100988-MEC-MO-E-2006
Mechanical Operation Engineer

Holds a B. Sc. in Mechanical Power Engineering and has about 7 years hands-on experience in operation and maintenance of Power Stations.

PERSONAL DATA

Nationality	:	Egyptian
Birth Date	:	21/08/1977
Gender	:	Male
Marital Status	:	Married
Residence	:	El-Behira

EDUCATION

: B. Sc. in Mechanical Power Engineering, Alexandria University, 2006

LANGUAGES

Arabic	:	Native Language
English	:	Good

COMPUTER SKILLS

: Windows, MS Office, Internet
: AutoCAD

TRAINING COURSES AND CERTIFICATIONS

: 1 month in lubrication systems in EACK Center.
: 1 month training in internal combustion engine in EACK Center.
: 1 month training in AutoCAD software in EACK Center.
: 1 month in NEM Company (off-shore) training in Netherlands, which including operation, maintenance, instrumentation and electrical equipments and chemical dosing of the "HRSG" in huge power plants.
: Steam turbine operation and maintenance, Ansaldo on-shore training.

CHRONOLOGICAL EXPERIENCE RECORD

Dates : From 2010 till now

Project : El-Atf Power Station (750MW)

- 2x250MW gas turbines (MHI)
- 2 Heat Recovery Steam Generators 115kg steam/sec for each unit
- 250MW steam turbine (Ansaldo)

Dates : From 2007 till 2010

Project : Mahmoudia Combined Cycle Gas Power Station (300MW)

- 8x25MW gas turbines (General Electric)
- 8 Heat Recovery Steam Generators 50 ton steam/hr for each unit
- 2x56MW steam turbines (General Electric)

Job title : Shift Charge Engineer

Field of experience:

- I worked maintenance sections for steam turbine GE (56MW) Mark V:
  - Make major inspection.
  - Pumps maintenance and balancing.
  - Overall maintenance for condensate pumps (10 stages), vertical pumps. Maintenance for travel screen and main cooling pumps, hydraulic power unit, air compressors and steam turbine auxiliaries such as ejectors, lubrication system and condenser.
- I can deal with:
  - Gas turbine up to 250MW with different manufactures (GE, MHI).
  - Steam turbine up to 250MW with different manufactures (GE, Ansaldo) with different control systems and I have training with Ansaldo Stuff.
  - Turbine with different pressure levels up to 135 bar and I have off-shore training in Nem company in Netherlands.
  - HRSG Heat Recovery Steam Generator which the link between the gas turbine and the steam turbine with different pressure levels up to 135 bar.
  - Different types of pumps and make maintenance of:
    - HP/IP feed water pump EBARA (MODEL / EQUIP. 200x150SSD10M).
    - LP feed water pump.
    - Recirculation pump.
  - Transformers with different voltage levels up to 220KV.
  - Different types of valves (motorized, hydraulic, pneumatic) and make maintenance of all parts.
  - I can deal with hydraulic control systems.
  - Black out (emergency trip (shut down)) and starting the power station from dead point and I did it several times.
  - Hydraulic control systems.
  - Different types of compressors.
  - Chemical treatment of water and sampling systems.
- OWNER Representative Mechanical Engineer responsible for:
  - Start-up and operation of gas turbine Mitsubishi (2x250MW), M701F and it's related auxiliaries such as: Lube oil unit – hydraulic oil unit – purge air compressor – GT by pass damper – fuel gas compressor – vibration monitoring system – turbine cooling air cooler (TCA) – hydrogen filling system for cooling generator – hydrogen releasing system by using air after using CO2 – CO2 fire fighting system.
- For NEM HRSG boilers:
  - Perform the chemical cleaning according to procedures for condensate system & feed water system.
  - Perform the steam blow-out activities for HP steam, HRH &CRH steam, LP steam line.

