



CURRICULUM VITAE

ARTHUR CARLISLE BSc(HONS) CENG, MIMechE

RENEWABLES CONSULTING ENGINEER AND EXPERT WITNESS

POWER GENERATION AND INDUSTRIAL EXPERT

BACKGROUND AND EXPERIENCE

Chartered Mechanical Engineer with over 30 years' experience in all areas of power generation, industrial plant, project development and operations. Arthur has held senior positions internationally and carried out numerous investigations across the globe. His work experience includes; major coal, oil and gas fired power plants, chemical plants, repair and maintenance facilities, and renewable energy facilities (wind, solar and biomass).

Arthur has extensive knowledge working on all types of plant and equipment, including rotating machinery, diesel engine generators, gas fired engines, boilers, transformers, electrical networks, gas turbines, steam turbines and steam systems, wind turbines and solar farms, compressors, pumps and pumping systems, heat exchangers, fuel preparation, PF mills, fuel storage, and materials handling.

Arthur has applied his expertise as a **Senior Engineer** with broad experience on plant and industry to advise on numerous matters for International Arbitrations as Expert Witness, giving evidence in court, and drafting Expert Reports. His appointments have included fault analysis, root cause investigations, damage assessments, recovery, repairs, restoration and cost management, and encompass vibration analysis, metal fatigue, corrosion, creep, wear and tear, misuse, premature end of life, evaluation of maintenance and operating practices, environmental factors, and operational data extraction and analysis.

Arthur has carried out many root cause investigations into major failures, accidents, reduced life cycle and premature end-of-life of equipment. Investigations included physical examination of plant, collection of evidence, interviewing plant staff and witnesses to events. He has participated and led multi-disciplinary teams in conducting theoretical and laboratory analysis into failure events. On conclusion of his investigations, he issues his report with details of the incident, his findings, analysis and opinions. Where necessary, his reports are CPR35 compliant and used by legal professionals in conducting court cases.

During his career as **Consulting Engineer**, Arthur has conducted many risk surveys, especially on Renewable Energy Facilities including wind, solar, batteries and other electrical installations. Surveys have involved assessing the condition of plant, operations and maintenance practices, identification of risks, single points of failure and proposed measures to reduce or mitigate these.

EXPERT APPOINTMENTS AND COURT APPEARANCES

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 have provided Expert testimony in 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 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. Review design documentation, vibration measurements and operational data to determine the cause of high vibrations and suitability of the design.

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

Expert appointment. 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 evaluation of 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 blade re-furbisher'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 on 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.

WORK EXPERIENCE**AIC Consulting Engineers Limited (2016 – present)**

Consulting Engineer. AIC Consulting Engineers provide consulting services and support to the insurance and legal industries on matters relating to all fields of power generation, construction, heavy industry and maintenance facilities. Expert Witness in Arbitrations and Legal Proceedings.

Rimkus Consulting Limited, Power Generation, Industrial and Energy Facilities, Houston, USA and London, UK (2011-2016)

Consulting Engineer. Rimkus provides consulting and litigation support services for attorneys, corporations and insurance carriers, which are related primarily to power generation, industrial and energy facilities.

Bayfront Consulting, St Kitts Electricity Company, Management Contract (2011)

Chief Technical Officer responsible for all power generation and distribution on the island of St Kitts. Role included assessment and reorganisation, determining upgrades and future projects to create a cheap, stable and reliable power supply to the island.

E-Power Haiti, Electric Power Generating Plant, Haiti (2010/11)

Project Manager responsible for managing the design, construction and commissioning of a heavy fuel oil fired electric power generating plant from green fields to commercial load. Created the organisation and implemented the systems required to operate and maintain the plant.

Booker Tate Limited, UK, Renewable Energy Co-Generation Power Station, Belize (2006-2010)

Project Manager and Owner's Engineer responsible for the design and construction of a Renewable Energy Co-generation Power Station from green fields, using international contractors to engineer, procure, construct and commission. One of my key responsibilities was reporting to and liaison with the Banker's Engineers and other external entities.

Viva Methanol, Methanol Facility, Lagos, Nigeria (2004/5)

Plant Manager responsible for the off sites of a new Methanol facility which included a 120 MW power generation plant, 132 kV electrical distribution network and an oxygen plant. My functions included concept development, liaison with technology providers, compiling the bid documents, and conducting contract negotiations.

Eskom, Arnot Power Station, South Africa (1993 – 2004)

Operations Manager responsible for all operations of a 2,400 MW power station. Arnot Power Station fires coal in six high pressure water tube boilers each of which drives a 400 MW multistage steam turbine generator.

Programme Manager for the refurbishment and upgrade of the power station and responsible for project financial approval, statutory compliance, concept design, technology selection, compiling bid documents, tender evaluations and approvals, and conducting contract negotiations with the various vendors.

Johannesburg City Council, Kelvin Power Station, South Africa (1986 – 1993)

Assistant City Electrical Engineer responsible for all maintenance and engineering at the 600 MW Kelvin Power Station. Also responsible for the project to upgrade and modernise the power station to make it reliable, efficient and environmentally compliant.

EDUCATION, PROFESSIONAL REGISTRATIONS AND 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