

Jim Thomson

The logo for Safety/InEngineering consists of a large, stylized 'S' shape formed by multiple parallel lines, with the text 'Safety/InEngineering' centered within the innermost part of the 'S'.

Qualifications BSc(Eng), MSc, PhD, CEng, FIMechE, FIET, FNucl
Year of birth 1955
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KEY SKILLS

A highly experienced multi-disciplinary senior engineering manager with a proven track record of successful leadership, technical and asset management, business improvement and growth. Highly accomplished change manager experienced in downsizing, alliancing, computer and safety systems integration and operations management.

Technical skill set includes safety case preparation, safety management, high-integrity safety systems, design and project management and emergency planning. Experienced in operating in difficult technical and regulatory environments during periods of major changes, in the UK and internationally, in nuclear (both civil and military) and oil and gas industries.

- Life-long professional interest in energy issues
- Safety and management consultancy in energy industries (oil & gas/nuclear) and defence
- Project management PRINCE2 practitioner
- High-integrity control and instrumentation systems strategy and licensing
- Advanced Management Programme, Templeton College, Oxford University, Jan 1997 (4 weeks)
- Senior Nuclear Plant Management Course, INPO, Atlanta, Oct 2000 (5 weeks)
- Ashridge Leadership Programme, June 2001
- Nuclear Institute Pinkerton Prize, 2013

CAREER SUMMARY

2011- present	Independent Consultant, Safety In Engineering Ltd
2012-2013	Global I&C Lead, Areva Installed Base, Paris/Erlangen
2007-2011	ESR Technology: COO, Warrington Head of Technical Services, Aberdeen
2004-2007	Risktec (Glasgow) MD/Head of Technical services
1999-2004	British Energy, Electrical and Control Manager
1997-1999	British Energy, Nuclear Safety Manager
1996-1997	British Energy, Business Improvement Manager
1995-1996	Scottish Nuclear, Risk and Reliability Group Head
1989-1995	Scottish Nuclear, various roles in safety case production and projects
1986-1989	NNC, safety cases for nuclear power stations
1984-1986	Edinburgh University, lecturer
1979-1984	UKAEA Dounreay, operations (shift manager of nuclear power station)

2011-present Safety In Engineering Ltd

I set up my own consultancy to offer direct support to a number of clients, in particular:

- Invensys Schneider – consultant for nuclear I&C
- Rolls-Royce Submarines/MoD - independent adviser to R-R/MoD for submarine reactor I&C.
- Ultra Electronics – consultant in nuclear I&C
- AMEC – consultant in nuclear sales in Scotland.
- Areva – consultant in nuclear I&C
- Imperial College. I have lectured to their nuclear MSc course on reactor control and protection.
- Expert witness work in nuclear project tribunal

2012-2013 Global I&C Lead, Installed Base Areva NP, Paris/Erlangen

I was recruited to manage I&C for Areva's Installed Base Group (support to 74 reactors worldwide), doing strategic coordination within a complicated organisational structure across technology, engineering, sales & marketing and project delivery, between locations in Paris, Erlangen, Lyon, and Charlotte NC.

2009–2011 Chief Operations Officer ESR Technology, Warrington

ESR Technology Company (nominal 110 people, £9-10M turnover) is a global Technical Engineering company with operations across the UK and the Gulf region. Formerly part of AEAT, and in turn UKAEA, ESR Technology has an excellent reputation in Technical Safety, Forensic Engineering and Tribology. The company was owned by private equity until its sale in 2011.

