

**Air Quality Review and Assessment -
Updating and Screening Assessment**
Proposal

Isle of Wight Council
November 2005

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1 General Information

This proposal is submitted in response to an invitation to complete an Updating and Screening Assessment for Isle of Wight Council. Details of the fee are provided in Section 2.

1.1

Company Information

In March 2002 Faber Maunsell was formed, bringing together the skills and experience of the three constituent companies Maunsell, Metcalf & Eddy CES and Oscar Faber. This now makes Faber Maunsell one of the top six environmental, building, engineering, infrastructure and transportation consultancies in the UK, creating a strong unit with complementary skills and minimal overlap.

The firm is a member of the AECOM group, which is a worldwide consultancy and global leader in environmental management, engineering and related professional services, with over 23,000 employees. Faber Maunsell in the UK has over 2500 staff, of which over 600 are in the Environment sector.

1.2

Air Quality Review and Assessment Experience

Faber Maunsell has worked with over 100 local authorities throughout the UK, helping them to meet their obligations with regard to the local authority review and assessment process. During the previous round of review and assessment, Faber Maunsell assisted numerous councils with their Updating and Screening Assessments, Detailed Assessments and Progress Reports. Further examples of our experience are included in Appendix 1; a variety of projects are included to give an indication of the capabilities of our air quality team.

1.3

Methodology

It is proposed that Faber Maunsell will complete the Updating and Screening Assessment according to the technical guidance provided in LAQM.TG(03). Faber Maunsell would require Isle of Wight Council to provide the necessary data and information, such as traffic and industrial source data. Defra are currently finalising the exact requirements; and there may be additions to the assessment concerning domestic emissions, shipping and steam railway emissions, and fugitive emissions from poultry farms. A detailed guide to the information required would be provided by Faber Maunsell.

1.4

Accreditation

The firm operates quality systems certified to BS EN ISO 9001:1994 in all of its offices. It is a Registered Assessor Member of the UK Institute of Environmental Management and Assessment (IEMA). The company is also a member of the UK Environmental Law Association (UKELA) and the Environmental Industries Commission (EIC).

1.5

Air Quality Personnel

Faber Maunsell has a dedicated ambient air quality team, which has previously undertaken a number of similar studies. The team also has a wide range of experience in both air quality modelling and monitoring and members of the team also have experience of Expert Witness work at Public Inquiries. Pen portraits of members of the team are provided below:

James Richer BSc MSc(Eng) FRMetS

James Richer is a Technical Director with experience in conducting air quality assessments. He is a Fellow of the Royal Meteorological Society and an individual member of the National Society for Clean Air and Environmental Protection. He specialises in atmospheric dispersion modelling and monitoring and has extensive experience of using US Environmental Protection Agency models. He specialises in assessing the impact of emissions from road traffic and has worked on many air quality assessments for the Highways Agency, including the widening of the M25, M4, M11 and A3. He has also project managed some of the largest air quality assessments in the world, including those for the proposed fifth terminal at Heathrow Airport, the new Hong Kong airport and over 100 Stage 3 Detailed Assessments for local authorities. James has given evidence at numerous public inquiries.

Gareth Collins BSc MSc PhD

Gareth Collins is a Principal Environmental Scientist with over ten years experience in conducting air quality assessments. He is also an individual member of the National Society for Clean Air and Environmental Protection. He specialises in regional and local air quality assessments and ambient air quality monitoring. Recently, he has been heavily involved in Local Authority Review and Assessment work and the assessment of transport schemes using methodologies such as NATA, GOMMMS and DMRB.

Tom Stenhouse MChem PhD

Tom Stenhouse is an Environmental Scientist with 5 years of experience specialising in ambient air quality monitoring and modelling, with a strong academic background in chemistry and atmospheric chemistry. He has been involved in a large number of Local Authority air quality review and assessments, and has conducted air quality assessments for many building and road infrastructure developments. He is currently involved in operating a major ambient air quality monitoring programme in Rugby, comprising four fully equipped monitoring stations, and nineteen lamppost mounted particulate monitors. He is experienced in the AAQURE dispersion modelling software, in the use of methodologies such as the DMRB, and is a fully trained Defra local site operator for the AURN.

