



DAVID K SMITH

CURRICULUM VITAE



DIRECTOR

PERSONAL DETAILS

PROFESSIONAL MEMBERSHIP: **BSc (Hons) CEng FIMechE FCIBSE Tech IOSH LCC**  
AND QUALIFICATIONS

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DATE OF BIRTH: 2 January 1957

NATIONALITY: British

PARTICULAR EXPERIENCE

**QUALIFICATIONS:**

Graduated with 2(1) honours **Degree in Environmental Engineering** (1979)  
**30 years experience** within the Building Services, Building Energy, and Property H&S fields  
**NEBOSH** Health & Safety plus **Tech IOSH** membership  
Low Carbon Consultant **LCC**  
Approved **Carbon Trust Assessor**  
**Certified DEC assessor** (re issue of Display Energy Certificates)  
**Certified EPBD TM44 assessor** (re 5-yearly Air Conditioning Inspections)  
**Authorising Engineer** for high risk Mechanical Systems (steam, HTHW, pressure systems, etc) & Confined Spaces

**GENERAL EXPERIENCE:**

Practically versed in all aspects of mechanical building services design, installation, commissioning, management, refurbishment & construction.

Comprehensive knowledge and experience within the mechanical building services industry including Design, Facilities Management, Health & Safety, Energy Conservation, Commissioning, Auditing, Fault Finding, litigation & Legislative Compliance.

Authorising Engineer responsible for implementing and auditing Safe Systems of Work for Mechanical systems and Confined Spaces.

High standard of IT skills which play an important role in all TSA work.

Particular interests in environmental issues, technology, optimum design solutions, low energy applications, maintenance, plant testing & building services performance.

**EMPLOYMENT HISTORY:**

**4 years** with a multi-disciplinary Practice including 7-month secondment to Malaysia  
**2 years** overseas (Copenhagen & Bangkok) designing / Refurbishing Thai Airways Catering Centres  
**9 years** as **Associate** for an 80-strong MEPH Consulting Practice in West London  
**3 years** as **Technical Director** for large FM Consultant seconded to British Airways Property  
**15 years** as **Mechanical Director** / co-founder of Technical Support Associates

**EXPERT WITNESS:**

- 66 Chiltern Street: Costain v MEPC (Solicitors: Dibb Lupton Broomhead) £1.76m Court Order for Pipework leaks, VAV design issues causing insufficient heating, psychrometric issues causing condensation, insufficient cooling, fresh air controls, site tests & remedial works
- Belgrave Square: Solicitors: Mischon de Reya / Hallet & Co) £47K Court Order for non payment of Contract
- Talbot Road: Tenant / Landlord dispute concerning cooking smells from adjacent lets. Problem found & resolved without Court Order
- Fallowfield: Owner / Contractor dispute concerning HWS pressures via un-vented HWS system. Problem found & resolved without Court Order
- Cranbourne: Owner / Contractor dispute concerning HWS pressures via un-vented HWS system. Problem found & resolved without Court Order

**HEALTH & SAFETY:**

Certified Authorising Engineer Mechanical (HTHW, Steam, Refrigeration & Mechanical high risk systems) since 1996. Has acted in this role for British Airways, BBC, DVLA, & Norwich Union (LST managed properties)

General Health & Safety work has included:

- |                                |  |
|--------------------------------|--|
| Awareness training             | Reviewing / compiling Safety Files       |
| CDM Coordinator (M&E Services) | Risk assessments                         |
| Confined Space certified       | Safe Systems of work for Mechanical & CS |
| Control of Contractors         | SOPs for Client operations               |
| H&S Arrangements & Procedures  | Surveys of commercial properties         |
| H&S Policies                   | Workplace Risk Assessments               |
| Incident Investigation         |  |
| Permit to Work procedures      |  |

**PROJECTS:**

- |                        |                       |                  |
|------------------------|-----------------------|------------------|
| Airports               | Headquarter Buildings | Offices          |
| Banks                  | Health Care Homes     | Prisons          |
| Building Societies     | Hospitals             | Schools          |
| Cargo Handling Centres | Industrial Buildings  | Shopping Centres |
| Catering Centres       | Institutions          | Shops            |
| Civic Buildings        | Kitchens              | Universities     |
| Clean Rooms            | Laboratories          |                  |
| Data Centres           | Museums               |                  |

