

Muhammad Wakeel

Team Leader/Manager (Electrical) at OMS Pvt Limited (Co-Gen Power Plant 26.3 MW IPP)

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Bahawalpur

Summary:

A highly competent Electrical Engineer with over 13 years of experience in power plants and the process industry operation & maintenance at **OMS (Co-Gen Power Plant 26.3MW IPP)**, **Chanar Energy Limited (Co-Gen Power plant 22MW IPP)**, **Ashraf group of industries (44MW Capacity Power Plant & Sugar Mill)**.

Self-motivated, energetic and professional Electrical Engineer with hands on experiences related to Erection commissioning, Planning & Execution of Maintenance Activities (Corrective Maintenance, Preventive Maintenance & Predictive Maintenance) related to **LV/MV/HV Electrical Equipments** i.e **Generation Systems**: Synchronous generators (STG, GTG), excitation systems (static & brushless), generator neutral grounding resistors/transformers (NGR/NGT), black-start and emergency diesel generators.

Transformers: GSU transformers, Unit Auxiliary Transformers (UAT), Station/Start-up transformers, interconnecting transformers, MV/LV distribution transformers, CTs, PTs, CVTs. **HV/MV/LV Switchgear**: AIS substations, SF₆ circuit breakers, isolators, earthing switches, VCB panels, RMUs, LBS, ACBs, MCCBs, MCBs, fuse switch units. **Protection & Control**: Generator, transformer, feeder, motor and busbar protection relays (ABB, Siemens, Alstom, SEL), numerical relays, auxiliary relays, auto-synchronizers, synchroscopes, revenue & check meters, transducers. **Motors & VFD Drives**: LV & MV induction motors, DC motors, soft starters, LV & MV VFDs up to 4 MW (ABB, Danfoss, INVT, Winner), **MCCs.Distribution Systems**: Copper/aluminum busbars, HV/MV/LV power cables, control & instrumentation cables, cable trays, junction boxes, distribution boards. **DC & Backup Power**: Battery banks (Lead-acid & Ni-Cd), battery chargers, DC distribution boards, online & redundant UPS systems. **Automation & SCADA**: DCS, PLCs (Siemens, Yokogawa, SUPCON, Honeywell, Hollysys), RTUs, HMIs, plant & grid SCADA, fiber optic networks, Ethernet switches, VSAT & DPLC communication, IEC 61850, IEC 60870-5-101/104, Modbus, Profibus. **Substation & Grid Interface**: 132KV AIS Surge arresters, wave/line traps, insulators, grounding & lightning protection systems.

Power Quality & Reactive Power: Capacitor banks, APFC panels, harmonic filters. **Lighting & Utilities**: Plant indoor/outdoor lighting, emergency lighting, aviation obstruction lights, yard & street lighting systems. **Renewable Energy Systems**: Solar PV modules, string/central inverters, DC & AC combiner boxes, solar SCADA, weather monitoring stations. **Testing & Diagnostics**: IR & PI testing, Tan Delta, DGA, SFRA, contact resistance testing, relay testing (Omicron/Megger), power quality analyzers, thermal imaging, earth resistance testing. **Steam Turbines**: Hands on experience on steam turbines instrumentation control & protection Make: HTC, Shinko, Scoda Jinma, Siemens. **Water Tube Boilers**: (110 bar, 540C, 115TPH Make: Wuxi), (67 bar, 480C, 140TPH, Make: HMC Design by: AG), (23bar, 350C, Make: HMC). **Overhead Cranes**: Kone cranes 70T/5T capacity, Weihua Crane Group 80T/5T. **IT/OT Security**: Led a comprehensive IT/OT security implementation project at a critical infrastructure power plant, collaborating with a third-party vendor to deploy a robust security framework across operational technology (OT) environments. **Turbine Control & Safety System**: 505E, 505D Governor, UG8 Governor, Bentley Noveda 3500. **Calibration & Configuration**: All types of process instruments i.e pressure, flow, temperature, conductivity, analysers, control valves, MOVs, SOVs etc.

