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@ [mmowafi77@gmail.com](mailto:mmowafi77@gmail.com)

+ 971 50 270 98 70

 My Profile

 United Arab Emirates



# MOHAMMED MOWAFI

Freelance Technical Consultant  
and Trainer

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As a highly accomplished Mechanical Engineer with over two decades of experience, I bring a wealth of knowledge and expertise to the role of a Technical Consultant and Trainer. Throughout my career, I have consistently demonstrated a passion for engineering education, coupled with a strong commitment to nurturing the next generation of mechanical engineers.

With a solid foundation in mechanical engineering principles, I have a comprehensive understanding of various sub-disciplines, including thermodynamics, fluid mechanics, materials science, and structural analysis. My extensive experience has allowed me to work on a diverse range of projects, providing me with a practical perspective that I incorporate into my teaching methodologies.

In my role as a Mechanical Engineering Trainer, I am dedicated to creating a stimulating and interactive learning environment for students. I employ a student-centered approach, encouraging active participation and critical thinking to foster a deep understanding of complex engineering concepts. By utilizing innovative teaching techniques, such as case studies, hands-on experiments, and computer simulations, I strive to bridge the gap between theory and practical application, equipping students with the skills necessary to excel in their future engineering careers.

## Key Skills

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- Superb creativity, vision, and problem-solving skills.
  - Excellent interpersonal skills and self-confidence.
  - Extensive experience working on engineering projects.
  - Ability to make decisions in high-stress situations.
  - Great written and verbal communication skills.
  - Curiosity and a growth mindset.

## Work History

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**2022- Now**      **Freelance Technical Consultant and Trainer.**  
3A Training and Competency Development Company (UAE)

- Provide clients with highly skilled technical solutions and engineering consultancies.
- Conducting online or in site meetings with clients when required to discuss their technical and engineering needs.
- Led the training programs for the trainees and ensured that trainees have got the requisite knowledge and skills to perform their jobs competently and safely
- Conducting in-depth research and training courses on various technical processes.
- Providing expert advice on available solutions and technical changes.
- Project managing the implementation of technical solutions.
- Troubleshooting engineering and technical faults and errors.
- Evaluating the functionality of redesigned processes.
- Maintaining strong client relationships.
- Conducting after-service site visits.
- Identify and assess learners needs, and create effective learning options to meet those needs.
- Provide support in planning, designing and developing training materials and assessment instruments.

- Deliver training using a variety of training aids and appropriate case study resources to suit learners needs especially in topics of failure analysis and predictive maintenance for static or rotating equipment.
- Ensure effective content coverage by analyzing outcomes of the program and work placements.
- Maintain records of learners' progress, and provide guidance to learners in maintaining records of training activities and portfolios.
- Participate actively in improving the quality and effectiveness of training programs and assessments as well as one's own practice
- Plan and conduct activities for a balanced program of instruction, demonstration and work time that provides learners with opportunities to observe, question, and investigate materials covered during session.
- Provide a positive environment in which learners are encouraged to be actively engaged in the training process.

**2010- 2022**

**Senior Field Service Engineer.**

West Delta for Electricity Production Company (WDEPCo.), Egypt

- Enlarge scope of work, as Senior Mechanical Field Service Engineer (Maintenance Support), to Siemens units (2x325 MW) with its auxiliaries, the old power station, after the Normal Operation of Sidi Krir project at the end of 2010.
- In charge of "Adobe Team" activities, that team consists of 4 engineers (2 Mechanical, 1 electrical and 1 instrument and control) and about (12 to 15) technicians in different fields adding to those 2 welders, to prepare and perform all kinds of inspections, overhauls, repairing and testing of turbo generator units and its auxiliaries. Adobe Team activates based on predetermined data that collected from logbooks and records from operation department.
- Manage, supervising rigging, breakdowns, Minor and Major overhauls for Steam Turbines (Siemens 2units x325 MW) and all other checks and inspections daily, weekly and monthly with respect to manuals and recommendations of manufacturers.

**2007- 2010**

**Mechanical Installation and Commissioning Engineer.**

West Delta for Electricity Production Company (WDEPCo.), Egypt

- In charge of site activities management including planning, assigning manpower resources and tools, providing technical assistance to complete the work scope according to contractual requirements.
- Total coordination and responsible for daily monitoring and inspection of contractor's Piping Fabrication Operations from receiving materials (MRR) according to codes (i.e. ASTM, ANSI, NFPA and British Standards); Mechanical handover; Pre-Commissioning to pipe installation works.
- Preparation and follow up of Test Packages (Hydro, Pneumatic and Leak Tests) per system & sub-system, detail coordination in Punch List activities with details loop checking.
- Coordination between the office and site activities with detailed reporting by the daily and weekly progress review meetings with consultant, contractors, subcontractor, Area Superintendent, Site Manager and Project Directors for Static and Rotary Equipment.
- Ensure all in-field activities carried out safely complying with company environmental health & Safety (EHS) guidelines and procedures.
- Write accurate professional reports acting as a contact between our Head office and The Consultant.
- Use company e-tools to retrieve technical documents and management of packing list, bill of material and drawings (P&ID, Single-Line DWG., Isometric, IFC; Issued for Construction) for the completion of Lines-check walk down.
- Preparation and follow up of the Mechanical Completion, Pre-Commissioning and Start-up activities of the plant working with all parties to facilitate these activities.
- Assist Start-up during the commissioning phase ensuring proper and safe operation of the machine by evaluating the running parameters and troubleshoot of control system.