**SPECIALITIES:**

- |                       |                 |                    |
|-----------------------|-----------------|--------------------|
| Compliance            | Guidance        | Maintenance        |
| Energy                | Health & Safety | Plant performance  |
| Expert Witness        | Legislation     | Record Information |
| Facilities Management | Litigation      |                    |

**DESIGN WORK:**


- |                            |                          |                       |
|----------------------------|--------------------------|-----------------------|
| Air Conditioning           | Cooling Towers           | Induction Unit        |
| AHUs                       | De-superheaters          | Recuperators          |
| BMS                        | Displacement Ventilation | Refrigeration         |
| Boilers - LTHW             | Dual duct                | Run-around coils      |
| Boilers – MTHW             | Ductwork – high velocity | Split / Multi-split   |
| Boilers - Steam            | Ductwork – low velocity  | Thermal Wheels        |
| Cassaire systems           | Evaporative Cooling      | Variable speed motors |
| Chillers – absorption      | Fan Coil Units           | VAV                   |
| Chillers – centrifugal     | Fans                     | Ventilation           |
| Chillers – reciprocating   | Free cooling             | Versatemp             |
| Chillers – screw           | Heating Systems          | VRF                   |
| Chillers – scroll          | Heat Pumps               | VRV                   |
| CHP                        | Hoods                    |                       |
| Close Control Environments | HVAC                     |                       |

## EMPLOYMENT HISTORY


July 1997

### TECHNICAL SUPPORT ASSOCIATES

#### **Position: Director**

Duties: Founding member of TSA together with Eur Ing John O'Neill BEng (Hons) CEng FIEE FCIBSE MaPS Tech IOSH MSL. Responsible for all mechanical & environmental project work and  Electronic Record Information.

**PROJECT WORK** has included commercial VAV projects, Micro-CHP installation, gas turbine CHP with absorption chillers, displacement "sock" ventilation, FCUs, boiler replacements, ventilation, energy surveys, solar heating, plant fault diagnostics, controls witnessing, boiler replacements, plus conventional HVAC projects

 Electronic Record Information has involved the development of a web-based record management system suitable for all building information including switchable drawing layers & all property information viewed through free software.

**H&S WORK** has included surveys of commercial properties, risk assessments, compilation of SOPs, audits, CDM Coordination & Authorising Engineer duties (HTHW, Steam, Refrigeration & Mechanical high risk systems) since 1996. Certified for Confined Space entry since October 2000

**ENERGY WORK** Approved Energy Assessor for Carbon Trust work over 30 surveys. All major project work involves energy appraisals, heat recovery & sustainability

1995 - 1997

### FBA - BRITISH AIRWAYS TECHNICAL SUPPORT GROUP

#### **Position: Technical Director**

Duties: Responsible for all technical issues related to the management of the British Airways property portfolio, comprising over 400 UK buildings exceeding 1 million square metres. Working within the British Airways Property group developing ideas and procedures to streamline Property's operations

**PROJECT WORK** included:

Compiling **Standards & Guidance** for all property issues

Specifying and managing **surveys** of the Building Services installations for all principal buildings including:-

- Barcoding all assets and retrieving electronic data via PSION computers
- Compiling descriptions of all the services installed suitable for O&M Manuals
- Compiling BREEAM equivalent assessments via PSION computers
- Providing condition reports and budget estimates for remedial works
- Commenting on benchmark energy figures

**Project reviews/audits** of major capital investments including £250m new HQ, £200m Cargo Depot, £60m Data Centre, etc.

**Energy analysis**, appraisals, surveys, and benchmarking.

**Expert Witness** reports / investigations for properties in Belgrave Square, Pinner, & Stanmore including court adjudication.

**Feasibility Studies** including financial LCC/IRR appraisals for:

- Maintenance Base Heating - 14 MW gas-fired boiler installation, saving £1.2m /year fuel costs
- CHP options via contract energy management
- Data Centre air conditioning replacement
- Chiller replacements
- Reverse Osmosis water treatment plant

**Planned Preventative Maintenance** - developed costing methodology for all major FM Contracts, via:

- Scheduling PPM Task Sheets to each asset
- Agreeing time (and cost) required for each Task Sheet
- Developing computer analysis software to assess overall cost requirements
- Obtaining feedback/input from Building Facilities Managers

**Health & Safety** - developed revised Permit to Work procedures and compiled Safe Systems of work for all mechanical & electrical high-risk areas. Compiled property procedures for all Health & Safety issues in conjunction with BAP's Safety Department. AE Mechanical & CS for BA portfolio. Authorising Engineer duties.