- Start-up and operation of steam turbine ANSALDO (250MW) and it's related auxiliaries such as: Lube oil system – hydraulic oil system – jacking oil system – hydrogen filling system for cooling generator – vacuum system – STF condenser – seal oil sys.

- Also working as Owner Operation Engineer responsible for:
  - Conducting all preparation steps of units in field to realize permissive for start-up from control room such as (filling line of water free of bubbles, all safety valves ready, coolers in service, all skids of hydraulic and pneumatic ready, fire fighting ready, all electrical power source ready position of motorized valves in auto mode and ready to work locally, all manuals valves before and after control and motorized valves shall be open, etc.
  - Responsible of start up, operation, remarking alarms of units from control room and solve operation problems.
  - Survey in field for more check and confirmation of safe operation of equipment.
- Perform the sequence test for the following systems:
  - Condensate system & condensate pumps.
  - Feed water system (LP, HP/IP) & FWP's.
  - Circulating water system & CW pumps.
  - Service water system.
  - Closed cooling system.
  - Instrument and service air system.
  - Potable water system.
  - Cooling water intake equipment (sluice gate, traveling screen).
- Make major inspection for steam turbine Ansaldo (250MW) ABB PGP 5:
  - The main steps of this maintenance are:
    - Shut down the unit.
    - Cool down the unit until the temperature of the first stage <150ċ.
    - De-energize all energy sources around turbine. Lock-out tag-out.
    - Remove lagging.
    - Remove the bearing cover.
    - Measure and record rotor radial position.
    - Measure and record rotor axial position.
    - Install scaffold handrails around floor openings.
    - Remove platforms and support steel from around turbine.
    - Remove turbine insulation (where required for access).
    - Erect scaffold to access enclosure roof bolts.
  - Bearing inspection:
    - Instrumentation disconnection.
    - Disassembly of Bearing #1.
    - Inspection and clearance control.
    - Re-assembly bearing #1.
    - Disassembly turning gear and cover bearings.
    - Disassembly bearing #2.
    - Disassembly bearing #3.
    - Inspection and clearance control.
    - Re-assembly bearing #4.
    - Instrumentation Reconnection.
    - Borescop Inspection.
  - NDT (Non Destructive Test) Inspection the crack of bearing by Visual test, Dye penetration test, Ultra sonic test:
    - Re-assembly turning Gear and cover Bearings.

- After inspection protect the journals with gasket material.
- Re-assembly insulation valve S H and RH.

- Main Steam Valves Inspection:
  - Actuators Disconnection.
  - HP & IP Stop Valve Disassembly.
  - Instrumentation Disconnection.
  - HP & IP Control Valve Disassembly.
  - IP Control Valve Disassembly.
- NDT (Non Destructive Test) Inspection crack of valve by:
  - Dye Penetration Test:
    - Cleaner.
    - Developer.
    - Penetrate.
  - Visual Test:
    - HP & IP Stop Valve Re-assembly.
    - HP & IP Control Valve Re-assembly.
    - Actuators Reconnection.
- Generator Inspection:
  - H2 Purging.
  - Disconnection of the terminal connection to the collector rings.
  - Visual Inspection of slip rings housing and filters and check of brushes wear.
  - Visual inspection of slip rings and brush holders.
  - Bearing dismantling.
  - H2 seals dismantling.
  - Electrical test and visual inspection.
  - H2 seals re-assembly.
  - Pressure test.
  - Bearing re-assembly.
  - Slip rings re-assembly.
  - H2 refilling.
  - Clean all components in preparation for re-assembly.
  - Measure and record rotor axial and radial position.
  - Perform final inspection to confirm no any foreign materials are lost in the turbine.
  - Rotate the rotor to confirm that is not binding.
  - Remove all blanks from steam feed lines and reconnect to the turbine.
  - Reconnect all wiring, tubing's and thermocouples.
  - Re-install insulation on the turbine.
  - Turbine on turning gear.
  - Start-up assistance.
  - Turbine ready to start.