after the report has been completed. It should also help ensure consistency. It would thus be appropriate for DEFRA/DAs to encourage the greater use of the Helpdesks.

## 7. Recommendations Arising from the Evaluation

7.1 This Chapter provides a consolidated set of recommendations to DEFRA and the DAs, designed to take the LAQM Review & Assessment process forward into the next round and beyond. These recommendations arise from a careful consideration of the suggestions arising from the Workshop and Seminar, as summarised in Appendix 10, taking account of an analysis of their benefits and the constraints involved in their implementation. The recommendations and their ranking arise from the professional judgement of the evaluation team. For each recommendation, an indication of its importance to the process is provided, together with a priority for taking the item forward. Two categories are used in each case, ‘high’ and ‘medium’. An indication of the appropriate timescale is also provided: ‘short’ implies within the next few months, ‘medium’ means by the end of 2002 and ‘long’ indicates between 6 and 18 months. Each recommendation is linked, where appropriate, to the suggestions as set out in Appendix 10.

**Table 1** Recommendations

	Recommendations	Importance	Priority	Timescale
<b>Process</b>				
1	<b>Structure of Next Round of Review and Assessment</b>			
1a	<p>The next round should be carried out in two steps.</p> <ul style="list-style-type: none"> <li>▪ An <i>Updating and Screening Assessment</i> based on a checklist to identify those matters that have changed and may require further assessment. This should review new monitoring data, new objectives, local changes etc., with the assessment using nomograms and similar tools.</li> <li>▪ A <i>Detailed Assessment</i> of those pollutants and/or locations that have been identified as requiring further work.</li> </ul> <p style="text-align: right;">(Suggestions 2; 3; 4; 27; 31; 46)</p>	High	High	Short

	Recommendations	Importance	Priority	Timescale
1b	Local Authorities should consult on the <i>Updating and Screening Assessment Report</i> in accordance with the statutory requirements under schedule 11 of the Environment Act. There may, however, be limited benefits from consulting widely at this stage, although the report should be made readily available to members of the public and others.  The <i>Detailed Assessment Report</i> should be subject to a full consultation exercise as carried out during the first round. This is because the decision to declare or not declare an AQMA is an important one.  (Suggestion 7)	High	High	Short
2	<b>Timescale for Next Round</b>			
2a	The Updating Exercise and Screening Assessment should be easy to complete and it is recommended that a 3-month time limit be put on the submission of the Updating and Screening Assessment Report. For many authorities, this will be sufficient to complete the next round.  The Detailed Assessment should then be completed within 12 months of the start of the next round. This will allow 6-9 months for any additional monitoring/modelling.  (Suggestion 1)	High	High	Short
2b	The guidance for the next round should be issued electronically on the web as well as in hard copy.  The start of the next round should be from the date the final guidance document is issued (on the web).  (Suggestions 10; 42)	High	High	Short
2c	All Local Authorities should work to this timescale, both those that have declared AQMAs during the first round and those that have not.  (Suggestion 11)	High	High	Short
2d	DEFRA, the DAs and the Local Authorities should stick to the end of 2003 as the deadline for the next round (assuming guidance is out by the end of 2002). This will help ensure that any further AQMAs and associated action plans fit in with the timing of the next round of the Local Transport Plan due in July 2005. <sup>5</sup>  (Suggestions 9; 12)	High	High	Short

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<sup>5</sup> GLA are currently considering that London boroughs without AQMAs will complete the next round by 2003, and those with AQMAs to complete by 2004.

