

## CURRICULUM VITAE

**Independent  
Expert  
Chartered  
Process  
Oil & Gas Consultant**

**Technical  
Witness,  
Chemical  
Engineer,**



### SIMON RICHARDS

#### Qualifications

BSc (Hons) Chemical Engineering, 1985;  
C Eng Chartered Engineer, 1992  
Eur Ing European Engineer, 1992

#### Memberships/ Associations

Member American Society of Civil Engineers  
Member Institution of Engineering and Technology.  
Member Society of Petroleum Engineers.  
Senior Member American Institute of Chemical Engineers.

#### Sector Experience

Onshore  
Offshore

#### Geographic Experience

Africa  
Australia  
Central Asia  
Europe  
Middle East  
Russia  
South America  
South Asia  
South East Asia

## KEY SKILLS AND EXPERIENCE

- Cross-examined at Arbitration;
- 35 years' experience of process engineering;
- Skilled in process design, engineering, process simulation, flow assurance, reliability, materials of construction, and corrosion;
- Skilled in design of onshore/ offshore upstream oil & gas facilities and pipelines;
- Skilled in oil and gas facilities feasibility study and conceptual design;
- Skilled in forensic engineering analysis;
- Conceptual engineering CAPEX/ OPEX estimating.

## SUMMARY

I am a Chartered Engineer specialising in chemical and process engineering with around 35 years' experience. I have extensive experience in the process industries, mostly in oil and gas with experience in project development as well as design through to commissioning. I have strong experience and expertise in engineering and design of offshore and onshore projects. I have worked throughout the world on many high-profile projects.

I have strong expertise in production facilities and pipeline design as part of field development planning. My recent experience includes reviewing field development plans that led to improved terms for the host government in a production licence, I continue to provide expert advice and technical assessments for oil and gas development/ investment strategy.

I am skilled at process engineering and design including surface facilities conceptual design; pre-FEED CAPEX & OPEX estimating; Piping & Instrument Diagrams, Process Flow Diagrams; Heat & Mass Balances; Main Equipment (pumps, pressure vessels, compressors, tanks), piping, valves, pipelines, and ancillary equipment; process simulation; flow assurance; reliability; materials of construction; and corrosion.

I have been retained by:

- Clyde & Co'
- Belden Advocates and Solicitors
- Pinsent Masons
- Brigard Urrutia
- Curtis, Mallet-Prevost, Colt & Mosle
- DLA Piper
- Stewart McKelvey

I have prepared several CPR35 Expert reports on technical issues related to the:

- construction of fuel storage tanks in the Middle East
- construction of ancillary building services for an LNG project in Australasia
- modifications to an offshore oil platform in the UK sector of the North Sea
- corrosion of a gas pipeline in South America
- corrosion of an oil production platform offshore SE Asia
- design of a boiler in a waste to energy plant in the UK
- quality of heavy fuel oil and the design of the fuel oil processing system at a power station in the Near East
- design and commissioning of a waste to energy plant in the UK

I have testified at Arbitration.

## **EMPLOYMENT**

### **Bosco Xavier Ltd**

Andover, England

#### **Principal Consultant**

August 2016 to Present

I undertake consultancy work outside IR35. I work for several clients under subcontract in the upstream oil and gas industry and I also take Expert Witness commissions from law firms in my specialist field of upstream oil and gas. My recent work has included:

2020: I have been retained to prepare a CPR35 Expert report for a dispute involving a waste to energy plant in the UK. The dispute revolves around the design and commissioning of the thermal train and the quality of the fuel.

2020: I wrote a CPR35 Expert report for a dispute involving a power station in the Middle East. The subject was related to the quality of the heavy fuel oil supplied and the process equipment to treat it prior to combustion.

2020: I provided professional engineering services in respect of an insurance claim related to incomplete and erroneous design of a waste to energy plant in the UK.

2020: I provided technical expertise in the assessment of Premier Oil's Sealion Field Development Plan on behalf of a potential farm-in partner.

