



PETER A HEFFER BSc (Hons) MSc MIEE CEng CFSE
Consultant Instrument, Controls and Functional Safety Engineer

DATE OF BIRTH:
5 January 1955

EMAIL: hefferpa@iee.org

NATIONALITY: British

QUALIFICATIONS:

- HNC + Endorsement - Electrical and Electronic Engineering.
- BSc (Hons) - Electrical and Electronic Engineering - Brunel University.
- MSc – Computing for Commerce and Industry - O.U.

PROFESSIONAL STATUS:

- UK Chartered Engineer
- Certified Functional Safety Expert

PROFESSIONAL ASSOCS. :

Corporate Member - Institution of Electrical Engineers

ADDITIONAL TRAINING:

- BOSET Basic Offshore Safety and Emergency Training Certificate
- TUV CFSE – Certified Functional Safety Expert five-day course – including exam

OTHER:

- Set-up the Foundation Fieldbus End User Council Malaysia (FFEUCM)
- Past Chairman FFEUCM

PROFESSIONAL RESUME:

Peter served a four-year apprenticeship with a control panel manufacture. He then joined the Petrochemical/Oil & Gas Industry as a Designer, where he progressed to Drawing Office Manager. He returned to full time education at the age 30 years, whilst supporting his wife and three children. After graduating he obtained Chartered status and progressed to Lead Design Engineer. He studied a further five years for his Masters degree and based his dissertation on database systems, with a case study on the data requirements of instrumentation design using relational database modelling techniques.

He has a bias toward DCS/Shutdown Systems, but has practical experience of all facets of instrumentation design. He is commercially aware and knows the importance of good communications. His strength as Lead/Principal Engineer was his ability to plan and look at the broader project picture during decision-making ... due to his broad knowledge of engineering design.

He has worked on a variety of differing projects types, including offshore production, crude oil terminals, gas terminals, oil refineries, fertilisers, sugar refineries, cryogenics, plastics, desulphurisation, water injection, H₂/CO production and natural gas compression

Duties as Client and Contractor have included – P&ID development; attending HAZOPs; estimating design projects; sizing and specifying control valves, relief valves and flow meters; preparation of instrument summaries; specifying field instrumentation; Engineer and Designer supervision; designing trip systems, trip logics and cause/effect charts; writing functional specifications/design narratives; witnessing functional testing of DCS and trip systems; specification reviews; planning; budget control (manhours and materials); writing construction scopes of work and contractor technical bid evaluation; SIL evaluation (using Shell's IPF evaluation techniques); DCS configuration; construction supervision and loop checking.

In his last full time position he assumed a 'hands off approach', working in a Consultancy role offering technical support to staff on Projects and in Operations – both offshore and onshore.

Now semi-retired he works as independent consultant.

Currently Independent Consultant – Functional Safety, Instrumentation and Control

Clients include:-

- exida
- IDC Technologies

04/02 to 05/07 **PETRONAS CARIGALI (Upstream Exploration and Production) Malaysia's National Oil Company - Principal Engineer (Technical Consultant)**

Duties included:-

- Providing technical support to project teams and worldwide Operations groups
- Mentoring and training
- Reviewing Consultant's offshore/onshore design/construction packages from conceptual to detailed design
- Reviewing front-end project documentation/proposals
- Attending HAZOPs and participation in SIL verifications
- Driving new technology – partial stroke testing, virtual metering, Foundation Fieldbus, Process Optimisation offshore- with associated pilot projects (METSO, Multiphase Solutions, Singapore Polytechnic and Invensys)

Co-ordinated and wrote the subject matter for eLearning courses 'Life of Field' and 12 modules on 'Instrumentation and Control'

On a fire damaged platform – solely responsible for modifying PI&Ds, Cause and Effects; specified and ordered all new electronic instruments to replace pneumatic field instrumentation. Replaced pneumatic controls with Foxboro/Triconex remote I/O. Refurbished or purchased new in-line devices. Went offshore, to assist during construction, commissioning and start-up: from fire and deferred production, to start-up, in four months

10/92 to 04/02 **AIR PRODUCTS PLC - Lead Engineer**

2/01 – 04/02 Litvinov Additional Scope – Czech Republic
Automation of the 10 existing compressors, utilising Moore Products DCS. Complete re-instrumentation.

4/00 – 2/01 Litvinov ASU II – Czech Republic
Cryogenic air separation plant with N2 and O2 pipeline plus extensive tie-in modifications to an existing plant.

7/99 – 4/00 Fajr ASU - Iran
Dual train air separation plant with N2 and O2 storage

4/98 – 7/99 Petronas HYCO – Malaysia (managing contractor Foster Wheeler)
Syngas separation to CO and ammonia syngas utilising coldbox technology

In additional to the general duties above, a DCS and Shutdown I/O list was produced together with functional control diagrams, control strategies, sequence charts, for the Yokogawa CS3000 and shutdown logic for the Triconex TMR Shutdown System

11/97 – 4/98 Exxon Syngas Project - Holland
Mixing station for CO, Syngas and H2 pipelines with telemetry links.

11/96 – 11/97 FAB –14 Intel Ireland; FAB – 18 Intel Israel Projects
Ultra high purity H2, O2, Ar and N2 for Intel's Pentium chip production facilities.

6/96 – 11/96 Pernis HYCO Debottlenecking Project

Process modifications necessitated various instrumentation system additions and modifications. Supervised the installation contractor during a six-week shutdown.

