HassanMehmood

Electrical Engineer

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Date of Birth

5th of November 1993

Objective

Seeking a suitable position in a reputed and ambitious organization where I can contribute my excellent technical, managerial and interpersonal skills towards the growth of the organization and where I can add to the values of organization by showing team work, innovation and collaboration.

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Education

2012 - 2016 **B.Sc. Electrical Engineering** University of Engineering and Technology, (UET) Lahore

Main subjects
- Digital Logic Design
- Communication Systems
- Power Transmission and Distribution
- Integrated Electronics
- Power Electronics
- Power System Analysis and Design
- High Voltage
- Power System Protection

2010 - 2012 **F.Sc. Pre Engineering** Punjab College of Science

A+

Projects

Impact Analysis of Integrating Renewable Energy in Grid Final Year Project

Modeling and analyses of Solar PV and Wind power systems into the existing network of southern Pakistan for suggesting better way to increase efficiency. More specifically, we conducted our analyses on the Hyderabad Electricity Supply Company (HESCO)'s electrical system. We performed Load Flow Analysis, Short Circuit Analysis and Transient Stability Analysis on PSS®E Software

Semester Projects:
- Light following robot
- Single and three phase inverter
- Audio amplifier
- Variable power supply

Working Experience

August 2016 – Till Date **Power System Analyst** **POWERtek-USA (pvt) Ltd, Lahore**

Working as Power System Analyst in North American based company in Lahore. My duties include performing:
- Load Flow Analysis
- Stability Analysis
- Short Circuit Analysis
- Power Quality Analysis

Extensive work on PSS®E Software, DIGSILENT and PSCAD. Also working on Technical Proposals and Project Reports.

June 2015 – July 2015 **Intern** **National Transmission and Dispatch Company (NTDC), Lahore**

6 weeks internship experience with 3 weeks at Wapda Town 220KV grid station where I learnt about the working of Power components like CTs, PTs, Transformers, Relays etc and 3 weeks at WAPDA House in Planning and Protection department learning about protection schemes and software like PSS®E and Power Word Simulator (PWS) .

June 2014 – July 2014 **Intern** **Pakistan Elektron Company (PEL) Lahore**

4 weeks internship program covering all the sections related to Transformer like construction, working, testing etc which gave me a deep insight to the production line and maintenance department.

Computer Skills

- C++ ★★★★★
- JAVA ★★★★★
- PSS®E ★★★★☆
- Matlab ★★★★☆

Hobbies and Interests

- Reading ★★★★★
- Gaming ★★★★★
- Sketching ★★★★☆
- Traveling ★★★☆☆

Languages

- English ★★★★★
- Urdu ★★★★★

Awards and Accomplishments

- Co-founder of UET Science Society
- Organizer of PSI-Meet ’16
- Organized mega event SNYES’15 at UET
- Topped the test conducted by NTDC after Summer Internship’15
- Runners Up of Robo wars at Softec’13
- 3rd position of Robo wars at Geek Week ’13
- Won Essay writing competition held by Punjab Govt
- Runner Up of Punjab Youth Speech competition
- Getting merit based scholarship from Punjab Govt

Workshops

- CPD workshop on Smart Grids, QA Solar Park and Toastmasters by IEEEP and PEC
- PLC Basics Training Workshop held at NUCES Lahore.

Work Undertaken that Best Illustrates Capability to Handle the Tasks Assigned

Name of Project: Grid interconnection studies of 50MW Kulachi solar PV power plant

Year: 2018

Location: Pakistan

Client: Target Energy (South Africa)

Main project features:

Positions held: Power System Engineer

Activities performed:

- Modeled and analyzed power plant grid connection with the NTDC grid and concluded that new connection meets the NEPRA Grid Code planning criteria.
- Site survey, data gathering, & modeling with NTDC network model, load flow, short circuit, power quality stability, recommendations.