2018-present: I am reviewing the Field Development Plan (FDP) for several of Guyana's offshore developments on behalf of the government. This includes the Floating Production, Storage and Offloading ship (FPSO). I recommended changes to the FDP to comply with the Petroleum Agreement and to meet the environmental discharge expectations of the government.

2017-2018: I prepared a Reliability, Availability and Maintainability (RAM) report for the 1500km Tengiz (Kazakhstan) to Novorossiysk (Russia) pipeline that identified debottlenecking opportunities to increase capacity.

2017: I peer reviewed the conceptual design report for the proposed Alkali Surfactant Polymer (ASP) flood to increase production from the Cairn Energy (India) Mangala field.

2017: I provided conceptual design and cost estimating to develop a strategy for the development of gas resources offshore and onshore Angola on behalf of the government.

2016: I completed a cost estimate and prepared a report for the development of the offshore sour gas field Farzad B Gas, Iran on behalf of the then Indian operator. This included offshore platforms, pipelines and onshore gas processing plant.

### **Driver Group plc**

London, England

#### **Technical Director**

Feb 2017 to March 2020

I worked for Diales on an exclusive contract writing CPR35 compliant Expert reports and being cross examined at Tribunals in arbitrations. I also undertook oil

and gas engineering consultancy work separately from Diales. A summary of the cases and reports I have written is presented below:

February 2019 – present: I am retained an Arbitration regarding the corrosion of offshore platform risers. The dispute concerns onshore and offshore construction, corrosion, and materials selection.

June 2018 – Dec 2019: I was retained in a Litigation regarding alterations and additions to an offshore oil and gas production platform in the North Sea.

May 2018 – Present: I am retained in an Arbitration regarding corrosion of a gas pipeline.

Jan 2018 - Sept 2018: I was retained in an Arbitration regarding a gas supply contract.

Oct 2017 – April 2019: I was retained in an Arbitration regarding the construction of an LNG production project.

Mar 2017 – July 2017: I was retained in an Arbitration regarding the construction of a fuel storage depot in the Middle East.

### **Hill International**

London, England

#### **Technical Director**

Jan 2012 to Jan 2015

I undertook training to take on the role of an Expert witness.

2013-2014: I was retained by Stewart McKelvey, Nova Scotia Canada, as Technical Expert for the Respondent to give technical opinion on the cause of delays and cost overruns to the installation, hook-up, and commissioning of an offshore gas platform in the North Atlantic. The case was settled prior to the trial.

2012-2015: I also provided technical and commercial support to Phase 2 of the Kashagan Field Development, Kazakhstan by giving expert advice for the proposed compression island CC01. I also completed a technical assessment of the possibly causes of the Kashagan sour oil and gas pipeline failures that occurred in 2013.

### **Wood Group**

Woking, England

#### **Supervisory Engineer (Field Development)**

Jun 2011 to Jan 2012

I reviewed the changes to the facilities conceptual design for the Kashagan oil field for the period from 2008 to 2012 including supervision of other engineers. I prepared a report to determine whether the design development changes were in accordance with good oil field international practice.

### **Petrofac Energy Development UK**

London, England

#### **Senior Facilities Engineer**

Jun 2010 to Jun 2011

I undertook feasibility and concept selection studies to assess new business development opportunities for investment in the upstream oil and gas sector. I was responsible for opportunity framing, concept identification and selection, assessment, process engineering, flow assurance, risk analysis, CAPEX/

OPEX estimating, value engineering, benchmarking, and preparation of reports and other deliverables. The potential opportunities I worked on included:

Marginal Heavy Oil Field, Gulf of Suez. This was to complete the construction and installation of facilities for an offshore project.

Marginal Oil Fields, Gulf of Thailand. This opportunity consisted of providing field development services for a Thai operator.

Marginal Oil Field Concept Selection Study, Offshore Gabon. This included an evaluation of gas disposal options.

