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Electrical Engineer

Holds a B. Sc. in Electrical Power & Machines Engineering and has over 14 years hands-on experience, including 13 years working in operation, maintenance, construction and commissioning at Power Stations.

PERSONAL DATA

Nationality	:	Egyptian
Birth Date	:	27/12/1976
Gender	:	Male
Marital Status	:	Married
Residence	:	Giza, Cairo

EDUCATION

: B. Sc. in Electrical Power & Machines Engineering, Al-Azhar University, 2001

LANGUAGES

Arabic	:	Native Language
English	:	Very Good

COMPUTER SKILLS

: Windows, MS Office (Word, Excel, Access, Power Point), Internet

TRAINING COURSES AND CERTIFICATIONS

: Training in Thermal Power Plant Operation, Babcock - Hitachi K.K. in Japan and Thailand.

: Trainings at Cairo West Power Station Training Center:

- 220KV & 66KV GIS Substation Operation and Maintenance.
- Unit (Generator, Boiler and Turbine) Protection.
- Industrial Security and Civil Defense Training.
- Hydrogen and Oxygen Production System.
- Turbine and Boiler Control Circuits.
- Boiler Feed Water Treatment.
- Station UPS System.
- Station DC System.
- Training Course for ABB G.I.S. ELK14 One and half.

CHRONOLOGICAL EXPERIENCE RECORD

Dates : From Sep. 2013 till Apr. 2015

Employer : EGYPTROL, SAMSUNG C&T Subcontractor

Project : Qurayyah Independent Power Project (6x750MW) – Combined Cycle, KSA

Job Description :

- Commissioning Engineer in:
  - 6x2x2x1 SIEMENS combined cycles total power 4000MW (12 GT x 220MW & 6 ST x 220MW).
  - SIEMENS SWGR MV & LV.
  - SIEMENS protection relay.
  - HYOSOUNG Transformer.
  - ALSTOM GCB.
- Protection relays testing for Siemens Protection relays.
- Transformer test:
  - Pre-commissioning, commissioning and start-up for Main transformers & auxiliary transformers.
  - Insulation resistance test.
  - Vector group test.
  - Turns ratio test.
  - DC winding resistance test.
  - Tan delta test.
  - ZERO SEQUENCE IMPEDANCE.
  - Magnetizing current test.
  - Oil breakdown test (die-electric test).
  - OIL & WINDING TEMPRATURE GAUGE CALIBRATION.
  - Check mechanical protection devices.
  - Check Tap changer.
  - Check Cooling Fans.
  - Transformer AVR systems.
  - Trip testing and interlocks.
- Interlock & Trip Test between power plant and switchyard (GIS-high voltage breaker).
- Stability Test.
- MV SWGR Test:
  - Loop check for all internal wiring.
  - CT (current transformer) Test.
  - VT (Voltage transformer) Test.
  - CB Tests (All CB tests (timing, contact resistance, insulation resistance).
  - Scheme and Interlocking.
  - High voltage test for MV Switchgear.
  - Trip testing and interlocks.
  - Bus bar test.
  - Primary injection for CTs loops.
  - Function check.
  - Bus bar stability test.
  - Final setting trip test with client.
  - Mechanical and electrical interlock test.
- LV SWGR Test:
  - Loop check for all internal wiring.
  - CT (current transformer) Test.
  - VT (Voltage transformer) Test.

- CB Tests (All CB tests (contact resistance, insulation resistance).
- Scheme and Interlocking.
- Trip testing and interlocks.

- GCB:
  - CB timing test.
  - CB contact resistance test.
  - CB Insulation resistance test.
  - CT (current transformer) test.
  - VT (Voltage transformer) test.
  - Trip testing and interlocks.
  - Function Check.
- Project handover and document making for electrical commissioning completed.

Dates : From Jul. 2011 till Aug. 2013

Employer : Cairo Electricity Production Co.