8/94 – 6/96 Rozenburg ASU III – 3000mt/d O2 Air Separation Plant (largest in the world)

10/92 – 8/94 Pernis HYCO Project - hydrogen and carbon monoxide production from an existing natural gas ammonia reformer plant.

Replaced all pneumatic instrumentation for electronic/hazardous area certified types, redesigned the analyser system. Designed HIMA PLC shutdown and burner management system, co-ordinated with Bailey Infi 90 configuration team and the drawing office. Designed flam-gas and CO monitoring/detection systems, designed Woodward steam turbine governor systems, Bently Nevada system. Checked and refurbished all control/relief valves.

6/91 - 10/92 WIMPEY CONSTRUCTION - **Principal Instrument Engineer**
Shell Haven Refinery - Central Control Room Project.

Responsible for the Honeywell TDC 3000, PM300 system (two LCNs, 25 PMs, 10 PLCGs +). Duties included planning/man-hour control of post FAT reconfiguration, supervision of four software engineers, Client and Vendor interfacing. Supervised the site installation and witnessed the Site Acceptance Tests. Co-ordinated a team of sixteen technicians who performed I/O and functionality tests prior to commissioning. Organised the writing of 'hot changeover' procedures. Planned and supervised the production of 'changeover' packs for the eight process areas. Acted as the Design focal point to Construction and the Client for all area 'changeovers'. During the plant shutdown, supervised the technicians who commissioned the remaining DCS I/O and trip check the HIMA safeguarding PLC I/O. Took over overall technical responsibility for closing out the project.

1/90 - 6/91 AIR PRODUCTS - **Lead Instrument Engineer**

10/90 - 6/91 Tarragona - Third Party Air Separation Unit.

1/90 - 10/90 Terneuzen Air Separation Unit Refurbishment.

7/89 - 1/90 M W KELLOGG - **Project Instrument Engineer**
Shell Polypropylene PPLS - Carrington.

Responsible for the functional block diagrams, I/O configuration details / slot allocations for Honeywell TDC 3000 (AMC), and supervised factory acceptance test.

82 - 89 DAVY McKEE (LONDON) LTD

4/88 - 1/89 **Lead Instrument Engineer** -
Esso Fawley Refinery - Residfiner Project.

Responsible for man-hour control, progress reporting, specification/data sheets, tendering, technical bid analysis. Client liaison, attending vendor meetings, checking of package vendor instrumentation drawings. Packages included: reciprocating and centrifugal compressors, pumps, furnace and hydrogen recovery unit. Purchased items included: local panels, machinery monitoring equipment (Bently Nevada), shutdown system (Hima) and control valves (Introl/Fisher).

4/87 - 10/87 **Senior Instrument Engineer**
Rummelsburg Power Station Desulphurisation - East Germany.

Responsible for technical bid analysis of instrumentation. East German subcontractor liaison. Checking vendor package instrumentation drawings.

4/86 - 10/86 **Senior Instrument Engineer**
Norske Hydro Fertiliser Plant - Immingham.

Responsible for man-hour estimations and progress reporting. Distributed control system (Foxboro Spectrum) I/O listings and supply of functional diagrams. Turbo-alternator- set vendor interfacing. Cable specification writing, tendering and technical bid analysis (TBA). Installation specification writing and subcontractor TBA. Production of computerised instrument database for indexing and cabling.

3/85 - 10/85 Senior Instrument Engineer

Russian Fibres Complex.

Solely responsible for producing computerised instrument database for indexing/cabling plus documentation to enable subcontractor to put forward a lumpsum turnkey instrumentation bid valued at £50M.

7/84 - 3/85 Lead Instrument Engineer

Tate and Lyle Silvertown Sugar Refinery - Process Renewal.

Duties included man-hour and progress reporting. Drawing office supervision. Installation materials tendering and TBA. Writing of installation specification and subcontractor TBA. Answering site queries.

83 - 85 Instrument Drawing Office Manager - Responsible for up to 35 designers.

Duties included man-hour estimations on all projects. D.O. progress on all projects. Interviewing/manning. Computer aided design development.

Major projects : Phillips Petroleum - Ekofisk

Waterflood Platform 2/4K.

Tate and Lyle - Silvertown Sugar Refinery.

Torc - Thailand Refinery Front End Package.

82 - 83 Senior Instrument Designer

Amerada Hess - Arzanah Island Water Injection.

Responsible for production of installation drawings.

82 Bechtel Ltd - Senior Instrument Designer

Mobil Beryl A Offshore Platform

Hired to check cable ladder rack fills.

81 - 82 Sirco Norway - Senior Instrument Designer

Phillips Petroleum Stavanger - Ekofisk Offshore Platforms

Instrumentation/fire and gas as-built drawing production.

81 Global Engineering - Senior Instrument Designer

Brunei Shell - Rasau Onshore Oil and Gas Project.

Responsible for production of all installation drawings.

80 - 81 Constructors John Brown - Instrument Designer

Occidental Claymore Offshore Platform.

Fire and gas as-built drawings after offshore reviews.

79 - 80 Matthew Hall Engineering - Instrument Designer

Shell Cormorant A Offshore Platform

BP Magnus Offshore Platform

Installation drawing production.

77 - 79 British Gas Corporation - Instrument Designer

Peterborough and Scunthorpe Compressor Stations.

On site as-built drawing production.

76 - 77 Amot Controls Ltd - Contracts Engineer

Control Panel design, price control, parts requisitioning, customer liaison and D.O. supervision.

72 - 76 Amot Controls Ltd - Apprentice Electrical Technician Engineer