Duncan Urquhart BSc (Hons) MSc

Duncan has varied environmental training in academia and research, with two years industrial experience employed in the quarrying sector as an environmental surveyor. He has worked closely with internal environmental and health and safety teams providing varied monitoring and surveying services. He is currently associated with the air quality team within Faber Maunsell developing new skills to supplement his existing experience in air and noise surveying and auditing. He is a fully trained Defra local site operator for the AURN and has experience of DMRB and detailed air quality assessments.

Emily Nicholl MChem (Int)

Emily is an Environmental Scientist with a strong academic background in chemistry, focusing on atmospheric chemistry and the development of mobile monitoring techniques. Since joining the company, Emily has conducted detailed assessments for local authorities using the AAQURE regional dispersion model, and performed air quality studies of proposed housing and transport developments using the DMRB methodology. She has also been involved with ambient monitoring studies and has been fully trained according to Defra QA/QC standards.

2 Fees

The fee for the assessment as detailed in this proposal will be £1,950. The fee does not include VAT, which will be charged at the prevailing rate. Our terms and conditions are provided in Appendix B.

Any meetings required by the client will be charged at the rates provided below, and travel expenses charged at cost (Rail: standard class; Road: 45p/mile).

Staff	Rate Per Hour
James Richer (JRR) Regional Director	£70
Gareth Collins (GMC) Principal Environmental Scientist	£60
Tom Stenhouse (TAS) Environmental Scientist	£45

Appendix A: Project Descriptions

Updating and Screening Assessments, as part of the air quality review and assessment have been completed for:

- Test Valley Borough Council
- Staffordshire Moorlands District Council
- Rugby Borough Council
- Lichfield District Council
- City of Durham District Council
- Chester-le-Street District Council
- Derwentside District Council,
- Sedgefield Borough Council,
- Easington District Council,
- Wear Valley District Council

Portsmouth City Council - Detailed Assessment

A detailed dispersion modelling study was undertaken in order to determine whether exceedences of NO₂ and PM₁₀ objectives were likely in the City of Portsmouth. Point, area and line sources were modelling using the AAQuIRE dispersion model to predict concentrations due to emissions from road, industrial and shipping sources. These pollutant concentrations were predicted on a detailed receptor grid with a spacing of 10 metres and comprising of over 450,000 receptors. A source apportionment study was also undertaken to enable Portsmouth City Council to know which emission sources were predominant.

Southampton City Council - Detailed Assessment

This assessment involved the detailed modelling of ten regions throughout the city where monitoring had identified potential exceedences of the air quality objectives for nitrogen dioxide. The dispersion modelling was carried out using the AAQuIRE software package, using a detailed spatial resolution. The model incorporated road traffic emissions, and also emissions due to shipping. The impact of shipping emissions on sulphur dioxide concentrations in the city was also predicted. The modelling was used by the client to help designate various areas as AQMAs.

Bournemouth Borough Council - Detailed Assessment

For three areas, where diffusion tubes indicated elevated NO₂ concentrations, detailed dispersion modelling was carried out to determine whether exceedences of the NO₂ objectives were likely in the borough. The dispersion modelling was carried out using the AAQuIRE software package, using a detailed spatial resolution. The predicted pollutant concentrations were presented as contour maps, allowing the areas of concern to be readily identified. A source apportionment study was also undertaken to assist the Council in formulating strategies to reduce NO₂ concentrations.

Wyre Forest District Council - Stage 4 Air Quality Review and Assessment

The report focused on the detailed dispersion modelling of the Air Quality Management Areas in the centres of Bewdley and Kidderminster, using the AAQuIRE modelling package.

East Hertfordshire District Council - Detailed Assessment

Detailed modelling of NO₂, using AAQuIRE, was carried out in two areas in the District. These areas were highlighted as likely to exceed the National Air Quality Objectives in the Council's Updating and Screening Assessment.

