

## Mamoon Alyah – Chartered Electrical Engineer

### Profile



Over 35 years of experience performing investigations of the root cause of incidents involving electrical power generation, transmission and distribution system including failures and defects of equipment gas, steam and wind turbines, PV solar panels, CSP power, energy storage systems (batteries, thermal), electrical fires, failure of electronic systems, electrocutions and others.

Instructed as an expert witness to prepare expert reports and give evidence in court rooms, depositions (USA) and arbitration/mediation proceedings in numerous jurisdictions around the world.

Frequent speaker at insurance and legal conferences on topics varying from fire investigation to restoration and reinstatement of complex engineering systems. Authored a number of articles and working group papers for different organisation.

### Experience

#### **CEERISK Consulting Limited – London, UK**

##### **Managing Director / Principal Engineer**

- Conduct forensic investigations of the root cause and liability following losses such as fires, explosions, machinery breakdown and workplace accidents.
- Perform engineering analysis of design, specifications, drawings, and installations of various types of electromechanical equipment in different applications and opine on defects (design, manufacturing or installation).
- Prepare expert reports (CPR 35 compliant) in relation to disputes involving the use and application of electrical and mechanical equipment in numerous applications including turbines (steam, gas and wind), central district cooling and heating, power generation (conventional and renewable), transmission and distribution, infrastructure, and large industrial and commercial buildings.
- Act as an expert witness preparing and giving evidence in compliance with rules of evidence in different jurisdictions and the ICC.
- Provide engineering consultation on loss mitigation and prevention to utilities (public and private), contractors, manufacturers, large corporation and government agencies in matters related to engineering risks.
- Conduct engineering risk assessment of electrical and mechanical systems in various types of properties, including schools, hospitals, power plants, commercial and industrial buildings.

#### **LWG Consulting UK Limited – London, UK**

##### **Director of Engineering**

- Investigate complex losses with emphasis on cause and origin of incidents.
- Perform failure analysis and damage assessment of equipment.
- Investigate nature and extent of damage to large machinery and complex equipment including turbines, medical equipment, printing systems, large power systems and other types of equipment.

#### **LWG Consulting – Chicago, USA**

##### **Director of Engineering**

In addition to engineering responsibilities, responsible for management of engineering research and analysis techniques; providing educational seminars to personnel of insurance companies and legal firms; and supervising of client services and providing expert technical consultation to the engineering staff.

### Qualifications

- **Bachelor of Science in Electrical Engineering**  
KWT University, September 1986
- **Fire Inspector/Investigator**  
Hennepin Technical College  
Minneapolis, MN, USA – 1996
- **Master of Business Administration (MBA)**  
Lake Forest Graduate School of Business, IL, USA – 2008
- **Chartered Engineer (Registration No. 593908)**,  
Engineering Council, United Kingdom
- **Professional Engineer (Registration No. 26809)**,  
Board of Architecture, State of Minnesota, USA in addition to registration in multiple states
- **Into Court Training Course –**  
The Academy of Experts,  
London, United Kingdom  
February 2010
- **Expert Witness Courses**, Bond  
Solon Wimington Legal – UK
  - Excellence in Report Writing – July 2011
  - Excellence in Report Writing - Written Evidence – July 2011
  - Courtroom Skills Training – January 2012
  - Civil Law & Procedure – September 2012
  - Cross Examination - January 2013
- **International Certificate in Enterprise Risk Management**,  
IRM – London, UK 2016

### Professional Associations

- Member – IEEE
- MIET – Institute of Engineering Technology, London, UK
- Sr Member – National Academy of Forensic Engineers (NAFE), USA
- Member – International Association of Arson Investigators (IAAI), USA
- Member – UK Association of Fire Investigators, UK
- Member – Energy Institute, UK

