



# AIC

---

## CONSULTING ENGINEERS

www.aicconsultingengineers.com

T:+44(0)1708 702 483 M:+44(0)7786 952 518 Email: aic@rlisle.com

AIC Consulting Engineers Ltd, 256 Corbets Tey Road, London, RM14 2DT U.K

---

### CURRICULUM VITAE

**ARTHUR I. CARLISLE BSc(Hons) CEng MIMechE**

**Consulting Engineer and Expert Witness**

**Power Generation and Industrial Expert**

---

#### INTRODUCTION

**Chartered Mechanical Engineer** with over 30 years experience in all areas of Energy, Power Generation, Industrial Plant, Project Development and Operations.

I have many years' experience working at senior level and have the knowledge and expertise to conduct investigations, advise on matters for international arbitrations, and have fulfilled the role of Expert Witness on numerous occasions.

My work experience includes Major Coal, Oil and Gas Fired Energy Plants, Chemical Plants, Repair and Maintenance Facilities, and Renewable Energy Facilities comprising Wind, Solar and Biomass.

Having been Project Manager and Owner's Engineer for various multi-disciplinary projects, I have a proven track record in successfully completing complex construction projects on time and within budget.

I have held the positions of Plant Engineer, Project Manager, Operations Manager, Plant Manager and Owner's Engineer.

#### EDUCATION AND PROFESSIONAL ASSOCIATIONS

2011 – current	Chartered Engineer (CEng), United Kingdom
2011 – current	Member of the Institute of Mechanical Engineers (MIMechE), United Kingdom
1998 – 2004	Academic Council Member, Middleburg Technical College, South Africa
1993	Technology Leadership Program, Eskom, South Africa
1989	Professional Engineer, Engineering Council of South Africa
1988	Scholarship: Confederation of British Industry, United Kingdom
1985	Member of the Institution of Mechanical Engineers of South Africa
1985	BSc (Hons), Mechanical Engineering, University of the Witwatersrand, South Africa

## **BACKGROUND AND EXPERIENCE**

**Power Generation:** Power station and energy plant management and operations, engineering, construction, maintenance, production, staff management, health and safety, and environmental management.

My experience includes holding senior management positions on large coal-fired power stations, and project management for large multi-national power station projects, including biomass, coal, oil, steam and gas turbines, and combined cycle power plants.

I have conducted numerous investigations and analysis into failures of steam and gas turbines, reciprocating engines, large pumps, and hydro-turbines and am experienced with high pressure systems, including boilers, piping systems, compressed air and fuel gas, and have extensive knowledge of vibration analysis, component design and material selection.

**Renewable Energy:** Wind turbines, solar panels, biomass, hydropower, and battery storage. I have carried out investigations on wind turbine fires, gearbox failures and electrical damage, as well as storm damage, electrical failures, and fires. I have carried out numerous root cause investigations and risk surveys.

**Plant Experience:** Coal, oil, gas and biomass power plants, chemical plants, steam and gas turbines, boilers, high-pressure vessels and piping systems, compressors, pumps, heavy duty equipment, renewable energy (wind turbines and solar parks), transformers, high and low voltage electrical equipment, electrical networks, industrial equipment, bulk materials handling, conveyors, and storage systems.

As **Plant Manager** of major energy facilities, I have been responsible for all staff and equipment, daily operations, scheduling and planning of maintenance outages, emergency repairs, environmental management, fuel supply and electrical interface. My responsibilities have included: staff development and training, health and safety, quality control and monitoring programs, procurement of supplies and parts for outages and operations, and coordination with government agencies.

**Project Manager and Owner's Engineer:** Expertise in all aspects of project development including conceptual engineering and costing, contracting, engineering design, procurement, construction, staff development and training, health and safety, environmental, plant startup, commissioning and testing, and placement into commercial operation.

**Consulting Engineer and Expert Witness:** I have led investigations into plant and equipment failures, business interruptions, root causes of failures, costing, and damage assessments for the insurance industry. I have also investigated patent infringement claims, drafted expert and legal reports in compliance with CPR35, and have given evidence in court and ICC hearings.

## **EXPERT APPOINTMENTS AND COURT APPEARANCES**

### **Patent Infringement of Power Station Equipment**

Expert appointment to investigate allegations of patent infringement of power plant equipment for ICC Arbitration.

### **Energy from Waste Project, UK (2022)**

Expert appointment to assess the suitability of the plant design, the quality and suitability of the equipment supplied, installed and commissioned and also evaluate the maintenance and operations of the plant.