Rugby Borough Council – Air Quality Services

A comprehensive range of air quality services are provided to Rugby Borough Council. Over a period of three years we are committed to site, provide and maintain an extensive network of air quality monitoring equipment throughout the Borough. There are four mobile laboratories that contain real-time analysers (NO_x, SO₂ and particulate matter (PM₁₀ & PM_{2.5})), and a network of 19 lamppost-mounted particulate monitors, which provide detailed spatial cover. We manage the sites and ratify the data according to Defra QA/QC procedures. Detailed dispersion

modelling of emissions from road traffic and industrial sources has been carried out using the AAQuIRE software package. Several air quality review and assessment reports have been produced as well as quarterly monitoring reports. An 'Air Quality Helpline' for members of the public and other interested parties has been set-up and assistance with public consultation events has also been provided.

London Borough of Ealing - Detailed PM₁₀ Assessment

Involved the monitoring (TEOM and Partisol) and dispersion modelling of PM₁₀ emitted from several industrial and commercial premises. Dust was also collected and analysed for source apportionment. The dispersion modelling was carried out using the AAQuIRE software, and a separate fugitive dust model predicted dust deposition rates.

Edinburgh Tramlink, Lines 2 and 3

The AAQuIRE dispersion modelling program has been used to assess the impact on air quality of the Edinburgh Tramlink Lines 2 and 3 development. The current case and future objective year scenarios with and without the development were compared. Road sources were modelled on a regional basis for NO_x and PM₁₀ and roadside concentrations from the modelling output used as an input into STAG worksheets.

DEFRA - Local Site Operator

Provision of Local Site Operator support to five of the DEFRA Automatic Urban and Rural Network sites (AURN). The rural sites are Lullington Heath and Yarner Wood and the urban sites are Bradford, Liverpool and Norwich. LSO support involves routine maintenance and calibration of the sites and provision of an emergency call-out service.

DEFRA - Local Site Operator

Provision of LSO support to nine DEFRA heavy metal monitoring stations around the country. LSO support involves routine maintenance and calibration of the sites and provision of an emergency call-out service.

Environment & Heritage Service (EHS) of DoE Northern Ireland - Audit of Special Waste Facilities

Faber Maunsell was commissioned by the Environment & Heritage Service (EHS) of DoE Northern Ireland to undertake a study of all the licensed special waste treatment and transfer facilities in the province, prior to the implementation of the new waste management licensing regime. Data were gathered for more than 30 sites, including copies of licences, planning permissions and any consents to discharge to foul sewer or watercourses. In addition, information was gathered about compliance and the environmental setting of each site, including potentially sensitive receptors such as dwellings, aquifers, surface water and ecologically important areas. A Geographical Information System (GIS) and associated database was developed to store and present all the information gathered.

UK Local Government Establishment of Real Time Monitoring Stations

Establishment of realtime air quality monitoring stations and networks for over 20 local government authorities including, for example, London Borough of Croydon, Arun District Council, Watford Borough Council, London Borough of Hillingdon, London Borough of Hounslow, Wokingham Borough Council, Worthing Borough Council, Reigate & Banstead Borough Council, Cherwell District Council. Establishment of realtime air quality monitoring stations and development of quality assurance standards for site location, equipment specifications, operational procedures and post data analysis.

Hertsmere Borough Council - Air Quality Review Stage I and II

As part of the implementation of the 1995 Environment Act, a Stage 1 and 2 air quality review was undertaken. This involved assessing the industrial, commercial and traffic sources and using the appropriate dispersion models (DMRB and AAQuIRE) to predict concentrations of PM₁₀, carbon monoxide, nitrogen oxides and benzene at sensitive locations for the base case and for the year 2005. The results were compared with monitoring data and with the National Air Quality Strategy Standards. The air quality review was also published and comments from the public were invited.

