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DAVID GALBRAITH

BSc., C.Eng., MICE, M. Inst. Pet.

David Galbraith has some 22 years experience in the offshore industry with contractors and operators and which include conceiving and managing a number of industry firsts. The use of carbon fibres for structural strengthening and robotics for underwater repairs are two of these. As part of the Offshore Decommissioning Communications Project he represented operators in developing positions for decommissioning redundant platforms in European waters. He is currently leading the international editing panel producing ISO 13819-2 for the design of Fixed Steel Offshore Structures. His involvement with fire, explosion and other safety case issues dates back to the early 1990s and includes assessment of fire, explosion and impact loadings and resistance as well as improvement schemes.

Academic qualifications and Professional memberships

B.Sc. (Hons.) Civil Engineering - University of Newcastle upon Tyne, 1974-1977
Chartered Engineer,
Member of the Institution of Civil Engineers
Member of the Institute of Petroleum
Member of Society of Underwater Technology
RGIT Offshore Survival – Valid to April 2005
Offshore Medical – Valid to 28th April 2003

Employment History and key experience

2000 to now **Galbraith Consulting Limited**

Established a consultancy to offer expertise in the areas of structural engineering, decommissioning and the development of advanced technologies. Current project include preparation of ISO 19902 and ISO 19901-1 to –4 (through OGP, ISO Project leader for ISO 19902 and ISO 19901-3), decommissioning of concrete GBS platforms, assessment of insurance claims.

1988 to 2000 **Mobil North Sea Limited, Aberdeen**

International Standards Preparation – Working at various levels on development of the ISO 13819 suite of standards for Offshore Structures, which will replace various API documents including API-RP2A. The standards encompass harmonised and updated requirements to make the document usable around the world and recognising the different governing criteria in different parts of the world. In 1997 I was asked to lead a small group (the editing panel) to produce a text suitable for issue as a Draft International Standard.

Member of UKOOA Decommissioning Drill Cuttings task force addressing the issues associated with piles of drill cuttings around platforms and their impact on

decommissioning and environmental effects.

Team Leader for Linnhe subsea installation decommissioning removal, including offshore surveys, environmental impact assessments, BPEO preparation and specification of removal works.

Seconded to Offshore Decommissioning Communications Project (ODCP) to develop and present the oil industry's case for decommissioning to politicians, European and national government scientists and officials, the media and to oil company staff. This project was initiated following the first attempted deep sea disposal of Brent Spar, and included presentations and escorting offshore visits of various groups, including OSPAR delegates and both newspaper and TV journalists from around Europe to various offshore installations.

Shearwater Development. Engineering committee representative High Pressure / High Temperature (HPHT) development to produce sales quality gas offshore.

Beryl B Additional Conductors study. Team leader for study into the viability and cost of installing additional well conductors on Beryl B.

Beryl B Blast Walls. Responsible for the conception, development and execution of conversion of walls on Beryl B from fire walls to blast resistant walls by using high strength, high stiffness carbon fibres. This was the first use of carbon fibres for structural strengthening in the offshore industry. Extensive development and testing, including large scale explosion testing was required.

Beryl B Sea water lift caisson repairs. Project manager for world's first diverless structural repairs.

Optimisation of Beryl structures inspection requirements

Pipeline freespan assessment methodology. Development of new methodology to minimise rectification requirements.

1978 to 1988 **CJB - Earl & Wright Ltd / John Brown - Earl & Wright Ltd / John Brown Offshore Structures Ltd, London and Aberdeen.** Various projects including design, site supervision and offshore installation and inspection.

1974 to 1978 **Redpath Dorman Long (Contracting) Ltd, Bedford and Methil.** Various projects including Kessock Bridge.

1973 to 1974 **Royal Aircraft Establishment, Ministry of Defence, Bedford**, Research into Boundary Layer Fluid mechanics for aircraft including wind tunnel testing

Professional Activities

1. Member of EPSRC Peer Review College for assessing UK University research proposals.
2. Member ISO TC 67/SC 7, this sub-committee is charged with the production of ISO 13819, a suite of international standards for the design of offshore structures for the oil and gas industries.