	Recommendations	Importance	Priority	Timescale
3	<b>Interim Activities for Local Authorities</b>			
3a	DEFRA/DAs should provide informal Guidance to Local Authorities on measures to take in the short-term, prior to the commencement of the next round of Review and Assessment. This will help ensure that the momentum from the first round is not lost for those authorities not having declared an AQMA. The guidance should cover the benefits of continued monitoring, the benefits of preparing a local air quality strategy, and the need to collate information on changes in local sources. It would be best dealt with by a letter to the relevant Chief Officers. (Suggestion 52)	Med.	High	Short
4	<b>Stabilise Conditions for Duration of Next Round</b>			
4a	Changes in matters such as guidance, emission factors and objectives should be avoided for the duration of the next round. This will help provide consistency and clarity for Local Authorities. (Suggestions 1; 24)	High	High	Short
5	<b>Long Term Timetable</b>			
5a	DEFRA/DAs should develop and publicise a long-term vision of LAQM and the Review and Assessment process. Local authorities would benefit in terms of their resource planning if they have a perspective covering the period up to 2010 or perhaps even beyond this date. (Suggestions 5; 14)	High	High	Med.
5b	Careful consideration should be given to requiring an annual LAQM report instead of less frequent Review and Assessment reports. This would avoid the current stop-start situation affecting many authorities. It would help ensure continuity in resourcing air quality within Local Authorities so as to maintain the capacity and skills required to manage LAQM. Such a report should provide both a review and update on air quality issues, including information on developments that might affect air quality and the results of monitoring. It would ensure that changed circumstances requiring a detailed assessment were identified early and acted upon without delay. The proposal should be developed further and consulted on with Local Authorities. (Suggestion 6)	High	High	Med.

	Recommendations	Importance	Priority	Timescale
6	<b>Funding</b>			
6a	<p>It is important to maintain continuity of funding for LAQM. Monitoring in particular can be expensive, especially for PM<sub>10</sub>. This is likely to become more critical if the more stringent PM<sub>10</sub> objectives currently under consideration are adopted. There is a risk that monitoring may suddenly stop when SCA support for monitoring runs out. LAs should consider pressing DEFRA for additional funding through the annual Revenue Support Grant mechanism, in order for DEFRA to consider their case.</p> <p>(Suggestions 15; 16)</p>	Med.	Med.	Med.
6b	<p>Options should be considered to support those authorities that operate a debt free system and thus do not use SCA funding.</p> <p>(Suggestion 15)</p>	Med.	Med.	Med.
6c	<p>DEFRA/DAs should consider ways of clarifying the extent of resource provision to Local Authorities through the Revenue Support Grant allocated for Review and Assessment purposes. This could help ensure allocation of adequate funding for air quality.</p> <p>(Suggestion 17)</p>	Med.	Med.	Med.
7	<b>Reinforce the Role of Air Quality Within Local Government</b>			
7a	<p>DEFRA/DAs should consider ways to integrate air quality into the broader operations of Local Authorities. One mechanism would be to provide further encouragement and support for the development of Local Air Quality Strategies. Consideration should be given to making such Strategies a statutory requirement.</p> <p>Local Authorities should be encouraged to integrate air quality into Local and Unitary Development Plans and where appropriate to use Supplementary Planning Guidance as a means of making clear what is required for air quality assessments and controls for new developments.</p> <p>Local Authorities could be encouraged to develop a checklist approach to determining whether a planning application requires an air quality assessment.</p> <p>Careful consideration should be given to the preparation of Guidance on how to take these matters forward, possibly by way of examples hosted on a web site.</p> <p>DEFRA/DAs should write to Chief Planning Officers and Chief Environmental Health Officers reminding them of the importance of adequate integration of air quality into wider Local Authority procedures.</p> <p>(Suggestions 17; 21; 38; 51)</p>	High	High	Short

