



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, BESS 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, battery energy storage systems (BESS), 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 in compliance with CPR35. His appointments have included fault analysis, root cause investigations into major failures, accidents, damage assessments, recovery, repairs, restoration and cost management, and encompass vibration analysis, metal fatigue, corrosion, creep, wear and tear, misuse, reduced life cycle and premature end of life of equipment, evaluation of maintenance and operating practices, environmental factors, and operational data extraction and analysis.

His investigations involve physical examination of plant, collection of evidence, interviewing plant staff and witnesses to failure events and incidents. 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. His reports are 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

Fertiliser Plant Power Station, Saudi Arabia (2023 – 2024)

Expert appointment to assist with determining the power plant's suitability for take-over and evaluation of the performance testing. The matter is between a Canadian EPC Contractor and a Saudi Arabian Corporation.

Aeroderivative Gas Turbine Failures, Israel (2019 - 2024)

Expert appointment to assess the causes of regular and continuous failures of aeroderivative gas turbines driving electric power generators. The case was held in the Israeli Commercial Court with the defendant being a US multinational.

Patent Infringement of Power Station Equipment, Singapore (2023)

Expert appointment to investigate allegations of patent infringement of power plant equipment for an ICC Arbitration. The matter was between two multi-nationals from China and the USA respectively, with the hearing taking place in Singapore.

Fertilizer Power Plant, Morocco (2020 and 2023)

Expert appointment to assist the insurers with two catastrophic events, both involving fires and major equipment failures. The scope of work included determining repair and replacement scopes, and evaluating the condition of the plant prior to the failures.

Energy from Waste Projects, UK (2022)

Expert appointment to assess the suitability of the plant design, the quality and suitability of the equipment supplied by an American-based company, and installed and commissioned by a German Contractor. Arthur was also tasked with evaluating the maintenance and operations of other similar plants for ICC Arbitrations in Scotland and England.

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. Arthur provided the ICC with an expert report and presented expert testimony in the arbitration hearing.

Crusher Failure, UK (2021)

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

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 for a contractual dispute. Arthur's role was to review the construction documents to evaluate the defects and condition of the plant.

Gas Explosion Engine Failure, UK (2018 - 2020)

Expert appointment to determine the causes of the failure, evaluate the safety systems and performance of both the maintenance company and the owner's operations. Arthur provided expert testimony to the arbitration.

Construction of Gas Engine Power Station, UK (2018 - 2019)

Expert appointment to assess the construction of the power station and the condition of the engines and their capabilities. He drafted an expert report for submission to the court, which was used in settlement of the case.

Compressor Vibrations, Malaysia (2018)

Expert Witness. Arthur conducted an analysis of the plant operating data and sequence of events and carried out an analysis of the vibrations to determine the plant's suitability for operations and the damage incurred. He presented testimony in the arbitration hearing to the Singapore ICC.

Compressor and Pipework Vibrations, UK (2018)

Expert appointment to review design documentation, vibration measurements and operational data to determine the causes of the high vibrations and the suitability of the design for its application.

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

Expert appointment to review the damage reports and repairs, and to 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 the performance of a bottling plant 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 to review operating and maintenance data, the damage due to a maintenance incident, and the repair work carried out. Arthur commented on the condition of the transformer prior to the failure and on what actions the operator should have taken. He presented his expert opinion in court.

Tank Failures, UK (2014 - 2015)

Expert appointment to inspect failed tanks, determine the causes of the failures and the extent of the repairs required. He commented on the remedial actions taken by the contractor.

Steam Turbine Failures, UAE (2014 - 2015)

Expert appointment to determine the causes and approximate time of the failures. His work included a review the operational data and water chemistry, and he liaised 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 for 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