SNEHALKUMAR JOSHI

Design Engineer - M.Tech Electrical

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SUMMARY

- Experience of 8 years in Electrical Panel design , Equipment design , SS Design , Power system studies .
- Experience of EHV HVDC substation , Switchyard layouts, Switchyard equipment.
- Experienced o**n SIEMENS HVDC controllers and STEP 7, WinCC , Simatic manager SCADA-SICAM system**
- Experience of simulation and analysis with **ETAP , PSCAD , MATLAB , AUTOCAD , MIPOWER, MAXWELL** .
- Power quality analysis , Load flow studies, Short circuit analysis , relay co-ordination, Protection coordination.
- Well versed with ISO 9001 , 14001 , 55001 , 50001, OHSAS 18001 , 5S, TUV-nord certification .
- Highly professional, organized, energetic, committed & motivated with excellent analytical, communication and problem-solving skills

CORE COMPETENCIES

- Power quality analysis
- PLC Programming
- Load flow studies – **ETAP**
- Short circuit studies
- Testing of electrical equipment
- Substation operation
- SLD making
- Fault level calculation
- Magnetic analysis – MAXWELL
- HVDC controllers
- Condition monitoring
- Power system studies

ACADEMIC DETAILS

- M.Tech – Electrical Power system with 9.6 CGPA – GOLD medallist
  Dissertation project – Impact of Renewable Energy on Grid, at ERDA, Vadodara.

- B.E. ELECTRICAL from Gujarat university

SOFTWARE PROFICIENCY

- **ETAP**
- **PSCAD**
- **DIGSI**
- **Maxwell**
- **MS Office**
- **AutoCAD**
- **MATLAB**
- **SCADA**
- **PERTU**
- **SAP**

PLC: SIEMENS , Allen Bradley
VFD: SIEMENS, Delta, CG

PROFESSIONAL EXPERIENCE

- **Adani Transmission Ltd.** ~ 2018 – Present
  Assistant Manager - HVDC Inverting terminal
  - **± 500 KV Bipole HVDC, 400 KV HV AC - 2500 MW**
  - 1000 KM HVDC , 180 KM Electrode line
  - 1000 KW captive Solar power plant – STACOM
  - 400 KV Gas insulated **(GIS)** - Series reactor

- **Torrent Power Ltd.** ~ 2017 – 2018**.**
  Design Engineer *– T&D*
  - Transmission and Distribution of power - 1500 MW
  - 132/ 33KV substation
  - APFC System
  - Substation automation - Remote operation

- **Jyoti Ltd.** ~ 2011 – 2015**..**
  Design Engineer *- Wind turbine and Relay division.*
  - 800 KW PMSG type wind turbine
  - Designing of relays
  - Substation design , equipment sizing , Insulation coordination

KEY PROJECT EXECUTED

- **Power system studies**
  - **Load flow studies ,STAR system analysis –ETAP, fault analysis, HVDC transient – PSCAD , Earthing grid design**
  - Reactive power consumption and Power quality improvement
  - TRV analysis – GIS
- **Power quality analysis and improvement**
  - Power quality improvement of wind and solar system
  - Harmonics reduction of auxiliary supply system
  - Energy optimization for transformer cooling system
- **Designing and type testing**
  - Current transformer , PMS Generator design
  - Design of “Fault Ride Through” for wind turbine & STATCOM
  - Auxiliary relays RE 500, RE 600, RE 610
- **Installation and commissioning of electrical equipments**
  - 500 KV HVDC, 400 KV, CMD , VMD ,Valve hall equipments
  - 132KV /66kV , 50MW substation and wind turbine site
  - 1 MW Solar-PV power plant – 1 MVAR STATCOM system

ROLESAND RESPONCIBILITIES

- Conducting load flow studies , Power quality , Earthing grid , fault level studies – **ETAP, PSCAD , DIGSI and PERTU.**
- Trouble shooting of HVDC controllers like Pole control , Station control, VBE , line fault locator & cooling system
- AC voltage and Reactive power management of 500KV HVDC system
- **PLC Programming – Ladder logic development, TDC – CFC logic development** .
- Testing of **500kV HVDC** equipments like CMD, VMD, IVT, Converter Transformer, HVDC breakers , DC Disconnector.
- Testing of **400kV** Switch Yard equipments like LA, CT, CVT, Isolators, SF6 breaker, Power transformer, Auxiliary transformer
- Trouble shooting of LVDC electrode line
- Operation and Maintenance of DC filters, AC filters, Thyristor valve and associated equipments.
- Testing and operation of 1 MW captive solar power plant
- Harmonics analysis and active filtering of auxiliary supply by GE make **STATCOM** system
- **Cable sizing calculation, cable layout diagram in AUTOCAD.**
- **BOQ preparation , SAP.**
- Verification of gas diagram , Protection diagram for 400KV **GIS system**.
- Testing of LT Panels like PCCs, MCCs, CRPs, MLDBs, with Siemens make - ACBs, MCCBs, Relays & contactors.
- Development of **Electrical Layouts , SLD of Substation , panels drawing.**
- Maintenance of 33kV auxiliary system including 33kV transmission line, VCBs, CTs, PTs , Air Compressors, A.H.U.
- Predictive maintenance of UPS **(80KVA & 7.5KVA) and Battery Charger system (220 V DC / 24 V DC / 48 V DC**)
- Periodic maintenance of Firefighting system including Pump house and Water treatment plant equipments
- Operation of 1500KVA DG set (Cummins) & accessories
- Testing of PM Generator , Pitch system , Yaw system , Gear system, AGLS system.
- Energy meter testing – Genus and L&T make .
- Type testing of relays from **ERDA**.
- Reduction of total Transmission and Distribution [T&D] losses.
- Online monitoring and magnetic analysis of electrical equipments like **Converter transformer, CT, IVT.**
- Co-ordination with technology developers like SIEMENS, GE, SETEC & CTC , DEWI-OCC, WMC , With Government bodies like NLDC, NRLDC, WRLDC, SLDC , MNRE, CWET, TNEB & ERDA , GETCO.
- Configuration/ logic development of HMI – PLC, SIMATIC TDC , PLC- VFD .
- Development of module layout , SS layout and control system layout for 1MW Solar Power plant in **AUTOCAD.**
- 2D – 3D Modelling and development of wiring diagrams .
- Monitoring and fault rectification of CCTV system
- Inventory management as per SAP and DISHA process
- **IMS & 5S** implementation and sustaining .

RESEARCH PAPER PUBLISHED

- Large-scale integration of renewable sources with STATCOM for reactive power compensation and power quality improvement, Presented at **MNRE, IEEE conference.**
- Performance Enhancement of Doubly Fed Induction Generator-Based Wind Farm for Grid Voltage Dip and Harmonics Mitigation, Presented at **MNRE, IEEE conference.**
- Optimal coordination technique with directional over current relay, presented at **IJARSET.**
- Impact of renewable energy sources on grid at HV application, Dissertation thesis at **ERDA**, Vadodara.

TRAINING

- Fault current analysis , Standard maintenance practices , Earthing.
- Industrial automation and implementations of SCADA- DCS .

DECLARATION

- I hereby declare that all the details mentioned above are true to the best of my knowledge.

Snehalkumar Joshi