

Muhammad Ali

Lead Electrical Engineer

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Profile

Electrical Engineer with 12+ years of hands-on experience leading operations, maintenance and commissioning of power plant teams in Wind Power Generation and Nuclear Power Generation. Proven track record in delivering safe delivery of contracts, leading teams, installation commissioning, client/contractor communications, HV Grid station and Onshore Wind Turbine repairs. Committed to deliver leadership role in safe, reliable and efficient manner by following global standards and EHS protocols.

Core Competencies

- HV Substation (132kv , 500kv) and Power Generators HV, LV
 - Power Transformers, CTs/PTs, Circuit Breakers, Relays
 - Installation Commissioning and Testing
 - Technical Documentation and TQs
 - Quality, Compliance and EHS
 - Risk Assessment & Change Management
 - Customer Engagements/coordination
 - Testing, FAT/SAT & Method Statements
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Projects

- **Pakistan – Wind Project , 50MW: GE 1.7 Wind Turbines**
 - Annual Preventive Maintenance on 29 x WTGs
 - Annual Testing on Transformers, GSU and medium voltage switchgears
 - WTG Major Ops Activities: Main Bearing Exchange, Main Generator Exchange, Gearbox Exchange
 - **Pakistan – Nuclear Project 1100MW: ACP1000 PWR**
 - Commissioning of electrical systems of Turbine Building of KANUPP plant
 - Replacement of 500kV disconnecter during handover phase
 - Replacement of 24kV SF6 high voltage circuit breaker
 - **UAE – Barakah Nuclear Power Plant , 1400MW , APR1400 PWR**
 - Power Transformers testing upto 450MVA and 400kV
 - 11kV and 33kV Load Centers testing and outage maintenance
 - **China – Fangjiashan Nuclear Power Plant , 1100MW , ACP1000 PWR**
 - Earthing Transformer Maintenance
 - Isolated Phase Bus Duct testing and switchgear testing
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Experience

Site Lead (Onshore Wind O&M)

GE Vernova - HRSG | Pakistan | Nov 2024 – Present

- Manage O&M of 50MW Wind Farm, including **GE 1.7x Wind Turbines**, annual/semi preventive and corrective maintenance and manage availability of Wind Turbines and annual maintenance of BOP Electrical systems(GSU, Substation, Cables, GIS, SCADA).
- Utilize **GE asset management portals** for managing & planning activities on WTGs.
- Planning and coordination with site contractors and customer about site plan and schedules on Wind Turbines.
- Leading engineers/technicians in troubleshooting of safety critical related faults, major components exchange.
- Manage tools, consumables, spares and resources for WTG maintenance
- Handle customer complaints, technical queries and requests as per their demand/ need.
- Assist and guide the team in carrying out **132kV and 33kV (eBOP) substation** faults
- Assist other wind farms in carrying out troubleshooting in SCADA related issues.
- Enforce EHS compliance at site, housekeeping, site audits, PPEs, Quarterly Emergency Drills
- Improved WTG availability from 95% to 98% within 12months of site takeover.
- Assist Blade Inspections team and Major Component Exchange Teams in carrying out WTG Asset maintenance
- Acquired **GWO Basic, GWO ART** , Work at Height and WTG related trainings

Sr. Electrical Technician – Outage Maintenance Support

Altrad Endel – Barakah NPP | UAE | Aug 2024 – Oct 2024

- Conducted **transformer, HV cable, and relay testing** in nuclear environment.
- Supervised **wiring/terminations, safety checks, and reporting**.
- Follow Nuclear Radiation SOPs in Nuclear Island Area and maintenance code of conduct of Barakah NPP

Section Head – Electrical

Pakistan Atomic Energy Commission PAEC| June 2022 – Aug 2024

- Worked as **Section Head** of Electrical CI department in KANUPP Unit 2 and 3, to lead maintenance teams on HV transformers, 500kV GIS, 132kV GIS, Power Generators, Switchgears and batteries.
- Lead Engineers, Technicians and outage teams in power plant outages and carry out maintenance as per EHS policy
- Outage planning support and ensured timely delivery of equipment and services.
- Test lockout relays, differential protection relays, overcurrent/earthfault, distance relays and restricted earth fault protection relays.
- Propose design changing and lead technical modification teams for modification proposals.
- Directed outage teams, performed **GIS protection testing & troubleshooting**

Senior Engineer – Electrical Commissioning

Pakistan Atomic Energy Commission PAEC| Dec 2016 – June 2022

- Delivered Installation, testing and commissioning of 500kV & 132kV GIS bays, HV switchgear, transformers, SCADA system and protection relays and its smooth handover to operations team.
- Subcontractor supervision and site teams for installation, commissioning and refurbishment of HV assets (HV transformer, cables, switchgears, lightning protection system, earthing system)
- hands-on troubleshooting during commissioning activities and SIMOP operations
- Coordinated with grid companies for **Grid Integration** and **Grid Compliance**
- Coordinated with engineering teams for design clarifications, Technical Queries and Equipment Interfaces.
- Supplier coordination, EPC and customer communication about technical queries and clarifications.
- Conducted FAT/SAT, insulation resistance tests, HV tests, CB timing test, contact resistance test, interlocks test, DCS communication checks, CT/VT checks and control wiring termination verifications.
- Marking cable joints on CAD with coordinates and site plan, installation verification on HV cables terminations.
- Coordination of design review comments and installation of punch list items.
- QA, QC compliance, ITPs, quality plans, earthing plans, installation drawings review, as built drawings, interlock checks and DCS system integrity (remote/local operation)

Testing Engineer– (Training)

CNNC, Fangjiashan NPP, China | June 2019 – Dec 2019

- Acquired training in FJPP with Chinese counterparts in transformer testing, relay testing, MV and HV breakers testing & operation & Commissioning tracing

Junior Engineer – Electrical Commissioning

PAEC, Pakistan | Jan 2015 – Nov 2016

- Execute commissioning works and smooth handovers of electrical switchgears, and 132kV Grid Station.
- Maintain daily activities log, punch lists, documents and procedures
- Site troubleshooting during 132kV HV switchyard /switchgears and control system

Education

- MSc Nuclear Power Engineering – PIEAS, Islamabad (2014)
- BE Electrical Engineering (Power) – NED University, Karachi (2011)

Certifications & Training

- Construction project Management(in-progress)
- Project Management Certification – Google
- Transformer Testing – TBEA, China | 132kV Grid O&M – Siemens Pakistan
- HV Cables Testing _ TBEA, China
- HV Authorization Certificate – GE Vernova
- Nuclear Systems Training (ACP1000 / APR1400)
- EN 50110 Safety, Industrial Safety, Firefighting