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Technical & Interpersonal Skills

- Calculation of heat rate & Initial Capacity Test of the Combine Cycle Power Plants & Thermal Power plants.
- Protection relay calculations, setting and programming (Altom, Siemens, ABB)
- Distribution system relay coordination study
- Study, designing, calculation and installtion of new electrical equipments on site requirements
- Installtion, configuration, commissioning and operation of variable frequency drives upto 4MW
- Technical reports writing that describes results or technical research on machines errors/faults and remedies
- Commissioning experience of 18MW solar power plant near Harappa city
- Software skills in AutoCad, Paneldraw, Proteious, Digisi4 for protection relays configurations, Visio
- Handled motors on different applications like belt conveyors, slat chain, centrifugal pumps, cutter, shredder, machines, stirrers,fan, blowers, rolling mills, water turbines, HVACs & Cooling systems.
- Strong organizational and communication skill, Excellent team player and self driven individual
- Programming, installation and commissioning of control systems PLC based like AllenBradley and Siemens, control system DCS based like Honeywell, SUPCON and Hollysys.

Job Experiences:

- Team leader/Manager Electrical at OMS PVT LTD Aug,2024 - Continue (26.35 MW IPP JDW-3 Co-Gen Power Plant)
- Manager Electrical at 22MW IPP Chanar Energy Limited from October 2021- Aug,2024

- Deputy Manager (Electrical) at 22MW IPP Chanar Energy Limited from 2017 - 2021.
- Engineer (Electrical Dept) at Ashraf group of industries 44MW Generation Power Plant from 2012 to 2017

Current Job Responsibility:

- Managing rotation plan, leaves & other necessary obligations of the 14 members E&I team.
- Responsible for preparation & execution of maintenance plan for planned outages.
- Oversee Electrical Safety Compliance (IEC, OSHA, NFPA 70E), Permit to Work (PTW) Systems, Hazard Identification Assessment (HIRA), Job Safety Analysis (JSA), Emergency Response & Fire Safety Awareness, Lockout/Tagout Procedures, Safety Audits & Inspections
- Coordinate with metering committee for monthly meter reading, invoice submission to NTDC, NPCC and CPPA offices. Communication with NEPRA, NTDC and SEPCO for any operational and technical issues
- Liaised and communicated with NTDC, NEPRA, CPPA, ISMO, and other regulatory authorities for operational data reporting, outage coordination, and compliance documentation.
- Support load management, grid synchronization, and operational performance monitoring to ensure safe and reliable
- Ensured operational reliability of auxiliary systems such as instrument air compressors (ELGE, compAir, Almig, generators (Caterpillar, Cummins, Janbacher upto 1MW), battery chargers, and plant lighting systems.
- Coordination with electrical inspector for annual inspection of plant
- Responsible in maintaining critical spare parts inventory by identifying necessary items.
- Responsible for carrying out work on annual maintenance schedule of equipment maintenance and testing
- Responsible for annual testing of protection relays of feeders and generators
- Responsible for FAT and SAT of newly purchased equipment
- Responsible of preparation of electrical equipment specification by assessing new project requirement and then technical assessments of vendors offers against project specifications.
- Adequate usage of MS Excel for managing maintenance records, CMMS, test results, PM/CM schedules, and safety compliance with ISO and OHSAS standards.
- Coordinate with supply chain team to maintain streamline demand & supply of spares & introduce new vendors, techniques for low cost solution.
- Oversee the selection, training and performance of electrical team members
- Responsible of keeping record of the dimensional drawings, SLDs and GA drawings after any changes/upgrade

Key Projects:

- Complete installation, commissioning and operation of 22MW IPP Power plant (Chanar Energy)
- Complete installation, commissioning and operation of 5 MW Power Unit at JDW Ethanol site Dehrki in 2025.
- Installation, commissioning and operation of 15MW Extraction condensing TG set at Ashraf sugar mills Limited.
- Installation, commissioning and operation of 20MW back pressure TG set at Ashraf sugar mills Limited.

Certifications & Awards

- 3 day basic life course organized by RESCUE 1122 in Chanar Energy Limited
- Won 2nd prize by displaying final year project in COMPPEC-2012 held at EME (NUST)
- Attended 7 lecture long commissioning course on zoom by M/S Industrialmentore.

Education:

MS Electrical Engineering

BE Mechatronics Engineering

Languages:

- English
- Punjabi
- Urdu

Hobbies:

- Cycling to stay fit
- Reading technical reports and watching technical videos to stay updated