	Recommendations	Importance	Priority	Timescale
7b	Any revisions to the Planning Guidance LAQM.G4 document should be co-ordinated with the revisions to PPG23. DEFRA/DAs should encourage the early publication of the revised PPG23. PPG23 will help integrate air quality into local authority land use planning procedures. (Suggestions 38; 50)	High	High	Med.
7c	DEFRA/DAs should investigate how to target air quality guidance on matters relating to planning and transport to the relevant departments, to help ensure these departments are fully aware of air quality issues. (Suggestions 34; 38;52)	Med.	High	Long
8	<b>Extend Assessment to 2010</b>			
8a	It will be impractical to require Local Authorities to carry out Review and Assessment against objectives not in Regulations. However, it is important that the necessary information is provided centrally to allow pollutants to be assessed beyond 2005. This will enable Local Authorities to look further into the future and respond to development proposals for their area that go well beyond 2005. (Suggestions 5; 44)	Med.	High	Short
8b	Local Authorities should be encouraged to look at air quality up to 2010, especially for those pollutants for which there are 2010 EU limit values and proposed UK objectives. (Suggestions 5; 44)	Med.	High	Med.
9	<b>Meteorological Data</b>			
9a	The Met Office should be encouraged to retain the current network of meteorological stations that provide data necessary for modelling. It should also be asked to establish whether there are gaps in the network that jeopardise the modelling requirements of Local Authorities, and how these might be handled. (Suggestions 26)	Med.	High	Med.
10	<b>Centralised Information Resource</b>			
10a	There would be advantages to Local Authorities if DEFRA/DAs were to create, and then provide ready web-based access to, centralised databases for Part B processes and for traffic flow data on trunk roads. Such databases should contain information in a form suitable for Review and Assessment, and focus on those sources potentially significant. DEFRA/DAs should therefore investigate the feasibility and practicalities of setting up such databases. (Suggestion 25)	Med.	Med.	Long

	Recommendations	Importance	Priority	Timescale
<b>Guidance</b>				
11	<p>Guidance should be more prescriptive, especially over matters such as which meteorological years to use in modelling, how to validate models, how to ensure representative monitoring data, and how to deal with uncertainty.</p> <p>The Guidance should not be prescriptive in terms of which monitors to use or which models to use, but should make clear what features of monitors or models should be considered when Local Authorities are making choices. This could usefully be done by way of a checklist.</p> <p style="text-align: right;">(Suggestions 27; 46; 49)</p>	High	High	Short
12	<p>The guidance should re-emphasise that Review and Assessment is principally about identifying local hot-spots. This would minimise the need to model very large geographical areas, making better use of limited resources.</p> <p style="text-align: right;">(Suggestion of evaluation team)</p>	High	High	Short
13	<p>A single technical guidance document in the style of TG4(00) should be provided in support of the next round.</p> <p style="text-align: right;">(Suggestion 31)</p>	Med.	High	Short
14	<p>The technical guidance should include more worked examples, although considerations should be given to the use of a web site to host such examples if they risked a substantial increase in the size of the Guidance document.</p> <p style="text-align: right;">(Suggestion 32)</p>	Med.	High	Short
15	<p>DEFRA/DAs should put in place appropriate mechanisms to ensure that the lessons of the DTLR research programme, TRAMAQ, are disseminated effectively to those involved in Review and Assessment and preparation of AQAPs.</p> <p style="text-align: right;">(Suggestion 33)</p>	Med.	High	Long
16	<p>DEFRA/DAs should support the development and use of simple screening tools for Review and Assessment.</p> <p style="text-align: right;">(Suggestion 27; 46)</p>	High	High	Short
17	<p>More information should be provided on PM<sub>10</sub> from fugitive sources. This will become of particular importance if the DEFRA and DAs adopt the more stringent PM<sub>10</sub> objectives. Research projects are likely to be required, as well as collation of information from Local Authorities who have investigated such sources.</p> <p style="text-align: right;">(Suggestion 35)</p>	High	High	Med.