## Sample Forensic and Expert Witness Instructions

- Acted as an expert witness in **ICC arbitration proceeding in DIFC courts** concerning a construction dispute involving the design, accreditation and installation of switchgear and MCC assemblies at a district cooling plant in Abu Dhabi, UAE.
- Investigated and prepared expert opinions related to failure of a **harmonic filter at a wind farm in Republic of Ireland**. During the investigation, I completed full design analysis of different components and provided opinion related to premature failure of different systems at the plant.
- Investigated **blade failure of gas turbines** in combined cycle power plant in the Eastern district of Kingdom of Saudi Arabia. Prepared a report identifying improper commissioning and incomplete fuel ignition as the root cause of the blade failure.
- Acted as an expert witness testifying in jury trial regarding the failure of an underground cable joint in the **State of Minnesota, USA**.
- Testified in arbitration proceedings by **American Arbitration Association (AAA) in the US State of Illinois** in matter involving the failure of electrical switchgear assemblies and cable installations.
- Investigated the root cause of an explosion and fire in a **thermal power plant in Cairo, Egypt** where a hydrogen explosion was caused by blade liberation in a steam turbine. Expert report was prepared and used by the London Insurance market to determine policy liability.
- Investigated fire and explosion in a **374-MVA power transformer in a transmission substation in California, USA**. The investigation involved forensic testing and examination of HV bushing in Germany and tear down of the transformer in San Diego, California, USA.
- Investigated an explosion in a **345-kV (EHV) bushing** in a generation substation in Connecticut, USA. Following a 2-year investigation of damaged components, prepared an expert report and testified in deposition for over two days, presenting opinions related to the incident. Case was litigated in **Superior Court – State of Hartford, USA**
- Prepared expert report regarding an **electrical failure in a switchgear assembly** at a TV production facility in Leeds, England. Prepared expert report for solicitors who used the findings in mediation.
- Investigated serial **blade failures** in an Induced Draft Fan at a thermal power station under construction during commissioning.
- Investigated the root cause of a fire in a **VAR-Compensator** used at a solar power plant in south Jordan to improve power quality before connection to the EHV transmission substation.
- Investigated failure in a large electric motor used in a car crusher in Flint, Michigan in the USA. Published an expert report identifying the root cause of failure. Testified in deposition at Circuit Court for the **County of Genesee, State of Michigan**
- Investigated injury to an electrical contractor at a power plant who died as a result of injuries sustained when he was electrocuted while affecting repairs in a switchgear in a coal fired **power station in Joliet, Illinois – USA**
- Investigated and prepared expert report regarding a **blade failure in steam turbine** failure at a geothermal power plant in Jakarta, Indonesia. Investigation involved inspection of the plant in Indonesia, forensic examination of evidence, forensic testing of failed blades at a lab in Stuttgart, Germany in addition to engineering analysis. Expert report was prepared and published to insurers and reinsurers in London.
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## Professional Activities

- Combined Cycle Power Plants  
IMIA Annual Conference, Merida, Mexico 2015 – Chaired and presented findings of a workgroup on the design, installation and engineering risks at combined cycle power plants
- Root Cause Investigation of Engineering Claims  
Xchanging Learn at lunch Series, London, UK – June 2013
- Investigating Gas Turbine Losses  
Construction, Engineering and Energy SIG – CILA  
Lloyd's Old Library, London, UK – April 2012
- Investigating Power Line Incidents  
Edison Electric Institute – Claims Conference, Alabama, USA 2008
- Investigating Stray Voltage Claims  
Natural Gas Claims & Litigation Association Conference, San Diego, CA – March 26-29, 2006
- Engineering Losses:  
CILA Construction Energy and Engineering Special Interest Group, London, UK – October 2014
- Challenges of Investigating Turbine Losses  
CILA Annual Claims Conference, London UK – September 2013
- Root Cause Investigation of Engineering Claims  
Xchanging Learn at lunch Series, London, UK – June 2013
- Root Cause Investigation of Transformer Failures  
CEERISK Consulting Engineering Webinars, London, UK
- Electrical Failures not related to Weather Conditions  
IMIA Annual Conference, Singapore 2018 – Chaired and presented findings on investigation and risk assessment of electrical failures