**Environmental** - heavily involved in all environmental aspects of British Airways' Property organisation. Compiled **systems & guidance** on all environmental issues. Implementation of the removal/replacement of all existing CFC centrifugal chillers.

1985 - 1995

WATKINS PAYNE PARTNERSHIP

**Position:** Associate

**Duties:** Fully responsible for project conception, design, supervision and Client liaison. Reporting to Partner where necessary.

**PROJECT WORK** included:

**Scheme designs**, calculations and supervision & management of design project from concept to completion.

**Project Management** including formalisation of client brief, scheme feasibility/design, tender negotiations, co-ordination, programming site management, contract negotiations, co-ordination, programming site management, contract negotiations, cost and budget control, contractual disputes, final accounts, interim payments and client satisfaction. Multi-disciplinary, although mechanically biased technically.

**Survey work**, Feasibility Studies and Reports. Communications, correspondence and meetings with Clients, Contractors and design team members.

**Computer use** of spreadsheets, databases, commercial building services software (Cymap/Amazon) and AutoCAD.

**Management** of 15-20 Engineers within a multi-disciplinary design group, including group resourcing, staff management, administration and partnership business development.

**Fee negotiation** and control via Partners.

**Projects:** Range between speculative office designs, computer installations, specialist fitout works, retail, research buildings, prisons, litigation works, health care homes, museums, shopping centres, refurbishments and banks.

1983 - 1985

PER B. SCHLEITER A/S, COPENHAGEN, DENMARK

**Position:** Senior Engineer

**PROJECT WORK** included the full design of all mechanical services installations for a 30,000 m<sup>2</sup> Thai Airways Flight Kitchen in Bangkok, Thailand (+ refurbishment of existing facility). The Flight Kitchen accommodated hot kitchens, cold kitchens, food preparation area, stores, confectionery and bakeries, plus an administration block.

Services included:

Full **air-conditioning** to the Kitchen preparing 22,000 meals per day

Large **cold holding and freezer room** installations including R502 and brine systems

Hot and cold services

Central cooling plant design

22 no. air handling systems including heat recovery thermal wheels  
Design co-ordination with architects, structural engineers and equipment designers.

**Site supervision** in Thailand of an upgrading contract using local labour and plant of the existing 13,000 m<sup>2</sup> Flight Kitchen, including client liaison, contractor organisation, co-ordination of design, supervision of installation, testing and commissioning, selection and utilisation of locally made plant, supervision of kitchen equipment installation.

Co-ordination with Copenhagen office/staff. Running Thai office, along with a Structural Engineer and local staff.

**1979 - 1983**

**ROBERT, MATTHEW, JOHNSON-MARSHALL & PARTNERS**

**Position: Mechanical Engineer**

Duties: Manual/computer calculations; building performance/energy predictions; Building Services design; site supervision; commissioning and testing; fault finding/diagnosis, drawing; project running; cost control/interim payments; writing computer programs; site surveying; design co-ordination; low-energy designs; sprinkler designs.

Projects: Government Training Centre, Malaysia (7-month posting), Banks, NFU HQ, Municipal Buildings, Offices, Institute of Physics, Financial Training Air Conditioning

**1978 - 1979**

**ADAMS GREEN & PARTNERS**

**Position: Junior Engineer**

Duties: Preparation of drawings; manual calculations; equipment selections; plant sizing; site surveying

Projects: Southampton University refectory, Housing, snagging

**1976 - 1977**

**BCM HEATING COMPANY LIMITED**

**Position: Junior Engineer**

Duties: Tendering; preparing BOQ's and SOR's; draughting; material ordering; working drawing co-ordination; site inspections and three months' pipe fitting on site.