### **Containerised Diesel Generator Sets, Oman (2021/2022)**

Joint-Expert appointment to evaluate the cause and effect of dirt and dust ingress into containerised Gas Turbines. I provided the ICC with an Expert Report and presented Expert Testimony in Arbitration.

### **Crusher Failure, UK (2021)**

Independent Expert Appointment to evaluate the condition of the equipment and give an opinion on the reasons for its condition.

### **Wind Turbine Fire, UK (2021)**

Expert appointment to evaluate the cause of the fire, provide an Expert Report and respond to the other party's Expert Report.

### **Waste to Energy Recycling Plant, UK (2021)**

Expert appointment Contractual Dispute. Review construction documents to evaluate defects and plant condition.

### **Gas Explosion Engine Failure, UK (2018/2020)**

Expert appointment to determine the cause of the failure, evaluate the safety systems and performance of both the maintenance company and the owner's operations. I provided Expert Testimony in an Arbitration.

### **Construction of Gas Engine Power Station, UK (2018/19)**

Expert appointment to assess the construction of the power station, the condition of the engines and their capabilities. Drafted a CRP35 Report for court submission which was used in settlement of the case.

### **Compressor Vibrations, Malaysia (2018)**

Expert Witness. Analysed plant operating data and sequence of events and carried out analysis of vibrations to determine the suitability for operation and the damage incurred. Presented testimony in the Singapore ICC Arbitration Hearing.

### **Compressor and Pipework Vibrations, UK (2018)**

Expert appointment to review design documentation, vibration measurements and operational data to determine the cause of the high vibrations and the suitability of the design.

**Damage to Air-Cooled Radiators of Off-shore Platform, Australia (2017)**

Expert appointment to review damage reports and repairs and evaluate if all the repairs were required and if the parts replaced were necessary.

**Analysis of Bottling Plant, UK (2017)**

Expert Appointment for the evaluation of a bottling plant performance and assisted with the negotiations to reach settlement.

**Turbine Blade Failures – Gas Turbine, UK (2016)**

Expert appointment to review laboratory reports, determine the cause of the failure, review the blade refurbisher's work methods and quality procedures.

**Rock Crusher Failure, UK (2016)**

Expert appointment to inspect the rock crusher, review the maintenance and operating information and comment on the cause of failure and design deficiencies.

**Transformer Failure, Spain (2015)**

Expert Witness in court appearance to review operating and maintenance data, damage due to maintenance incident and repair work carried out. Commented on the condition of the transformer prior to failure and what actions the Operator should have taken.

**Tank Failures, UK (2014/5)**

Expert appointment to inspect failed tanks, determined the causes of failure, the extent of the repairs required and commented on remedial actions taken by the Contractor.

**Steam Turbine Failures, UAE (2014/5)**

Expert appointment to determine the causes of the failures and approximate time. Review operational data and water chemistry. Liaise with the Original Equipment Manufacturer (OEM) to identify repair solutions.

**Wind Turbine Failure, US (2012)**

Expert appointment to review blade failures of the fleet and review the design to determine the cause of the failure in preparation of legal proceedings.

**EMPLOYMENT HISTORY**

**2016 – Present: Consulting Engineer – AIC Consulting Engineers Limited (London UK)**

Investigations into Failure Incidents, Root Cause Analysis, Damage and Cost Assessments, Risk Surveys, Expert Witness and Engineering Consulting.

**2011 – 2016 Rimkus Consulting Limited (London UK and Houston, Tx, U.S.A.)**

Failure Investigations, Damage Assessment, Expert Witness.

**2010 – 2011 Bayfront Consulting, LLC (Haiti and St Kitts, Caribbean)**

Haiti: Project Manager for the construction of a power plant and establishment of the operations and maintenance infrastructure.

St Kitts: Chief Technical Officer for St Kitts Electricity Company (SKELEC).

**2006 – 2010 Booker Tate Limited, U.K. (Belize, Central America)**

Project Manager for the construction of a bio-mass power station, from green fields. Establishing the power station operating and maintenance infrastructure.

**2004 – 2006 Viva Methanol, (Lagos, Nigeria)**

Project Engineer for a new Chemical Plant Facility.

**1993 – 2004 Eskom, (Johannesburg, South Africa)**

Operations Manager at Arnot Power Station.

**1986 – 1993 Johannesburg City Council, South Africa**

Chief Engineer at Kelvin Power Station.