2007–2009 Head of Technical Services ESR Technology Aberdeen

The role involved a new business unit start up for ESR with the creation and development of a visible and successful ESR presence in Aberdeen. In my first year I increased headcount from one to five technical staff and in the first full year of trading achieved £0.6M turnover of consulting work. I personally executed a number of projects, including work on various platforms:

- Talisman Auk
- ExxonMobil Beryl Alpha
- Nexen Scott and Buzzard
- Amec Dunlin

2004-2007 Managing Director/Technical Director Risktec Solutions (Glasgow)

HSE consultancy. Director of Risktec (Glasgow). Glasgow office grew in <3 years from 2 to ~20 consultants, with 2007 turnover about £2M. My duties included: Recruitment of staff, Project management, Technical work delivery, Technical leadership, Business management, and Business development. I personally executed a number of projects, including work on the following:

- OMV Petrom platforms and land-based assets (Romania)
- KRC Khartoum refinery (Sudan)
- ONGC platforms (India)
- Chevron Tenghiz field (Kazakhstan)

1989 - 2004 British Energy/Scottish Nuclear/SSEB East Kilbride/Gloucester

1999-2004 *Protection & Electrical Systems Manager* *BE, Gloucester/East Kilbride*

- Design, project management, asset management service to 8 power stations
- 90 staff(inc contractors) at 2 sites, £7M pa revenue budget, £100M project portfolio
- Developed various contractor relationships with a view to establishing a major alliance for dealing with obsolescent C&I equipment.

- Responsible for BE input to HSE/DTI-led nuclear safety R&D programme.
- Improved Work Management in BE Engineering Division, and Eng Div/station interfaces.

- 1997-1998 *Nuclear Safety Manager* *SN Health & Safety Division*
- Responsible for independent nuclear safety assessment of changes to safety cases and procedures, and for site inspection which included event reporting and HSE-NII stakeholder management.
 - Harmonising and integrating working practices for merger with Nuclear Electric
- 1996-1997 *SN Business Improvement Team Manager*
- Leading the SN Company responses to major events:-
 1. Wylfa Power Station court case - design ownership, c.f. Port of Ramsgate case.
 2. CO₂ contamination event at Hunterston Power Station.
 - Managing downsizing during privatisation – led response to NII audit of HQ functions
- 1995-1996 *Group Head, Reliability and Risk Analysis* *SN Engineering Division*
- Led safety case for the extension of outage intervals at Torness.
 - Improving asset management by reducing invasive maintenance
 - Hunterston B Periodic Safety Review submissions
- 1995-1995 *Project Manager, Work Control Project* *SN Commercial Division*
- Specifying the Company's requirements for a corporate work control system
- 1993-1995 *Design and Development Manager, SN/GECA JV Dry Store Project* *Leicester*
- £200M project to build Dry Fuel Stores at Torness and Hunterston.
 - Selection and recruitment of team of staff and contractors.
 - Responsible for the R&D, specification, design and safety substantiation to time and cost via a large staff (about 150 plus subcontractors).
 - Submission of Pre-Construction Safety Report to programme.
 - Project cancelled after £57M spend due to renegotiation of reprocessing contract with BNFL
- 1989-1993 *Group Head, Fuel Route Design* *SSEB/SN Engineering Division*
- Recruitment of greatly-expanded staff team
 - Torness fuel route completion (£20M+ project of invasive plant modifications to be carried out with minimal effect on station output). Project management /safety case delivery.
- 1986 - 1989 **NNC Ltd** **Knutsford, Cheshire**
- Safety cases, Probabilistic Risk Assessment, and plant modification specifications for Heysham 2/Torness fuel routes – critical path for reactor commissioning programme.
 - Feasibility studies to improve Advanced Gas-cooled Reactor (AGR) containment systems by back-fitting of vented filtered containment, post-Chernobyl. The study reviewed all AGRs.
- 1984-1986 **Lecturer, Dept of Mechanical Engineering** **Edinburgh University**
- Author of 'Engineering Safety Assessment' (Longman 1987)
 - Co-author of 'Elements of Nuclear Power' 3rd Ed (Longman 1989)
 - Two major research grants (one from EPSRC, one from CEGB)

- 1979-1984 **UKAEA Prototype Fast Reactor** **Dounreay**
Shift Manager (1982-1984)
- Responsible for the safe and efficient operation of PFR power station via a shift team of about 35 professional, craft and non-craft personnel.

- 1976-1979** **Postgraduate Student, Dept of Engineering,** **University of Aberdeen**
- PhD Chemical Engineering/Metallurgy/Computer Studies.
 - The study comprised experimental and theoretical work as well as extensive computational modelling.

