

**101597-MEC-MO-E-2000**  
**Mechanical Operation & Maintenance Engineer**

Holds a B. Sc. in Mechanical Engineering and has about 11 years hands-on experience, mainly in maintenance and operation, but also in commissioning, technical office, design and HVAC.

## PERSONAL DATA

Nationality : Egyptian  
Birth Date : 25/05/1978  
Gender : Male  
Marital Status : Married  
Residence : Damanhour

## EDUCATION

: B. Sc. in Mechanical Engineering, Alexandria University, 2000

## LANGUAGES

Arabic : Native Language  
English : Good  
German : Fair

## COMPUTER SKILLS

: Windows, MS Office, Internet  
: AutoCAD 14 & 2000 (and other advanced versions)  
: Carrier HAP 4.02 Load Calculation Program  
: Carrier Blockload Load Calculation Program  
: Elite Design programs  
: Carrier E20-II Duct and piping Design Program  
: Visual Basic 6  
: C++ programming

## TRAINING COURSES AND CERTIFICATIONS

: Received a course in Cadduct Software (<http://www.cadduct.com>) and AutoCAD based aiding design software.  
: "CAMS" Competency Assurance Management System, certified by BG-Group.

## CHRONOLOGICAL EXPERIENCE RECORD

**Dates** : From Sep. 2010 till now  
**Project** : Egyptian LNG Plant, Idku  
(12 gas turbines Frame 5002 D+ driving 20 centrifugal compressors Nuovo Pignone MCL and BCL types)  
**Job title** : Mechanical Maintenance Engineer  
**Job Description** :

- Planning and supervise periodic and preventive maintenance and repairing works for both gas turbines and steam turbines in site.
- Routine maintenance:
  - Lube and air intake filters replacement.
  - Rectify oil leakage for covers and pumps.
- Planned and supervised 4 modules replacement S/Ds.
  - Dismantled and reinstalled 12 M/C on site.
  - Replaced and overhauled auxiliary equipment for the twelve machines (lube, hydraulic pumps, couplings, and lube oil tank).
  - Participated in troubleshooting and corrective maintenance.
- Planned and supervised dry gas seal replacement for centrifugal compressor.
- Carried out field supervision for gas turbine axial compressor inspection (eddy current inspection for AXCO blades).
- Planned and supervised routine maintenance outages for gas turbine (minor – LTPI and majors).
- Highlighted Jobs:
  - Replacement of gas turbine torque converter.
  - Replacement of main lube oil, auxiliary and emergency pumps for gas turbine.
  - Alignment of HP and LP rotors.
  - Refurbished and replaced compartment ventilation fans.
  - Replacement of fuel gas valves.

**Dates** : From Aug. 2008 till Aug. 2010  
**Project** : Damanhour Combined Cycle Power Station (158MW):  
4 gas turbines x 25MW + 1 steam turbine 58MW  
**Job title** : Mechanical Maintenance Engineer  
**Job Description** :

- Planning and supervise periodic and preventive maintenance and repairing works for both gas turbines and steam turbines in site.
- Turbines Overhauls:
  - Major Inspection for Gas Turbine No 1 (Hitachi/GE MS -5001):  
Background: 25MW unit, single shaft, GE frame 5 (Hitachi modified by GE when converted into combined cycle), 5100 rpm reduced to 3000 rpm by reduction gearbox, Axial Compressor 17 stages, 2 stages turbine, 10 combustion chambers cylindrical type, 3 elliptical bearings air sealed, using diesel as a prime mover and air cooled 11KV Generator and the operations performed during the inspection were:
    - Opening the work permits and supervising lockouts, tagging and safety procedures.
    - Performing as found alignment checks.
    - Supervising Combustion Inspection for 10 combustion chambers in the unit including:

- Supervising the disassembly, rigging and reassembly of fuel manifold, fuel nozzles, check valves, flame detectors, spark plugs, sealing air piping and combustion chamber parts.
- Inspecting (visual and red dye penetrant) liners, crossfire tubes and retainers for cracks and replacing when necessary.
  - Supervising disassembly, rigging and reassembly of transition pieces, compressor covers, turbine cover and inlet plenum.
  - Taking compressor and turbine stages clearances checks.
  - Taking Turbine rotor Float (thrust clearance).
  - Inspecting (visual and red dye penetrant) turbine buckets and nozzles and replacing when necessary.
  - Inspecting Journal and thrust bearings clearances using lead wire, checking bearings IDs, air seals and checking for cracks, oil whips or other wear patterns.
  - Inspecting bearing air sealing orifices and piping.
  - Inspecting Load Coupling.
  - Inspecting unit accessories (Lube oil pumps, Hydraulic pumps, Ventilation fans, etc.).
  - Lube Oil flushing and cleaning lube oil tank.
  - Replacing intake filters (pre-filters and cubic filters) when needed.
- Major Overhaul for Steam Turbine:
  - Supervising disassembly, inspection and reassembly of medium pressure steam turbine (shells, rotor, diaphragms).
  - Taking clearances and measurements (diaphragms, crush pins, centering pins, oil deflectors, bearings, centerline key, thrust bearing shims).
  - Performing tests (bump test for thrust bearings, rub test for diaphragms packing, elliptic test for diaphragms, stack check for thrust bearing and drop check for horizontal joints of shells).
  - Performing diaphragms alignment using tight wire method.
  - Performing rotor alignment using 16 points method.

