

CHRIS GOOGAN

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PROFILE

A corrosion engineering specialist with over 40-year industrial experience in over 40 countries. This has been predominantly in the hydrocarbon production industry, but also includes chemicals and petrochemicals, shipping, defense, power generation, water treatment and civil engineering and building projects. Experienced in making necessary assessments, defining and implementing project strategies, evaluating and delivering against client requirements, and with a deep knowledge of corrosion-related specifications and standards. Role is to improve clients' profitability through the application of corrosion management expertise. Much work involves comprehensive assessments of the most economic way to mitigate corrosion risks. Work often continues with clients, on an as-needs basis. Increasingly, work is from returning clients (including FTSE 500 companies). Have acted as an expert witness, including giving evidence under cross-examination: 5 x arbitration (4 in England, 1 in USA), 1 x High Court (England), 1 x mediation (Scotland).

SKILLS AND EXPERTISE

- Corrosion engineering
- Materials and materials selection
- Protective coatings
- Specifications and standards
- Strong problem-solving ability
- Cathodic protection
- Corrosion inhibition
- Corrosion monitoring
- Effective communicator
- Excellent IT skills

SERVICES

- Project corrosion engineering
- Corrosion risk assessment
- Surveying and failure investigation
- Corrosion training
- Corrosion management planning
- Design and specification
- Expert witness

EXPERIENCE

2001 – Present **Freelance Materials and Corrosion Engineering Specialist**
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The following selection indicates the range of the **250+** projects carried out for **90+** clients since 2001. A full list is available on request.

- **AIE (UAE):** for multiple Gulf Region clients: corrosion engineering support for onshore and offshore petroleum projects
- **Andrew Palmer & Associates:** (Aberdeen, London and Richmond offices) In-house materials and corrosion support on multiple North Sea projects.
- **Atkins:** for Talisman Energy: Review of corrosion implications of shrouded subsea flange (Flyndre/Cawdor pipeline); for Saudi Aramco: corrosion engineering support: gas compression project (FEED.)
- **BP:** corrosion support for GES project (Angola); materials & corrosion support for PCC project (Angola) and West Nile Delta Project (Egypt).
- **Cadogans/HKA:** for 20+ confidential clients: expert witness support on: corrosion of offshore wind turbine structures; corrosion of submerged hydraulic equipment; corrosion of waste-water treatment tanks; corrosion of roof structures, hydrogen embrittlement of high tensile bolts, corrosion failures of air-conditioning units, pitting corrosion in thin-walled carbon steel hot water systems, materials selection issues in sub-sea and onshore petroleum developments, pitting corrosion under hydro-test, protective coating issues with refuse-derived fuel power plants.
- **Carisbrook Shipping:** investigation of ship's hull and rudder pitting corrosion issues (Spain and Belgium)
- **CH2M-Hill (UAE):** for multiple Gulf Region clients: corrosion engineering support for onshore petroleum production and petrochemical project
- **Costain Upstream:** Pipeline cathodic protection designs (two projects).
- **CWaves Ltd.** Corrosion survey and assessment: hydrocarbon product tank farm (Mauretania).
- **Foster Wheeler:** for Woodside Petroleum: Conceptual materials selection for offshore LNG plant (Australia)
- **ITM Energy Ltd:** Advice on corrosion in electrolytic hydrogen generators
- **IXBlue (France):** review of corrosion threats to an ROV guidance system.

- **Jacobs:** Expert witness in mediation relating to corrosion protection of bridge support structures
- **Keir Construction:** Assessment of corrosion under insulation issues in hotel complex.
- **Norton Rose** (for underwriters) Expert witness support relating to MIC of ship's ballast tanks.
- **PDO (Oman):** Evaluation of corrosion problems caused by stray current electrolysis.
- **Shell UK:** Asset corrosion engineer and mentoring. Team leader on corrosion inhibition project. cathodic protection reviews of onshore and offshore pipelines; design support for impressed current cathodic protection retrofit for offshore gas production complex.
- **Shell (Nigeria)** Team Leader: Pipeline Integrity Management System project.
- **Taqa Bratani:** Subject Matter Expert for North Sea impressed current CP retrofit project.
- **Tecknika:** for Sirte Oil corrosion assessment of under-protected gas pipeline (Libya).
- **Teekay Petrojarl:** Investigation of topsides corrosion on an FPSO
- **Wood Group Kenny:** for BP cathodic protection design review for subsea flowline network.

PRIOR CAREER

Experience Prior to antiCORR

1984-2000 Global Corrosion Consultants Ltd (Shifnal, UK) - Director

A founding member of an internationally respected corrosion engineering consultancy; contributed to a large proportion of the **750+ projects** carried out by the firm during this period.

As a director of a subsidiary company, was responsible for numerous projects on the condition assessment and corrosion protection of concrete reinforcement. Former chairman of the UK Corrosion Engineering Association Task Group on Corrosion Monitoring of Concrete Reinforcement (1989-1992).

1979-1984 International Paint plc (Gateshead, UK) - Technology Manager (Corrosion)

Multiple roles, including: corrosion research supporting the development of innovative heavy-duty coatings, technical service support in respect of alleged coating failures, corrosion and cathodic protection issues. Represented Paint Manufacturers Association on BSI committee developing standards for cathodic disbondment testing.

1976-1979 (Post-graduate corrosion studies)

(see below)

1975-1976 Roan Consolidated Mines (Ndola, Zambia) - Chemist

Provision of analytical support and QC services in a copper refinery, including training of local staff.

1973-1975 British Steel Corporation (Chemicals) Ltd. (Sheffield) – Chemist

Multiple roles, mainly focussing on corrosion problems in coal tar distillation and effluent treatment equipment.

EDUCATION/TRAINING

Professional accreditations:

- FICorr, MIM³ and MRSC
- Chartered Status: CEng. Eur. Ing, CChem and CSci

Academic qualifications:

- BSc – Chemistry (1973) - University of Nottingham UK
- MSc – Corrosion Science (1977) - UMIST, Manchester UK
- PhD – Cathodic Protection (1979) – UMIST, Manchester UK

ADDITIONAL INFORMATION

Training/Mentoring Services: I have prepared and presented experienced-based training courses by invitation (Kuwait, Libya, Malaysia, Nigeria, UAE, UK, USA) on various corrosion management topics. Acted as a mentor for the Institute of Corrosion Young Engineers Programmes 2018 and 2020.

Member of BSI committee GEL 630 (Cathodic Protection).

Publications: selected publications may be downloaded from www.anticorr.com

IT Competency: Windows and Mac, Microsoft Office®, corrosion rate modelling, clients' document control systems, etc.

Nationality: British