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Curriculum Vitae **Chris Parsloe** BSc CEng MCIBSE

Introduction

I am an acknowledged expert in the design and fault diagnosis of heating and cooling pipework systems. I have a background in design, research and valve development. I benefit from being the author of several widely quoted guides on pipe system design.

Career Summary

Status	British, aged 47, married with 2 children, graduated from University in 1983
Education	**A Levels: Pure Maths, Physics, Chemistry** **University**: 1979–1983 Brunel University, Uxbridge, England **Qualification**: BSc(Hons) Building Engineering and Management
Experience	**1983–1985: Taylor Woodrow International Ltd** Position: Graduate Engineer **Role:** Mechanical design for offices and hospital buildings in Oman and Ghana. Commissioning of air and water systems for a stadium complex in Oman.
	1985–1987: T. Dunwoody and Partners Ltd (Design Consultants) Position: Design Engineer **Role**: Mechanical design for offices and laboratories (e.g. heating, air conditioning, ventilation and specialist laboratory services).
	1987–2001: BSRIA (Building Services Research and Information Association) Position: Senior Research Engineer and Section Leader (managing 5 research engineers).

	Author of the following BSRIA application guides: • Commissioning of Water Systems in Buildings • Commissioning of Air Systems in Buildings • Commissioning of Pipework Systems – design considerations • Pre-Commission Cleaning of Water Systems • Variable Speed Pumping in Heating and Cooling Circuits Other Activities: Presenting papers at conferences. Running training courses for engineers. Site investigations and preparation of expert witness reports
	2001 – 2003: SAV Valve Systems Ltd (Valve Distributor) Position: Technical Manager Role: Technical sales support for commissioning valve products Development of new valve solutions including "Commissioning Module" concept
	2003 – Present: Parsloe Consulting Ltd Position: Director **Role**: Independent pipe system investigations Expert witness work Pipe system design Training provider on design and commissioning Valve design and development Software design and development (for **PisolV** range of programs) Technical authoring - I am author of the following industry recognised guides: • CIBSE KS 1 Reclaimed Water • CIBSE KS 7 Variable Flow Pipework Systems • CIBSE KS 9 Commissioning of Variable Flow Pipework Systems • HVCA TR/6 Site Pressure Testing of Pipework Systems
Professional bodies	CEng, MCIBSE

Background

I am the main author of BSRIA guides on pipe system commissioning, pre-commission cleaning, and system design using variable speed pumps. These guides are widely specified by UK engineers, and the guidance has largely become standard practice in the UK.

In researching these guides, I acquired a detailed understanding of the theory of fluid dynamics as applied to pipe system hydraulics. I also gained a thorough understanding of the practical issues which arise in the design and installation of real systems. During my time at BSRIA I wrote expert witness reports for several clients. In support of this activity, I attended courses run by the Institute of Arbitrators for Expert Witnesses.

After leaving BSRIA I worked for a valve distributor, SAV (UK) Ltd. My role involved the development of a range of valve products and assemblies which are now successfully sold in the UK and in other European countries. One of the valve arrangements I developed (the "Commissioning Module") was patented and is now sold successfully in the UK.

I formed my own consultancy business in 2003. As an independent consultant involved in design and investigation work, I carry my own professional indemnity insurance up to a limit of £100,000.

Investigations and Expert Witness Work

I am regularly asked for an independent opinion on the design and operation of pipework systems, particularly when systems are experiencing hydraulic problems of one sort or another. Examples of the type of investigation I have been involved with in the last 3 years include the following:

- **2005:** An investigation into the cause of water hammer (hydraulic shock) in an apartment block. The occupants had complained of loud banging noises from pipework which had remained unresolved for 12 months. Despite the valve manufacturer's denials, I was able to demonstrate that water hammer was caused by malfunctioning pressure reducing valves in the hot and cold water supplies. These valves have now been replaced and the noise has stopped.

- **2004 - ongoing:** An investigation into the cause of failing two port control valves in heating and chilled water systems. I was able to prove that the cause was due to the valves having to close against excessive pump pressures resulting in cavitation erosion across the valve seats. Having implemented the modifications I proposed, the failures have stopped.

- **2004 - 2006:** An investigation into the origin of dirt and bacteria in chilled and heating pipework systems some 18 months after handover. I was able to demonstrate that the system was clean (in accordance with BSRIA Guidance) when it was handed over to the client, and that most of the problems were due to poor maintenance after handover. The dispute arising from this issue was subject to numerous expert meetings and a mediation process attended by all relevant parties, their experts and legal representatives. The matter was eventually settled out of court with the arguments I presented helping to achieve a final resolution.

- **2004 - 2005:** An investigation into the cause of a pressure imbalance between hot and cold water supplies in a hotel which resulted in unpredictable scalding temperatures from shower outlets. I was able to demonstrate that the system pipework was under-sized, but that the cheapest solution

to the problem would be to install new pressure reducing valves and thermostatic mixer taps. This has now been completed and the system is functioning properly.

- **2006 - 2007**: An investigation into the causes of dirt in water samples taken from heating and chilled water fan coil units. Analysis of test results showed that most failures occurred where high resistance 2 port control valves had been installed. These valves had been selected due to the arbitrary positioning of large DPCVs on main branches off a riser. I was able to demonstrate that this system configuration made it impossible to size 2 port valves with adequate authority, and that in attempting to do so, the contractor had ended up with very high resistance valves and consequent dirt problems.

- **2007- ongoing**: An investigation into the causes of severe erosion of two port control valves and early failure of steel radiators. I was able to determine that cavitation was possible in the system due to the pressure conditions and water quality.

- **2007:** An expert witness report on the sizing of pipework to serve a water cooled split system air conditioning unit. I was able to demonstrate that the air conditioning unit itself had been over-sized and that the pipework and pumps were under-sized causing the unit to trip out under alarm conditions. The clarity of my report enabled the parties to reach an immediate settlement thereby avoiding a court proceeding.