Project : 6th October Simple Cycle Power Station (4x150MW gas turbines)

Job title : Electrical Commissioning & Installation Engineer

Job Description :

- 4 GT x 150MW gas turbines Ansaldo Energia and its auxiliaries.
- Main transformer (step up trafo) 15.75/220KV and unit transformer.
- A 220KV GIS substation ABB ELK14 one and half circuit breaker.
- SAS system for ABB built on REC670 control relay of ABB.
- Operator of SCADA for ABB.
- GIS switchyard testing:
  - Mechanical Checks and Visual Inspection.
  - Wiring and Scheme check.
  - Insulation resistance test for all low voltage wiring and cabling.
  - Functional test of all controls and interlocks.
  - Resistance of all ground connection joints at 100 A DC.
  - Resistance of bus joints at 100 amperes DC.
  - Overall resistance of the main circuit.
  - Check contact resistance separate test for Circuit Breaker and all Disconnectors and Earth Switches.
  - Functional check of all alarms, interlocking and indication circuits through from the switchgear through to the power transformers.
  - CB's Timing Test (Open & Close) with contact travel, speed analysis and all related test of C.B.
  - Test on Disconnect Switch: CO and open time tests for the confirmation of early make and late break operation.
  - Checks on CB hydraulic system or vacuum system for pump start stop trip/close lockout threshold values.
  - HV Test.
  - All AC/DC MCBS shall be tested by trip test through current injection.
  - Measurement of current drawn by motor for CB and DS.
  - Verify the alarms being initiated by SF6 density gauges on LCC and up to control room during calibration.
  - Check that all cubicle space heaters and thermostats are functional and at correct temperature control set.
  - Functional test of trip free and anti-pump circuits.
  - Minimum control voltage trip and close operations.
  - Functional checks of breaker operation counter.

- Check spring charge time and motor currents at rated control voltage.
- For SF6 breakers, verify electrically the low gas pressure alarm and lockout functions.
- Check correct operation of all auxiliary "a" and "b" contacts (for breaker open/closed position).
- Calibrate the metering devices such as ammeter, voltmeter, SF6 Pressure Gauges…etc.
- Perform high voltage test at 10KV AC for 1 minute on all grounding-switches external insulating bushings.
- SF6 Purity, Dew Point and Leakage Test.

- CT (Current transformers) tests.
- VT (voltage transformers) tests.
- CB (All CB tests (timing, contact resistance, insulation resistance)).
- Scheme and Interlocking.
- Testers used: C.T Analyzer & EGIL & CPC100 & CDF6000 & TTR (transformer turns ratio tester) & CMC 356 (secondary injection) & FRA Analyzer.

Dates : From Aug. 2003 till Jul. 2011

Employer : Cairo Electricity Production Co.

Project : Cairo West Power Station:

- 2x330MW, Natural Circulation Boiler, Natural gas / H.F.O. fired, Babcock-Hitachi design, natural drum type controlled circulation. Including boiler draft equipments (2 FD / 2 GR) fans, air heaters, HP/LP bypassed system, 3 Stages Siemens Turbine, Siemens H cooled generator, soft water cooled condenser, 7 Stages regenerator feed water heaters, main circulating water system, closed cooling water system, water supply system, waste water system, sampling system, dosing system. Compressed air system, control system (ABB control system), emergency and black start diesel generators and hydrogen production system.
- 4x87.5MW, Natural circulation, natural gas / H.F.O. fired B&W boiler natural drum type controlled circulation. Including boiler draft equipment (2 FD / 1 GR) fans, air heaters, (DOS) Bailey INFI 90 improvement and Westinghouse generator and turbine design.

Job title : Operation & Maintenance Engineer

Job Description :

- Worked in:
  - 4x87MW steam turbines.
  - 2x300MW steam turbines.
- GIS substation 500KV one and half circuit breaker and 220 & 66KV GIS substation double Busbar and single circuit breaker:
  - Two feeders 500KV.
  - Eight feeders 220KV.
  - Eight feeders 66KV.
  - Two transformers 375 MVA (500/220KV).
  - Three transformers 125 MVA (220/66KV).
  - Two transformers 25 MVA (66/11KV).

Dates : From Jan. 2002 till Mar. 2003

Employer : Ministry of Defense

Project : Egyptian Army Service

Job Description :

- As-Built & Electrical drawing.
- Surveying Works.
- Planning of communications lines.
- Welding of communications cables.
- Installations cabinets and telephone boxes.
- Pulling works of communication lines.

Further experience:

Lecturer of Math & Physics for undergraduate.