Hertsmere District Council - Professional Advice and Project Management

Management of competitive tendering process for installation of an air quality monitoring network. Responsible for ensuring timely installation and commissioning, including obtaining all relevant planning consents to specified quality assurance standards.

Suffolk County Council - South Lowestoft Relief Road

Faber Maunsell completed the air quality assessment for the proposed SLRR, which bypasses through the centre of Lowestoft. The DMRB study indicated the potential for significant exceedances of the air quality objectives so a detailed modelling study was performed using AAQuIRE 2000. This model was integrated into the Stage 3 review and assessment for nearby Waveney District Council. An expert witness was also provided for the Public Inquiry.

West London Tram

The AAQuIRE dispersion modelling program has been used to assess the potential impact on air quality of the West London Tram. Mobile, point and area sources were modelled on a regional basis for NO_x and PM₁₀.

Roughan & O'Donovan Consulting Engineers - Macken Street Bridge, Dublin

Dispersion modelling and air quality monitoring of NO_x and PM₁₀ in Dublin City Centre were carried out to assess the impact of traffic management scenarios relating to the building of a third bridge across the River Liffey. Expert witness evidence at the public inquiry and the inspector later granted permission for the development to proceed.

Hertfordshire and Bedfordshire District Council - Baseline Monitoring Survey

Design and management of a regional VOC monitoring program. C₆-C₈ aromatic hydrocarbons measurements were taken by local government over a one year period and the results analysed using non-parametric statistical tests. The results of this project are currently the subject of further co-operative research with the Building Research Establishment.

Heathrow Airport Ltd - Terminal 5 Ambient Air Quality Monitoring

Continuous monitoring of carbon monoxide, nitric oxide and oxides of nitrogen using standard infra-red spectroscopy and chemiluminescence techniques respectively, and volatile organic compounds (VOCs) monitoring using passive diffusion tubes. Processing and statistical interpretation of results.

Department of Environment, Transport and the Regions- Review of Data Analysis Methods

Critical review and appraisal of applied of statistical techniques for the analysis of UK air quality monitoring data. Parametric and non-parametric statistical methods were evaluated and the performance of each compared in a time series analysis of air quality data.

London Borough of Hillingdon - Heathrow Airport Terminal 5 Air Quality

Air quality modelling study for the largest air quality assessment ever undertaken in the UK. Modelling effects of proposed Heathrow Airport Terminal 5 on air quality over an area of 1000 km² with inclusion of road traffic, aviation and other emission sources. The predicted results were compared with the UK National Air Quality Strategy objectives and a comparison was made with the results of independent modelling studies by BAA and the Highways Agency to establish mutual agreement on modelling assumptions prior to Public Inquiry. Provision of information and technical advice to a consortium of local authorities in advance of Public Inquiry. Expert witness work was also provided for the 3.5 year Public Inquiry.

Hong Kong Government - South East Kowloon Development

Performed the regional air quality assessment of a major urban redevelopment project following relocation of Kai Tak International Airport. Detailed modelling of emissions from road traffic, industrial, domestic and external sources was undertaken using the US Environmental Protection Agency models, CALINE4 and ISC, with the AAQuIRE system. The results were plotted using Surfer and ArcView and exceedances were compared with local air quality criteria. Mitigation measures and design improvements were recommended.

