

**Name:** I R Wilkie  
**Date of birth:** 1956  
**Nationality:** British  
**Qualifications:** Chartered Engineer  
M.I.C.E.  
BSc (1<sup>st</sup> Hons) Civil Engineering

**Present Position:** Principal Safety/Structural Engineer

### **Synopsis:**

Iain Wilkie has over 20 years experience in the construction industry, the majority spent in the area of maritime and offshore engineering. As a chartered engineer, he has over 12 years experience in the oil and gas industry of which 7 years has been spent solely working in the area of Fire & Explosion Engineering. This combined with working for a major oil producer, major engineering contractor and a diving service company has allowed him to experience all aspects of the offshore design process.

### **AMEC Process and Energy Ltd**

**April 2000- Present**

**Position: Corporate Lead Safety Engineer**

Working for both AES dept. and General Engineering Group on the following activities

- Lead Safety Engineer – Skene Development
- Management of Technical Safety Issues in Aberdeen Office

Overall aim : Integrate Goal Setting Regime into Discipline Design

**February 1999- March 2000**

**Position: Principal Safety/Structural engineer**

Principal engineer in AMEC's Advanced Engineering Services (AES) department, which provides technical support to all parts of the AMEC group.

Activities included:

- Decommissioning bid for Phillips - Maureen Platform
- Review/Update of Safety Reports - Chevron Alba FSU
- Structural Support (Fire/Explosions) - Chevron Alba Platform Development
- Structural Support (Fire/Explosions) – Beryl Alpha Safety Case Update
- Structural Support (Fire/Explosions) – Skene Development
- Overall Safety Support – Sullom Voe Terminal Development

**October 1997-January 1999**

**Position: Principal Safety engineer**

Principal engineer on the Integrated Service Contract for Shell's Northern Business Unit for the last year has involved a complete review of explosion risks on all 5 platforms following the JIP test results. In addition, an update to the risk modelling for all 5 platforms has also taken place. Detailed workscope include

- Explosion protection reviews: Dunlin Alpha, North Cormorant, Eider, Tern, Cormorant Alpha – using SCOPE 3.12 and liaison with Shell TRC for EXSIM analysis
- Reviewing consequence modelling for QRA models
- Identifying areas that would benefit from more detailed structural analysis – TR/Blast walls

- Developing Mitigation Measures for All 5 platforms:
- Deluge Application in M2E Dunlin Alpha
- Re-start of HVAC Dunlin Alpha
- Strengthening of Blast walls
- Beta Testing Shell's SCOPE 3.2 program
- Developing Exceedence curves for several high risk modules
- Involved with response to HSE questions following submission of Northern and Brent safety cases

In addition to Northern engineering work involvement, other activities have included:

- Marathon – Explosion analysis of Brae A M13 – EXSIM using Tel-Tek(Mar-Aug 1998)
- Shell Brent – Providing Ad-Hoc Technical support (Jan 1998- present)

### **April 1991-October 1997**

#### **Position: Senior structural engineer**

Working for Brent engineering, a subsidiary of AMEC Offshore (formerly Matthew Hall Engineering), on the major redevelopment of the Brent field. Involved with the structural aspects relating to the safety case.

- Explosion protection reviews: Brent Alpha, Charlie and Delta (Scope/FLACS/Ventex)
- Structural consequence analysis : Brent Alpha, Charlie and Delta
- Providing and validating structural input for Brent Alpha, Charlie and Delta QRA models
- Reviewing QRA results and providing detailed rules set when required
- Identifying areas that would benefit from more detailed structural analysis
- Undertaking hand calculations to assess the PLL benefit of various mitigation measures
- Developing explosion/fire mitigation measures on Brent Alpha, Charlie and Delta
- Review of existing cladding system on Brent Field PLQs
- Undertaking dynamic analysis to assess the capacity of blast walls and modules
- Job Engineer for purchase of explosion relief panels (Brent Bravo)
- Undertaking fire loading calculations to determine collapse items
- Walkdown study to assess the impairment of pipelines to explosions
- Undertaking dropped object calculations for various loadings
- Providing structural support to safety studies: ESA, EERA, DOS and PFP workscopes
- Involved with response to HSE questions following submission of Brent safety cases
- Re-assessment of explosions protection reviews following results of recent JIP tests

#### Other activities

- Review of module strengthening for upgrade of platform crane (ASAS)
- Preparation of bid submissions

In addition to Brent engineering work involvement, other activities have included:

- BP Bruce - Project Engineer for Flare Tip Replacement via Helicopter (Mar-Aug 1996)
- FPSO Curlew - Explosion, Ship Impact assessments (June- March 1996)
- Chevron Alba - Explosion assessment for platform redevelopment (July 1996 - present)
- Iolair - Explosion, Fire, Ship Impact and Dropped Object assessment (Aug – Dec 1996)

### **Chevron (UK) Limited**

**January 1988-April 1991**

**Position: Lead structural engineer**

Providing design support for structural activities on all Ninian field platforms:

- Ninian Central platform deck re-analysis (API RP 2A)
- Platform monitoring systems
- Caisson support repairs
- Analysis of inspection results
- Flare boom re-analysis (API RP 2A, BS 8100)
- Feasibility studies for Strathspey and block 3/8A tie backs to Ninian field
- Spectral fatigue analysis of Ninian Northern platform
- Construction and installation of Ninian field SSESV's
- Design of topside and subsea items for tie backs from Strathspey, Lyell and Staffa

### **Sir William Halcrow**

**March 1987-December 1987**

**Position: Design engineer**

Naval refit facility for the Trident submarine.

Duties included outline designs for dock superstructure, office accommodation and nuclear processes areas. Outline design analysis undertaken using Images-3D and SAP IV (BS 8110 and BS 5950).

### **Oceaneering Services Limited**

**August 1985-February 1987**

**Position: Structural engineer**

Design of installation aids for pipeline and spoolpiece tie-ins. Habitat designs for weld repairs to Ninian Southern platform and Leman 49/28 (BS 449 and API RP 2A).

Involved with the bid submissions for:

- Conoco V fields - pipeline tie-ins
- Statoil Tommeliten - pipeline tie-in and protection
- Nam K14 to K15 - pipeline installation
- Elf East Frigg - hydrottesting of pipeline

### **PSA/DOE**

**December 1981-August 1985**

**Position: Project/Design Engineer**

Responsible for several capital and maintenance projects within HM naval base Devonport also maritime projects within Devon and Cornwall.

Projects included repairs to a breakwater, onshore support facilities, jetty repairs and dockyard dredging. Additional duties involved inspection of dockyard buildings and maritime structures (above and below sea level).

**PSA/DOE**

**August 1980-November 1981**

**Position: Section engineer**

Engineer for the construction of a 17km section of highway. Duties included the supervision of local labour, sub-contracts and excavation plant.

**PSA/DOE**

**March 1980-August 1980**

**Position: Design engineer**

Developing of computer graphics for detailing reinforced concrete based on the manual LUCID system.

**PSA/DOE**

**September 1989-February 1980**

**Position: Design engineer**

Responsible for the design of a workshop development at HM naval Base Osprey. Construction of a jetty extension at HM naval base Portland.

**Balfour Beatty**

**June 1978-September 1978**

**Position: Assistant site engineer**

Involved in setting out road alignment and drainage.

**Publications:**

**Fraser JR & Wilkie IR – Recent Practical Examples of Structural Response to Blast Loads – *ERA Technology* – pp 4.4.1 – 4.4.15 Dec. 1998**