


# Guillermo Lopez, CEng, MIMechE, EUR ING

Director, Technical

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## Background

Guillermo is a Chartered Mechanical Engineer with close to 20 years of experience in EPC projects, process plants, and mechanical equipment. His areas of expertise include rotating equipment such as gas turbines, compressors, large pumps, and diesel generators. This also includes process equipment such as pressure vessels, heat exchangers, valves, piping, cranes, and lifting equipment. He has experience in the specification of specialist process equipment for concept studies and large-scale projects.

He has performed plant and machinery inspections to determine the cause of equipment failures and scope of damage. Guillermo performs damage assessments in accordance with international standards and has a particular interest in developing solutions to mitigate economic losses. He has experience in developing cost estimates to assist claims on a range of complex facilities, such as offshore installations, gas processing plants, petrochemical plants, storage terminals, and pipelines.

Guillermo provides consulting and litigation support services for legal, insurance, and corporate clients. He inspects and analyses mechanical failures involving machinery, evaluates equipment damage caused by fire and explosions, and develops repair cost estimates. He carries out technical investigations of equipment failure related to inadequate design, material and welding defects, manufacturing faults, quality control, and incorrect operation of machinery.

Guillermo provides technical support and claim management support for losses involving engineering, design, construction contracts, planning and estimating, failure to perform, offshore operations, and major safety incidents.

## Education and Certifications

- **Mechanical Engineering, MEng (Hons):** Cardiff University (2004)
- **Registered Professional Engineer, CEng – Mechanical:** UK Engineering Council
- **Chartered Engineer, MIMechE:** Institution of Mechanical Engineers UK
- **European Engineer Federation** (EUR ING)

## Geographies

- **Africa**
- **Americas**
- **APAC**
- **Middle East**
- **UK and Europe**

## Sectors

- **Energy**
- **Industrial and Manufacturing**
- **Oil and Gas**

## Project Experience

### Energy

**Flue Gas Desulphurisation Unit, India**
Damage assessment of equipment following fire at flue gas desulphurisation unit, including appraisal of scope of repairs and monitoring of reinstatement programme.

**Gas Turbine Disassembly, UK / UAE**
Inspection of damaged rotors in gas turbines to determine extent of damage and develop suitable repair and reinstatement options to minimise losses caused by lost production.

**Hydroelectric Plant, Colombia**
Inspection of damaged isolation valve and subsequent repair scheme on pipeline to confirm that suitable corrective action has been taken by the operator.

**Wind Turbine Generator, Mexico**
Investigation of damaged wind turbine generator post seismic event to determine cause of damage to steel sections and identify suitable repairs to damaged material due to manufacturing defects and the seismic event.

**Gas Turbines, UK**
Propulsion Engineer for aero engine in-service life management, including planning and execution of gas turbine overhaul in accordance with Six Sigma principles.

### Industrial and Manufacturing

**Waste to Energy Plant, Jersey**
Inspection of generator cracking to determine risks of continued operation, potential for machinery breakdown, and commentary on the cause of cracking.

**Recycling Plant, UK**
Damage assessment and reinstatement cost estimate for operator of recycling plant following fire, including development of heat zones and preservation plans for sensitive electrical and control equipment.

**Aggregates Plant, UK**
Inspection of process equipment at aggregates plant to identify pre-existing flaws and damage to equipment subject to a mechanical breakdown caused by catastrophic failure.

**Paper Mill, UK**
Review of machinery failure on steam turbine generator unit to assist resolution of dispute concerning cost and scope of repair and reinstatement.

**Food Manufacturing, UK**
Inspection and assessment of HVAC equipment damage following fire and assessment of equipment exposed to smoke.

**Chemical Plant, Poland**
Inspection of separation equipment failure and subsequent fire to determine cause of breakdown and identify suitable risk management measures for reinstatement.

**Marine Terminal, Malta**
Mechanical inspection of damaged slewing bearing on port terminal equipment to determine if failure is due to wear and tear or a single event.

**Tunnel Boring Machine, Turkey**
Inspection and assessment of damage to tunnel boring machine caused during transport to comment on the nature of the damage and the adequacy of the repairs.

## Oil and Gas

**Asset Integrity, UK (North Sea Operator)**
Mechanical compliance checks for cranes and lifting equipment, debottlenecking studies, acoustically induced vibration in piping, HTRI software simulations of shell and tube heat exchangers, valve design, fabric maintenance, and vessel inspection programs in United Kingdom North Sea.

**Mechanical Packages, Azerbaijan**
Senior Machinery Engineering Lead for full project lifecycle of machinery and rotating equipment from front end design, award of USD$20 million contracts, manufacture, testing, and installation including compressors, centrifugal pumps, and packaged equipment in accordance with NFPA 20.

**Gas Processing Plant, Tunisia**
Design, construction, and commissioning of mechanical systems and firewater systems in USD$800 million gas processing terminal (including offshore platform, pipelines, and storage), United Kingdom, United Arab Emirates, and Tunisia.

**LNG Plant, Algeria**
Damage assessment following fire and explosion at LNG Plant in accordance with API 579 and factored cost estimate for repair and reinstatement of equipment in liquefaction area, including heat exchangers, cryogenic pumps, and separation vessels.

**LPG Plant, Tunisia**
Mechanical project engineer for design, construction, and commissioning of gas processing facilities (offshore platform, pipeline export, processing units, power generation, LPG storage, and trucking operations). Included integration of mechanical packages, including firewater systems.

**Hot Oil Heater, Algeria**
Fired heater fire in gas processing plant, which included confirmation of scope of damage, development of repair scope, and supervision of construction schedule to advise insurers.

**Gas Treatment Terminal, Azerbaijan**
Front end design and detailed design of machinery and mechanical systems for USD$25 billion offshore production platform and gas treatment terminal.

**Offshore Platform, India**
Mechanical and piping design and construction supervision of USD$150 million offshore platform fabrication and installation project, in Dubai, United Arab Emirates, and India.

**Oil Refinery, Italy**
Investigation of piping failure due to corrosion under insulation to identify inspection deficiencies and advise on mitigation. Assessment of damage caused by incident to assist insurers establish adequate reserves for the claim.

**Urea Plant, Nigeria**
Assessment of auxiliary boiler performance in steam and power plant of ammonia complex to assist debottlenecking efforts and maintain sustained production. Review of plant enhancement programme to identify high-impact activities to increase revenue.

**Offshore Operations, UK**
Project Engineer providing technical support and project services to offshore operations in deepwater assets, and unconventional hydrocarbons.

**Gas Processing Plant, Trinidad**
Commissioning and start-up of mechanical systems at gas processing plant, including turbo-expander, gas compressor, and utility systems.

**Gas Compression Project, Peru**
Scope of damage and evaluation of compressor damage caused FOD. Inspection of gas turbine-driven compressor rotor and advice to client on technical improvements to prevent reoccurrence.

## Professional Experience

- **Rimkus (Formerly Capital Consulting International, CCi)** **2016 – Present**
  - Director, London
- **KBR Limited** **2012 – 2016**
  - Senior Machinery Engineer
- **BG Group (now part of Royal Dutch Shell)** **2005 – 2012**
  - Senior Mechanical Engineer
- **General Electric Aircraft Engines** **2001 – 2002**
  - Propulsion Engineer