3. Convenor of ISO TC67/SC7/WG3 Editing Panel and UK representative and "de-facto" convenor of ISO TC 67/SC 7/WG 3, for fixed steel offshore structures.
4. Convenor of ISO TC 67/SC 7/WG 3/Panel 9, responsible for the production of a General Annex to ISO 13819 for topsides structures for all substructure forms.
5. Member of BSI committee B/525/12, representing the Institute of Petroleum.
6. Member of organising committee for ERA Offshore Structures Conferences,
7. UKOOA Structural Sub-Committee, Chairman 1992 – 1994, Member 1990 - 2000
8. Member of UKOOA Structural Sub-Committee, 1990 - present
9. E&P Forum Engineering Committee and Structural Committee, 1996 - 2000
10. Member of both E&P Forum and UKOOA Decommissioning Committees including the UKOOA Drill Cuttings disposal task force, 1998 - present
11. Member of HSE Research Strategy Board, 1996 - present
12. Founder member of Institute of Structural Engineers Offshore Discussion Group (Aberdeen)
13. Chairman of and/or Mobil representative on 18 Joint Industry R&D Projects including:-
    - Strengthening, Repair and Modifications to offshore Structures, (MSL Engineering)
    - Reliability of Minimum Structures, (WS Atkins)
    - Use of Fibre Reinforced Plastics, (Advanced Research Partnership)
    - Tubular Frames Project, (BOMEL),
    - Composites for strengthening and repair (DML and MSL),
    - Subsea structural repairs with composites (DML and MSL),
    - Fires and Explosions (SCI)
    - Structural response to blasts, (University of Liverpool).

Technical Papers

1. Groenenboom P, van der Wjeide P, Galbraith D N and Jay P G; "Virtual predictive testing and virtual prototyping in safety engineering", ERA Conference 'Offshore Structures - Hazards and Integrity Management', London 1996
2. Galbraith D N; "Finding the right balance between cost, risk, safety and environmental impact through effective project and cost management strategies", IIR Conference, Pro-actively decommissioning Offshore Structures, London, 1996
3. Ward J K, Liang J and Galbraith D N; "Non Linear Fire Analysis of Topsides Structures", ERA Conference 'Offshore Structures - Hazards Safety and Engineering', London 1995

4. Groenenboom P, Galbraith D N, Jay P G and van der Wjeide P; " Beryl Bravo - Blast Walls Conversion, Explicit Dynamic FE Analysis of Steel / Carbon Fibre Composite Wall", 95-CPE-05, ISOPE, The Hague, 1995
5. Galbraith D N and Barnes F; "Beryl Bravo - Blast Walls Conversion, Development and testing of Steel / Carbon Fibre Composite", 95-CPE-02, ISOPE, The Hague, 1995
6. Schleyer G K, Galbraith D N and Gillan I; "An integrated approach to optimising the performance of a Blast Wall System", Spain, 1994
7. Lalani M and Galbraith D N; "Underwater Strengthening, modification and repair techniques with and without diver or ROV intervention", Sixth International Symposium on Tubular Structures, Melbourne, 1994
8. Lalani M and Galbraith D N; "Beryl's Diverless Structural Clamps", Offshore Engineer, January 1994
9. Kaye D, Ingram J, Galbraith D N and Davies R; "Freespan Analysis, Correction Method saves time on a North Sea Project", Oil & Gas Journal, Feb 21, 1994
10. Galbraith D N; "Engineering Qualifications and Experience"; ERA Conference 'Offshore Structures - Hazards Safety and Engineering', London 1994
11. Galbraith D N, Lalani M, Sincock P and Geddes T; "Beryl Bravo: Diverless Structural Repairs", OTC 7501, Offshore Technology Conference, Houston 1994
12. Kaye D, Galbraith D N, Ingram J and Davies R; "Pipeline Freespan Evaluation - A New methodology", SPE 26774, Offshore Europe 1993, Aberdeen
13. Galbraith D N, Hodgson T and Darby K; "Beryl Alpha - Condeep GBS Analysis", SPE 26689, Offshore Europe 1993, Aberdeen
14. Galbraith D N, Hodgson T and Barltrop N: "Development and Implementation of Code-check methodology for plated Steel Structures", OTC 6912, Offshore Technology Conference, Houston 1992
15. Galbraith D N and Hodgson T; "Beryl Alpha: Increase in Deck Load Capacity", SPE 23123, Offshore Europe 1991, Aberdeen

Personal Information

Date of Birth	26th November 1956
External Activities	Group Scout Leader – 1st Auchenblae Scout Group