OTHER ROLES WITHIN BRITISH ENERGY

- Senior Officer, British Energy Emergency Plan, 1997-2004
- Chairman, BE Corporate Information Management Coordination Group, 2000-2004
- Member, Scottish Nuclear Safety Committee 1997-1998
- BE representative, UK Government Nuclear Safety Advisory Committee Sub-Committee on Research, 2000-2004
- BE representative, Scottish Environment and Energy Foundation (*advisory group to Scottish Executive*), 2002-2003
- Chair, Panel of Inquiry into Torness Gas Circulator failures, 2002 (*precursor to BE bankruptcy*)

EXTERNAL ROLES

- Chairman, Electricity Association Generation Standards Steering Group, 2000-2001
- External member, Safety Committee, Vulcan Naval Reactor Test Establishment (MoD), 1998-1999
- Chair, Organising Committee for 5th and 6th International INucE C&I conferences, 2004 & 2007
- Member, University of Strathclyde Electrical and Electronic Engineering Industrial Advisory Board, 1999-2004
- Visiting Lecturer, University of Strathclyde, Dept of Electrical and Electronic Engineering, 2003-2006
- IET Degree Accreditation Panel, 2002-2007
- Member, Advisory Committee on Future of Imperial College CONSORT research reactor, 2004-2005
- Independent member, Rolls-Royce/MoD Electrical Technology Working Group, 2007-present
- Visiting Lecturer, University of Manchester, Dept of Chemical Engineering, 2010-2011
- Visiting Lecturer, Imperial College, 2011-2012

SELECTION OF PROJECT EXPERIENCE

O&G upstream and midstream (*including locations where work took place*)

- Developing safety case ‘Thorough Review’ process for various major operators (Marathon, ExxonMobil, Nexen) Aberdeen
- Independent safety consultant, ExxonMobil Thorough Review of Beryl Alpha Aberdeen
- Strategies for platform life extension at minimum cost, Talisman Auk Aberdeen
- Audit of Job Risk Assessment processes, Nexen Buzzard/Scott Aberdeen
- Development of Safety Case Maintenance process, Nexen Aberdeen
- Safety Case review and platform inspection, Fairfield/Amec Dunlin Aberdeen
- Safety audit and safety enhancements, OMV Petrom Black Sea oil and gas platforms Romania
- HSE case, Central Platform, OMV Petrom Black Sea Romania

- Safety management reviews and safety cases, OMV Petrom land-based process plants Romania
- Helicopter Crew Transfer Safety Management Manual, OMV Petrom Black Sea Romania
- Boat Crew Transfer Safety Management Manual, OMV Petrom Black Sea Romania
- Due diligence for outsourcing fire and rescue services in Romanian refineries Romania
- Review of maintainability for KRC Refinery, Khartoum Sudan
- Oil platform safety audits, ONGC Mumbai High field (*just before Mumbai High fire*) India
- Safety management for major site fabrication project, Tengiz oilfield Kazakhstan
- SIL assessment workshop chair, Qatar Petroleum/Worley Parsons, Doha Qatar

Nuclear

- Licensing/design assessment advice to RWE npower for reactors designs UK
- Licensing advice to Atomic Energy of Canada Ltd for reactor design assessment UK/Canada
- Independent review of nuclear generating company problems for two investment banks UK
- Independent advisor, Rolls-Royce Submarines/MoD Electrical Technology Working Group UK
- Preparation of Plant Lifetime Management Plans, Rolls-Royce Submarines UK
- Independent review of Drigg Vault 9 construction programme (Sellafield UK LLW storage facility) UK
- Hunterston A nuclear power station (Ayrshire UK) decommissioning safety case strategy review UK
- Review of resource needs for completion of Mochovce 3 and 4 nuclear power stations, Slovakia UK