Kraken Heavy Oil Field Feasibility Study, Offshore United Kingdom. This considered the feasibility of a rig-mounted early production system. Key challenges included separation and flow assurance of the heavy oil.

### **EPConsult Energies**

London, England

#### **Principal Consultant**

Jan 2007 to Jun 2010

I led offshore and onshore field development studies, process engineering design reviews, reliability, availability, and maintainability studies.

I also developed a novel concept for the standalone development of small heavy oil reservoirs that could also provide carbon capture and storage (CCS) for enhanced oil recovery (EOR) applications.

I provided conceptual engineering design review for Cairn India Mangala, Bhagyam and Aishwariya fields onshore fields in Rajasthan, India.

I led concept selection study for the Kingfisher oil field in Uganda. I determined the cost to be approximately \$1.3 billion. The work included optimisation of the concepts including wells; facilities (production and processing engineering, process simulation, flow assurance); power generation and transmission; oil export infrastructure (pipelines, terminals, rail and inland water transport); project schedules; cost phasing; CAPEX; and activity based OPEX estimating.

I completed a RAM study for Reliance - KG-D6 field, which is a gas-condensate development in deep water offshore India. The scope included subsea production; FPSO; and a gas export system. I used MAROS software to build a RAM model including the FPSO offloading system that accounted for weather downtime.

I completed a conceptual design study for Petrobaltic B8 marginal oil field in the Baltic Sea offshore Poland. The study optimised the field development including the wells, facilities and export. The work included optimisation of the concepts including wells; facilities (production and processing engineering, process simulation, flow assurance); oil export infrastructure (pipelines); project schedules; cost phasing; CAPEX; and activity based OPEX estimating.

I completed a process design review for the Anadarko Peregrino FPSO offshore Brazil. The fluid is a highly viscous, emulsifying 14° API heavy oil. Design changes

were recommended to improve product quality and operability.

### **Petro-Canada**

Aberdeen, Scotland

#### **Senior Facilities Engineer**

Jan 2005 to Jan 2007

I was the facilities engineer for UKCS developments in the Petro-Canada Aberdeen office. I worked closely with the facilities engineering team in London, the commercial teams and the subsea and subsurface teams in Aberdeen.

I was responsible for operations support, exploration and development appraisal, study management, and the development of an integrated asset modelling tool. Provided facilities engineering, pre-development and re-development input to a number of non-operated assets in the North Sea, including HPHT and heavy oil.

I assisted with the preparation of corporate standards for "gate" reviews. I prepared life of field sheets for economic assessment.

I coordinated the progression and completion of the Aberdeen University Pigasys JIP, encouraging sponsors to join and chairing the steering committee. The JIP unfortunately ended before the project completion due to internal disagreements.

I prepared a proposal for an Integrated Asset Model in the North Sea and pre-qualified capable vendors.

I co-ordinated and led several feasibility and concept selection studies for exploration and project development studies in the North Sea, including heavy oil. Used Que\$tor Offshore and Onshore with subsea tiebacks.

I provided facilities engineering input to the concept selection phase for the Perth Sour Oil and Gas Field and the Herje HPHT Offshore Oil Field, Denmark.

### **Royal Dutch Shell plc**

Aberdeen, Scotland

#### **Senior Development Engineer**

Jan 2002 to Jan 2005

Following my transfer to Shell after the takeover of Enterprise Oil, I was the conceptual design and FEED study leader for new developments and minor projects to existing platforms on UKCS working in an integrated subsurface and surface team. I also undertook development scenario planning using Petro VR software.

I undertook Nigerian onshore/ offshore conceptual design studies, availability studies, layout studies, fluid characterisation, HAZID study, flow assurance using PIPESIM, capex estimating using CES and process modelling using HYSYS.