**2003 -2007**

**Turbines and Rotating Equipment Maintenance Engineer.**

West Delta for Electricity Production Company (WDEPCo.), Egypt

- Provide technical support for overhauling, repairing and testing activities of turbines and relevant auxiliaries and other Rotary Equipment; daily, weekly, monthly and annually by MS Project or Primavera programs according to different maintenance methodology; (RCM) Reliability Centered Maintenance or (CBM) Condition Based Maintenance, Adding to that

using (EMPAC) Enterprise Maintenance Planning And Control Program as a Computerized Maintenance Management System (CMMS) specially designed for the power plants.

- Manage, supervising riggings, breakdowns, minor and Major overhauls for Steam Turbines.
- Manage, supervising CI, TI (Combustor & Turbine Inspection: 8000, 16000, 24000, 32000, 40000 hr), maintenance and Major Overhaul Inspection (48000 hr) for Gas Turbine (25 MW GE Frame 5).
- To order plant spares and set track stock level so as to avoid shortage of spares during major overhaul of the plant for increased plant availability.
- Supervise, delegate and assist work for service/maintenance crew by controlling stock of consumable oil, spare parts and tools.
- Ensure all in-field activities, inspections and performance checks for all rotary equipment carried out in safety and reliable considerations and standards.
- Troubleshooting, Faults Finding and repair by analyzing problems with logic possibilities.
- Communicate, regarding progress and technical issues with engineers and specialists at Home office, and then write progressive reports at all levels of maintenance.

## Education

**2008 - 2010**

### **Diploma of Postgraduate Studies in Thermal Power Stations**

Alexandria University, Egypt (Alexu.edu.eg).

#### **RESEARCH THESIS**

Improvement of Performance of Thermal Power Plants and Boilers Efficiency

In this research, I choose to study the performance and the efficiency of boiler of 320 MW unit in Sidi Krir power station (Alexandria, Egypt) to study and identify the power loss and the ways to reduce those losses and raise the efficiency of the boiler as much as possible, based on the principle of raising of the boiler efficiency by 1% would mean to save millions of pounds, as well as tons of emissions from fuel combustion.

**1996 - 2001**

### **Bachelor Degree of Mechanical Power Engineering**

Alexandria University, Egypt (Alexu.edu.eg).

#### **UNDERGRADUATE THESIS**

Design of Off-Shore Controller of Aquatic Weeds

This project studied the operation theory of some sophisticated machines which just used to either cut or drag weeds from a pond. Unfortunately, their operation is expensive and not practical for most privately-owned ponds. Raking weeds out of water can be an effective control method in small ponds but my project provided well-maintained and practical equipment to handle demanding harvesting with proactive harvester environmentally safe, non-toxic hydraulic fluids, to protect water (Lakes or rivers) from spills of toxic hydraulic fluids, because it's operating as floating factory not only for just cutting the aquatic weeds but also for economic use of these weeds for both industrial and agricultural applications.

## Memberships

**Since 2013**

**Federation of Arab Engineers membership** "International Accreditation Approved by Society of Engineers- United Arab Emirates" (**Arabfedeng.org, Soeuae.com**)

## Languages

**Arabic** native, fluent **English** and basic **French**.

## IT Skills

Microsoft Word, Excel, Power Point, Access and Project. Other software's include Primavera, Auto Cad, Carrier's Hourly Analysis Program (HAP) and Web Applications.

### **I. Offshore Training (Italy)**

- Operation and maintenance of steam turbine, Generator, Condenser & Aux. training program. Location: ANSALDO Energia training school (Ansaldo-sts.com) - Genoa – Italy (18/10 - 14/11/2009)

### **II. Onshore Training (Egypt)**

- Operation and maintenance of steam power plants. (3/11-29/11/2007)
- Vibrations and balancing of rotating machines. (7/4-19/4/2007)
- Commissioning and performance analysis of steam power plant projects. (20/10-25/10/2007)
- Abnormal operation of steam power plants. (19/4-24/4/2007)
- Design and Maintenance of Plumbing Systems. (2/4-27/4/2016)
- Design and Maintenance of HVAC Systems. (14/4-21/5/2016)
- Full Course of Advanced English Conversation-C6 (08/08/2010-20/04/2011)

### **III. Onsite Training (Sidi Krir Site)**

- “Oil Free Rotary Screw Air Compressors” By Comp Air Korea Ltd. (11/1-17/1/2010)
- “Maintenance of Vertical and Horizontal Pumps” By CW-HYDRO INC. (23/1-24/1/2010)  
Sidi Krir Combined Cycle Power Project, Alexandria, Egypt.

**(All references are available on request)**

### **IV. Online Training**

- Diploma in Workplace Safety and Health (alison.com )
- Fundamentals of Health and Safety in the Workplace course (alison.com )
- Elements of Renewable Energy course (futurelearn.com )
- Wind Energy by Technical University of Denmark (DTU) (coursera.org )
- Introduction to solar cells by Technical University of Denmark (DTU) (coursera.org )
- Databases and SQL for Data Science by IBM (coursera.org )

## **Availability**

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I am able to start work **immediately** after official announcement.

October 2023