**Dates** : From Mar. 2008 till Aug. 2008

**Project** : Damanhour Combined Cycle Power Station (158MW):  
4 gas turbines x 25MW + 1 steam turbine 58MW

**Job title** : Operation Shift Engineer

**Job Description** :

- DCS control system supervision of:
  - 4 HRSG (Manufacturer: NEM) Single pressure heat recovery, 4 heat exchangers, feed water tank, high pressure drum, steam lines, high and low pressure circulation pumps and feed water pumps.
  - Steam Turbine Auxiliaries: Cooling Water Pumps, Hydraulic and Lubrication Oil Circuits, Condenser, Air Ejectors, Dump System and Compressed Air Circuits.
- Operation and supervision of:
  - Steam turbine (Manufacturer: GE, Controls: MARK IV).
  - Gas turbines (Manufacturer: GE frame 5, Controls: MARK II).
- Supervision of local operation, following up and troubleshooting of pumps, valves (electrical, hydraulic and pneumatic) and tanks.

- All electrical settings, generators / grid including all transformers, breakers and batteries operation.
- Electrical Maneuvers including in the Switchyard 220KV, Gas turbine Switchgear and Combined Cycle switchgear. Maneuvers include connecting and disconnecting circuits, isolating of bus bars, changeovers and cleaning up for isolators.
- Supervision of local operation of the Fire Fighting System for the entire plant (Deluge System for Transformers, Foam Suppression System for fuel tanks, Manual Open Sprinkler System for hydraulic and lubrication oil tanks in the combined cycle and CO2 Suppression system for gas turbines).
- Supervision of local operation of natural gas receiving tank, filters, pipelines and valves.
- Preparation and supervision of Work Permits including revising working cautions, dangers analysis and safety cautions.

**Dates** : From Oct. 2007 till Feb. 2008  
**Employer** : ProService (Engineering Company specialized in the field of HVAC projects)  
**Project** : BIBLIOTHECA Alexandria (Reconstructing HVAC system, Central Air conditioning system for the Alexandria Conference Center)  
**Job title** : Office Engineer / Site Supervisor  
**Job Description** :

- Surveying.
- Workshop AutoCAD drawings.
- Design: modifying and completing the main design of the air and chilled water system.
- As-built drawings.
- Construction supervision: installation, system commissioning and test works.
- System cost-breakdown analysis.
- Test, adjusting and balancing works for all the HVAC systems.

**Dates** : From Jul. 2007 till Sep. 2007  
**Employer** : Proservice (with Mercury Qatar Contracting Company), Muscat – Oman  
**Project** : Al-Bustan Palace Intercontinental Hotel: Renovation of the mechanical systems for the royal palace. Re-calculation of the HVAC cooling and heating load. Design of Plumbing and Fire fighting systems for some new designed areas.  
**Job title** : Technical Office Mechanical Engineer

**Dates** : From Feb. 2007 till Jul. 2007  
**Employer** : Proservice (Design and Project Services Company), Doha – Qatar  
**Projects** :

- Barjeel Residential Tower: HVAC system design with full engineering calculations in Load Calculation, Duct and piping sizing and pressure drop calculating, Design drawings for duct and piping.
- Al Sadd Stadium: HVAC system design with full engineering calculations and tender documents in the main football playground (Design concept and Design proposal and the development of this concept).

**Job title** : Mechanical Design Engineer

**Dates** : From May 2006 till Feb. 2007

**Employer** : TAB – The Engineering Company for Testing & Balancing Services (Doha, Qatar)

**Projects** :

- Asmakh Tower (Movenpic Hotel): Performing testing & commissioning for both HVAC & mechanical systems (Plumbing and fire fighting). Scope of work includes the commissioning of hot water systems, BMS system & chilled water system.
- Beverly Hills Towers: Performing testing & commissioning for both HVAC & mechanical systems (Plumbing and fire fighting). Scope of work includes the commissioning of hot water systems, BMS system & chilled water system.
- Regency Tower: Performing testing & commissioning for HVAC systems.
- El Wagba Palace: Performing testing & commissioning for H.H. Prince Tamim bin Hamad Palace system includes chilled water pumps, Air handling units & fan coil units.
- Doha Sports City: Performing testing & commissioning for the whole BMS system Khalifa Sports City, Aquatic Center.

**Job title** : Mechanical Commissioning Engineer

**Dates** : From Apr. 2004 till May 2006

**Project** : Damanhour Combined Cycle Power Station (158MW):  
4 gas turbines x 25MW + 1 steam turbine 58MW

**Job title** : Operation Shift Engineer

**Job Description** :

- DCS control system supervision of:
  - 4 HRSG (Manufacturer: NEM) Single pressure heat recovery, 4 heat exchangers, feed water tank, high pressure drum, steam lines, high and low pressure circulation pumps and feed water pumps.
  - Steam Turbine Auxiliaries: Cooling Water Pumps, Hydraulic and Lubrication Oil Circuits, Condenser, Air Ejectors, Dump System and Compressed Air Circuits.
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- Supervision of local operation of natural gas receiving tank, filters, pipelines and valves.
- Preparation and supervision of Work Permits including revising working cautions, dangers analysis and safety cautions.

**Dates** : From Mar. 2004 till Aug. 2004  
**Employer** : Alexandria University Engineering Office (specializing in cold storages and refrigeration technology projects consultants)  
**Job Description** :

- Design and consultation works for cold storage projects.
- AutoCAD and As-built drawings.
- Power Point presentations.
- Document translating: English to Arabic.