### **Enterprise Oil plc**

Aberdeen, Scotland

#### **Senior Facilities Engineer**

Jan 2001 to Jan 2002

UKCS licensing round prospect evaluation;

Field development planning using Que\$tor and Field Plan;

Flow assurance studies using PIPESIM;

Maintained the asset decommissioning cost database;

Asset acquisition and disposal support;

Integrated subsurface/ surface/ commercial team working;

Represented Enterprise Oil in various industry associations.

#### **Coflexip Stena Offshore**

Aberdeen, Scotland

#### **Senior Project Engineer**

Jan 1999 to Jan 2001

Field development planning using Que\$tor for West Africa, UK and Ireland projects;

Flow assurance studies using PIPESIM for GOM project;

Project management co-ordinator for addition of well clean facilities to a light well intervention vessel;

Managed flow assurance study for UK and eastern Canada;

Technical and commercial review of subsea and down hole processing technologies;

Developed cost model for mini-TLP sub-structure.

Concept selection for recovery of heavy fuel oil from sunken tanker, Erika.

#### **MAI Consultants Ltd**

Epsom, England

#### **Senior Process Engineer**

Jan 1998 to Jan 1999

Field development planning, capital and operating estimating using Que\$tor in the UK, West Africa and Kazakhstan including Tengiz, Karachaganak and Kashagan;

Economic evaluation using As\$et;

Upstream investment study for Kazakhstan;

Upstream 10-year investment forecast for UKCS and international;

Comparative economic study for UKCS to NW Europe and international;

Comparative international economic study for deep water and ultra-deep-water;

Technical and cost audit for Elgin/ Franklin development plan;

New technology review for artificial lift, subsea processing and boosting.

Cost estimate and economic analysis for a new offshore gas compression platform;

Deep-water study for subsea equipment vendor to determine optimum layout;

Market forecasts for ROV activity and high alloy steels in the North Sea.

#### **AMEC Process & Energy**

Aberdeen, Scotland

#### **Senior Process Engineer**

Jan 1997 to Jan 1998

Part of Marathon's project team for the Kingfisher development. Evaluated the impact of the Kingfisher development on the existing flare systems using Flarenet; completed an acoustic vibration study for the LP flare system; onshore process support during field commissioning.

#### **Wood Group Engineering**

Aberdeen, Scotland

#### **Senior Process Engineer**

Jan 1993 to Jan 1997

Responsible for a front end engineering design study for modifications to the BP Nigg oil terminal and a new fuel oil production plant at the site. Process Simulation with HYSIM included crude oil characterisations. Other responsibilities included preparation of all the P&ID's and PFD's for the project; preparation and checking of process datasheets and calculations; preparation of process philosophies and the process basis of design book; HAZOP & HAZID studies.

Other responsibilities involved a lead role in delegating process work to other engineers because of in depth knowledge of the project. Also detailed design experience of the Fulmar oil pipeline project. Preparation of start-up and commissioning philosophies, valve registers, operating procedures and ESDV leak test procedures to SI-1029. Hydraulic calculations for the new and existing pipe work. Steady state simulation using Pro-11. Study of dynamic behaviour of recycle cooler using spread sheet programme.

Conducted a feasibility study to tie-back the Amerada Hess Telford field to Ivanhoe/ Rob Roy semi-sub platform on central UKCS; included optimisation study using HYSIM of the Petrojarl facilities for the Hudson field; completed a feasibility study on Ivanhoe/ Rob Roy produced water system for the installation of additional hydro-cyclones and supervised field trials; reviewed the dynamics of the closed drains system on Ivanhoe/ Rob Roy associated with the leakage of crude from the MOL pumps. Joined the Total project team and assisted with FEED studies for tie-back of Dunbar to Alwyn on north UKCS. Joined the Amoco project team and assisted with design of a gas lift system and preparation of operating procedures for Montrose on central UKCS.

#### **Brown & Root Vickers**

Aberdeen, Scotland

#### **Senior Process Engineer**

Oct 1992 to Jan 1993

Conducted as built survey of the P&ID's for the Chevron Ninian South platform on north UKCS.