	Recommendations	Importance	Priority	Timescale
18	More prescriptive guidance should be provided on the selection of different types of PM <sub>10</sub> sampler, e.g. TEOM, Beta Gauge, Gravimetric, and the correction factors to apply. There may be a role for the new Air Quality Expert Group in co-ordinating this work.  (Suggestion 36)	High	High	Med.
19	More detailed guidance on validation of models and monitoring should be provided. This should include worked examples of the steps involved.  (Suggestion 37)	High	High	Short
20	More guidance should be provided on the traffic data required for air quality modelling and how this relates to data currently available from highway authorities. This should include how to check the integrity of information, especially if obtained from a model.  (Suggestion 37)	Med.	High	Short
21	It is important to keep the Helpdesks operational, as they provide valuable support to Local Authorities. They should be updated and improved upon where possible.  (Suggestion 40)	High	High	Long
22	Local Authorities should be encouraged to use the Helpdesks, to reduce problems arising with Review and Assessment Reports at the appraisal stage. DEFRA/DAs should re-publicise the Helpdesks given recent changes to hosting and the introduction of the new AQAP Helpdesk.  (Suggestion 40)	High	High	Med.
23	It is important to keep the Helpdesk web sites running, as they provide a mechanism to keep Local Authorities up-to-date on LAQM developments, and a route for the release of informal guidance through FAQs  (Suggestion 39)	High	High	Long
24	DEFRA/DAs should consider an appropriate training programme to introduce the new Guidance. This would probably be best done on a regional basis and involve regional groups  (Suggestion 41)	Med.	Med.	Med.
25	Research is required into the effective prediction of air quality in the vicinity of road junctions. This will require monitoring at junctions to compare with model output.  (Suggestion 43)	Med.	Med.	Med.



	Recommendations	Importance	Priority	Timescale
26	<p>Research is required into how the choice of modelling approach affects the outcome. This would help inform guidance in the longer term, with a view to improving consistency. One way would be to apply the range of modelling and validation approaches to a small number of real life scenarios to establish the variations in the outcomes. This would supplement research into modelling urban areas currently being supported by DEFRA.</p> <p>(Suggestion of the evaluation team)</p>	High	Med.	Long
27	<p>Guidance on selection of appropriate monitoring equipment and models should be provided by way of a checklist of features that should be considered. This should not extend to recommendations as to particular items of equipment or models.</p> <p>(Suggestion 45)</p>	Med.	High	Short
28	<p>More prescriptive guidance should be provided on how to allow for background concentrations in modelling.</p> <p>(Suggestion 47)</p>	Med.	High	Short
29	<p>Detailed guidance should be provided on</p> <ul style="list-style-type: none"> <li>• how to apply the DMRB methodology at junctions</li> <li>• how to calculate and express diffusion tube bias</li> <li>• how to estimate an annual mean from a few months monitoring data</li> <li>• the choice of method to convert NO<sub>x</sub> to NO<sub>2</sub>.</li> </ul> <p>(Suggestion of evaluation team)</p>	Med.	High	Short
30	<p>More prescriptive guidance should be provided on the quality assurance required to provide acceptable monitoring data. This should focus on calibration and ratification of automatic data, including data adjustment, and validation of diffusion tube data and subsequent adjustment for bias.</p> <p>(Suggestion 48)</p>	High	High	Short
31	<p>DEFRA/DAs should consider whether the general series of guidance documents LAQM.G1-G4 should be replaced by just one document, as this would streamline the guidance and ensure a more holistic overview. This may, however, make the planning guidance currently set out in G4, more remote for planners, although this could be overcome by ensuring that PPG23 is issued before, or at the same time as, the new guidance.</p> <p>(Suggestion of evaluation team)</p>	High	High	Short

	Recommendations	Importance	Priority	Timescale
32	<p>It is important to provide advice on whether to base Review and Assessment on ‘typical’ or ‘worst-case’ meteorological conditions. In view of the current focus on ‘likely’ exceedances, then the choice should probably be to focus on ‘typical’ conditions, i.e. those most commonly occurring. Whichever option is chosen, it is important to provide guidance on which years should be considered ‘typical’ or ‘worst-case’, a feature that is likely to vary from one part of the country to another, and from one pollutant to another. This is likely to require input from the Met Office.</p> <p style="text-align: right;">(Suggestion 29; 49)</p>	High	High	Short

Guide to Timescales:   Short = within next few months  
                                   Medium = by the end of 2002  
                                   Long = between 6-18 months.