Control & Instrumentation or IEC 61508-related

- Ageing C&I Plant, Guidance for HSE Inspectors, HSE Hazardous Installations Directorate UK
- Gap analysis for licensability (for civil nuclear application in Europe) of US-made protection system
California
- Major audit of IEC 61508 compliance for a SIL3 software-based protection system Japan/UK
- Development of quality and project plans to IEC 61508/PRINCE2 for a major project to replace station control and monitoring computer, Dungeness B nuclear power station UK
- Chair, Organising Committee for 5th and 6th International INuCE C&I conferences, 2004 & 2007 UK
- Cybersecurity analysis for nuclear I&C upgrade project Scandinavia/Germany
- Major nuclear systems bid Brazil

Some significant projects when with British Energy

- Chair, Panel of Inquiry into gas circulator failures, Torness Power station (2003)
- Chair of various other Panels of Inquiry.
- Managed response to CO2 tanker contamination event (1997)
- Chair of 'soft-focus' HAZOP of Advanced Gas-Cooled Reactors (completeness check of QRAs)
- Safety cases and PRA/QRA, Heysham 2/Torness start-up 1988-89
- Safety cases and project management, Torness fuel route completion, 1990-1993
- Safety cases/PCSR, Scottish Nuclear Dry Store project, 1993-94
- Specification of work control system, Scottish Nuclear, 1994
- 3-year outage safety case/PRA/QRA, Torness, 1995-96
- Hunterston B QRA/PSR, 1995-96

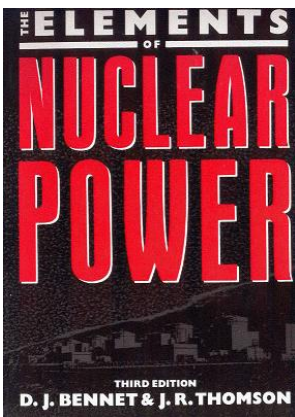
OTHER SKILLS, TRAINING, QUALIFICATIONS

- Reasonably fluent French speaker
- EC Part 2 Chemical Engineering papers 304 (Chemical thermodynamics, kinetics and reactor design) and 305 (Separation processes), 1981

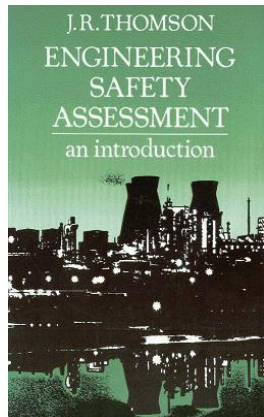
- Reactor Safety Course (Harwell, 4 weeks residential), 1981
- Diploma in Engineering Management (IMechE) Part 1, 1984
- Root cause analysis, Bowtie training, PRA/QRA training (various)
- UKAEA Induction Training programme, SN Management Training programme
- AGR Design and Technology, PWR Operations Technology
- Nuclear safety cat 1 author training
- Emergency planning exercises (various)
- Media training for emergency response
- HR training (various), QA training (various)
- MSc (Earth Science), Open University, 2019

SELECTED PUBLICATIONS

- *Engineering Safety Assessment*, Longman, 1987
- *Elements of Nuclear Power*, 3rd Ed (with DJ Bennet), Longman 1989
- *High Integrity Systems and Safety Management in Hazardous Industries*, Butterworth-Heinemann, 2015
- ‘Quantified risk assessment – a nuclear industry viewpoint’, J Loss Prev. Process Ind., 1994, 7, no 5
- ‘A simple method for determining the maximum consequences of notional toxic and radiotoxic gas discharges’, J Hazardous Materials, 1988, 17, 239-245
- ‘Torness fuel route completion’, Nuclear Energy, 1993, 32, no 6
- ‘Key Threats and Issues for High Integrity C&I in 2011 and Beyond’, Journal of the Institute of Measurement and Control, April 2012
- ‘Fukushima and its Consequences’, Nuclear Future, March 2012
- ‘Emergency Planning after Fukushima: Nuclear Accidents During Extreme Regional Emergencies’, Nuclear Future, March 2012
- ‘Tectonic and climatic drivers of Asian monsoon evolution, paper under review, 2020



1989



1987



2015