**CPD, TRAINING AND QUALIFICATIONS**

Year	Course	Qualification / Description	Competency / Knowledge Development
1973 June	O Levels	Mathematics, English, Physics, Geography, French, Technical Drawing, Music	Pre-Degree
1975 June	A Levels	Mathematics, Physics, Art	Pre-Degree
1979 June	Degree 4 year: 1975 to 1979	<b>BSc (Hons) degree in Environmental Engineering</b> (Grade 2.1) South Bank University	My Degree covered the fundamental engineering principals of Building Services Engineering including 3-months practical training necessary for Chartered Engineer recognition
1986 June	<b>MCIBSE</b>	Awarded Corporate Membership by CIBSE	Membership was achieved after proving both technical ability and industrial experience
1986 June	<b>CEng</b>	Awarded Chartered Engineer status	Chartered Engineer status was achieved after proving both technical ability and industrial experience
1991 Mar	<b>MI Mech E</b>	Awarded Corporate Membership by I Mech. E	Member of the Institution of Mechanical engineers was achieved after proving both technical ability and industrial experience
1996 March	<b>Authorising Engineer</b>	Authorising Engineer course - WTI	Involvement with high risk mechanical systems such as steam and HTHW required specific training in order to manage the risks safely
1999 June	Authorising Engineer	Authorising Engineer refresher course - WTI	Involvement with high risk mechanical systems such as steam and HTHW requires ongoing refresher training
2000	Various courses	CDM, Business Finance, Capital Planning and Business Case	Various
2000 Oct	<b>Confined Space Entry</b>	Todo Mundo 3 day CS entry course	Involvement with Confined Spaces within buildings required specific training in order to manage the risks safely
2002 May	Authorising Engineer	Authorising Engineer refresher course - WTI	Involvement with high risk mechanical systems such as steam and HTHW requires ongoing refresher training
2002 July	<b>AutoCAD 14</b> City & Guilds – 2D	Guildford Technical College - 1 year evening class	To become a competent user when required 2D version
2003 Jan	<b>Steam Utilisation</b>	3 day course	For steam work at TVC and AP/AE Duties
2004 Aug	<b>AutoCAD 14</b> City & Guilds – 3D	Guildford Technical College - 1 year evening class	To become a competent user when required 3D version
2004 Nov	Confined Space Entry	Todo Mundo 1 day CS entry course	Authorising Engineer Refresher
2005	Various courses	Various courses on CDM, H&S, Business Finance, Capital Planning and Business Case	General CPD
2005 March	Authorising Engineer	Authorising Engineer refresher course - WTI	Involvement with high risk mechanical systems such as steam and HTHW requires ongoing refresher training
2006	<b>FIMechE</b>	Awarded Fellow Membership by Institute of Mechanical Engineers	FIMechE

Curriculum Vitae: **David Smith BSc(Hons) CEng FIMechE FCIBSE Tech IOSH LCC**

Year	Course	Qualification / Description	Competency / Knowledge Development
2006 Jan	<b>FCIBSE</b>	Awarded Fellow Membership by CIBSE	FCIBSE
2006 Feb	<b>NEBOSH</b>	Distance learning 1 year H&S Certificate	NEBOSH within the Construction Industry
2006 March	<b>Tech IOSH</b>	Awarded Technician Membership of the Institution of Occupational Safety & Health	Tech IOSH
2007 Nov	<b>Low Carbon Consultants</b>	2-day course to become an LCC Registered Consultant	LCC
2008 Feb	LCC	Low Carbon Consultant	Part L Certification
2008 March	Authorising Engineer	Authorising Engineer refresher course - Develop	Authorising Engineer Refresher
2008 Dec	<b>DEC</b>	Display Energy Certificate course for DEC Certification	To become DEC Inspector Certified
2008 Dec	<b>TM44 AC Inspector</b>	Air Conditioning Inspector course for TM44 Certification	To become an Air Conditioning Inspector Certified TM44
2008 Dec	Confined Space Entry	Todo Mundo 1 day CS refresher course	Authorising Engineer Refresher Confined Spaces
2009	<b>iSBEM</b>	Course / BRE Certification	To be certified to issue Part L Compliance Calculations
2010 July	IFSM	FRA Certification	Fire Risk Assessment
2011 March	Authorising Engineer	Authorising Engineer refresher course - Develop	Authorising Engineer Refresher
2011 March	<b>EPC</b>	iSBEM levels 3 & 4 (BRE)	Part L Certification
2012 Jan	Confined Space Entry	Safety Mundo 1 day CS refresher course	Authorising Engineer Refresher Confined Spaces

**Hobbies:**

Squash (keen player)  
 Manager of Surrey Sports Park Squash 4<sup>th</sup> Team (Guildford)  
 Running, Keep Fit, Circuits, Body Pump  
 Skiing  
 Cycling  
 DIY