Appendix B: Terms and Conditions

1. We (Faber Maunsell Ltd) undertake to provide to you the Air Quality Services as detailed in the fee proposal dated November 2005 ("the Services"), in accordance with the terms and conditions stated herein.
2. We shall exercise reasonable skill, care and diligence in the performance of the Services.
3. The Due date for payment shall be 2 days following the issue of invoices. The Final date for payment shall be 28 days thereafter. Interest shall be added to all amounts remaining unpaid thereafter and shall be calculated in accordance with the Late Payment of Commercial Debts (Interest) Act 1998 and at the relevant reference rate plus the statutory rate of interest.
4. We undertake to maintain Professional Indemnity and Public Liability Insurance in respect of the Services, for the amounts stated, provided that such insurance remains available from reputable companies based in the UK at commercially reasonable rates and terms. Professional Indemnity – not less than the amount for liability stated in Clause 6. Public Liability - £5m (Five million pounds Sterling).
5. We shall carry out the services in a reasonable time until a programme has been agreed between us. We shall use reasonable endeavours to comply with any agreed programme. You shall supply us free of charge all relevant data and information available to you and shall give such assistance, decisions and access as may be reasonably required by us in performing the Services in sufficient time such that we are able to perform the Services in accordance with any agreed programme.
6. Notwithstanding anything to the contrary contained in this agreement our liability under or in connection with this agreement whether in contract or in tort, in negligence, for breach of statutory duty or otherwise (other than in respect of personal injury or death) for any claim or series of claims arising out of the same occurrence or series of occurrences shall not exceed £50,000.
7. Our liability if any arising under or in connection with the Appointment whether in contract tort negligence breach of statutory duty or however so occurring for any claim or series of claims arising out of the same occurrence or series of occurrences in connection with pollution or contamination is excluded.
8. Subject to Clauses 6 and 7 but notwithstanding otherwise anything to the contrary in this agreement our liability for any claim or claims shall be further limited to such sum as we ought reasonably to pay having regard to our responsibility for the loss and damage suffered as a result of the occurrence or series of occurrences in question on the basis that all other parties providing services or labour or materials or plant in connection with the project shall be deemed to have provided to you contractual undertakings on terms no less onerous than that set out in Clause 2 (whether or not they shall have been so provided to you in respect of the carrying out of their obligations) and shall be deemed to have paid you such proportion which it would be just and equitable for them to pay having regard to the extent of their responsibility.
9. We shall be indemnified by you against all claims demands proceedings damages costs charges and expenses arising under or in connection with this Appointment in excess of our liability defined at Clauses 6, 7 and 8 of this Appointment or which may be in respect of events occurring after the period of liability as defined in Clause 10.
10. No action or proceedings under or in respect of this agreement whether in contract or in tort or in negligence or for breach of statutory duty or otherwise shall be commenced against us after the period of six years from completion of the Services or such earlier date as may be prescribed by law.
11. Copyright in all drawings and documents prepared by us for delivery to you shall remain vested in us but you shall have a licence to use the drawings and documents for any purposes for which they were produced by us, subject always to us having received full payment for the Services in accordance with the provisions of this Appointment. We shall not be liable for the use of any such drawings or documents for any purpose other than that for which the same were prepared by us.
12. The provision of Collateral Warranties to third parties is excluded.
13. Either party may refer any dispute arising under this agreement to adjudication in accordance with the CIC Model Adjudication Procedure (Third Edition) modified such that the CIC will nominate the adjudicator for the dispute (there being no named adjudicator in this appointment) and that the adjudicator will be required to give his decision in writing supported with reasons.
14. This agreement is personal to you and non-assignable and we do not accept liability to any third party in contract, in tort or otherwise.
15. These terms and conditions represent the total agreement between us in relation to the Services.
16. Any notice under this agreement shall be in writing and given by sending the same by registered post to the other party. Notices shall take effect when they have been received by the other party (subject to proof of delivery).
17. Save in respect of death or personal injury you shall only look to us (and not to any Individual) for redress if you consider that there has been any breach of this Agreement. You agree not to pursue any claims in contract, tort or statute (including negligence) against any Individual as a result of them carrying out their obligations under or in connection with this Agreement at any time and whether named expressly in this Agreement or not.
18. Notwithstanding any provision to the contrary in the Appointment no person or entity shall have any rights in relation to this Appointment whether as third parties under the Contracts (Rights of Third Parties) Act 1999 or otherwise save the parties to this Appointment. **End.**

Prepared by:

Dr Tom Stenhouse
Environmental Scientist

Approved by:

James Richer
Technical Director

Air Quality Review and Assessment - Updating and Screening Assessment

Rev No	Comments	Date
1		

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