Joined Conoco project team and assisted in design of modifications to Conoco's LOGGS complex on south UKCS; HAZOP experience, preparation of bases of design and operating procedures; steady-state simulation using PIPESIM and HYSIM; design of utility systems such as produced water treatment, open & closed drains, HP & LP flares, process & utility cooling medium, glycol dehydration unit, power generation and



fuel gas treatment & conditioning; assisted in de-manning and maintenance reduction studies involving the identification of all redundant equipment necessary to route production directly to the host platform.

Provided operations support to Shell's Fulmar and Kittiwake Project which included process simulation with PRO-II simulation software; review of cooling water shortages during black start; review of hydrate blockage in instrument tubing on the gas dehydration plant; design of well annulus blow down system; design of new produced water treatment system; investigation of heat losses from compressors prior to start up; evaluation of existing drilling equipment; design of new mud-gas separator; simulation of HP, LP & LLP flares.

#### **Norwegian Contractors AS**

Stavanger, Norway

#### **Senior Process Engineer**

April 1992 to Oct 1992

Provided construction site support at Vats in Norway; updated the GBS P&ID's and other documents with construction modifications as necessary; conducted technical review of the interface between the platform utilities and drilling rig systems on Shell's Draugen platform.

#### **Aker Engineering AS**

Stavanger, Norway

#### **Senior Process Engineer**

June 1991 to April 1992

During preliminary engineering phase on Conoco's Heidrun platform; responsible for the utilities such as heating & cooling mediums, produced water treatment, waste heat boilers, fuel gas treatment and conditioning and open & closed chains; also FEED study for a subsea satellite tieback and modifications to platform systems; process simulation with HYSIM software.

#### **Foster Wheeler Wood Group**

Aberdeen, Scotland

#### **Senior Process Engineer**

Jan 1990 to June 1991

Provided process engineering input to the detailed design of the BP Forties field water system upgrade modification revamp retrofit project.

#### **Ewbank Preece Ltd**

Brighton, England

#### **Process Engineer**

Jan 1989 to Jan 1990

Designed offshore sour gas treatment facilities modification revamp retrofit for a North Sea platform, temporary oil storage solutions and a permanent oil products offshore loading facility in Libya.

#### **Costain Petrocarbon Ltd**

Manchester, England

#### **Graduate Process Engineer**

Aug 1985 to Jan 1989

Worked mainly on the design of cryogenic turbo-expander air separation and gas processing plants. Worked at site for a utilities offsite upgrade at Shell's Stanlow refinery. Worked on the design of the THORP nuclear reprocessing plant at Sellafield in Cumbria. Commissioning of an air separation plant in Bulgaria and carried out pre-commissioning checks and was responsible for the plant during the night shift. Worked on the fabrication and pre-commissioning for a truck mounted nuclear waste encapsulation facility and performed mechanical completion checks and pre-commissioning operations

### **TRAINING COURSES**

2021	Cross-Examination Day
2020	Courtroom Skills Training – Expert Witness
2020	Essential Expert Witness
2020	Expert Essentials
2018	Discussions Between Experts
2017	Witness Familiarisation- High Court – Civil
2017	Courtroom Skills Training – Expert Witness
2017	Cross-Examination Day
2017	Networking
2014	Advanced Professional Award in Expert Witness Evidence Training & Assessments - Court Skills & Advanced Report Writing
2013	Foundation Course
2012	Essential Expert Witness
2006	Landlines in Deserts and Mountains
2004	E&P Economics Training
2003	Opportunity Framing
2002	Reservoir Engineering for Other Disciplines

### **COURSE PROVIDER**

Bond Solon
Bond Solon
Legal Experience Training
Expert Witness Institute
Bond Solon
Bond Solon
Bond Solon
Bond Solon
Kintish
Legal Experience Training
Academy of Experts
Legal Experience Training
Trevor Jee
Shell
Shell
Petroskills