Name of Project: Grid interconnection studies of 50MW Lyla solar PV power plant

Year: 2018

Location: Saudi Arabia

Client: BellElectric

Main project features:

Positions held: Power System Engineer

Activities performed:

- Modeled and analyzed power plant grid connection with the SEC grid and concluded that new connection meets the NEPRA Grid Code planning criteria.
- Data gathering, & modeling with SEC network model, load flow, short circuit, power quality stability, recommendations.

Name of Project: Electrical network study of 330 MW Siddiqsons Coal power plant

Year: 2018

Location: Pakistan

Client: Access Energy

Positions held: Power System Planning Engineer

Activities performed:

- Simulated 330 MW Siddiqsons Coal Power Plant to 500 kV NTDC system towards Engro 500 KV grid in PSS/E software
- Carried out detailed load flow analysis from Siddiqsons Coal Power plant towards NTDC system under normal as well as N-1 contingency conditions
- Performed Short Circuit Analysis and System stability studies

Name of Project: Grid absorption study of solar plants for the great Banjul area, Gambia, West Africa

Year: 2017

Location: West Africa

Client: AF-Mercados EMI, Spain

Positions held: Power system Analyst

Activities performed:

Prepared different spot years 2017, 2018, 2019, 2020 and 2025 models/ schemes with incremental addition of 10MW of solar power up to 50MW. Power transfer enhancement studies using series and shunt compensation and SVCs. Detailed power system studies, load flow, short circuit, stability and economic studies to rank the alternatives, recommendations, reporting.

Name of Project: Electrical network study of 1230 MW Havaili Bahadur Shah (HBS) combined cycle power plant

Year: 2017

Location: Pakistan

Client: NESPAK

Positions held: Power system Analyst

Activities performed:

- Simulated 1230 MW HBS plant to 500 kV NTDC system towards Gatti 500 kV, Multan 500 KV and Muzaffargarh 500 KV grid in PSS/E software
- Carried out detailed load flow analysis from HBS Combined Cycle plant towards NTDC system under normal as well as N-1 contingency conditions
- Carried out detailed short circuit study to calculate the maximum and minimum fault current at HBS 500KV bus and existing transmission system (NTDC) involved in power evacuation
- Carried out detailed dynamic stability analysis on the existing transmission system involved power evacuation (1230 MW approx.) from HBS Combined Cycle plant to 500 kV NTDC system under different system disturbances
- Performed analysis for the selected horizon/future year case with all the transmission systems components and generation in service

Name of Project: Electrical network study of 1223 MW Balloki combined cycle power plant

Year: 2017

Location: Pakistan

Client: NESPAK

Positions held: Power system Analyst

Activities performed:

- Simulated 1223 MW Balloki power plant to 500 kV NTDC system towards Lahore-South 500 kV, Lahore 500 KV, Sahiwal CPP 500 KV and Gujranwala 500 KV grid in PSS/E software
- Carried out detailed load flow analysis from Balloki Combined Cycle plant towards NTDC system under normal as well as N-1 contingency conditions
- Carried out detailed short circuit study to calculate the maximum and minimum fault current at Balloki 500KV bus and existing transmission system (NTDC) involved in power evacuation
- Carried out detailed dynamic stability analysis on the existing transmission system involved power evacuation (1223 MW approx.) from Balloki Combined Cycle plant to 500 kV NTDC system under different system disturbances
- Performed analysis for the selected horizon/future year case with all the transmission systems components and generation in service

Name of Project: Grid connection impact assessment studies, 2.4 MW Machai Hydro Power plant

Year: 2016

Location: Pakistan

Client: Frontier Mega Structures & Power (Pvt.) Ltd.

Main project features:

Positions held: Power system Analyst

Activities performed:

- Modeled and analyzed power plant grid connection with the NTDC grid and concluded that new connection meets the NEPRA Grid Code planning criteria.

Site survey, data gathering, & modeling with NTDC network model, load flow, short circuit, stability, recommendations.

Name of Project: Grid connection impact assessment studies, 1.72 MW SAR Energy Hydro Power plant

Year: 2017

Location: Pakistan

Client: SAR Energy

Positions held: Power system Analyst

Activities performed:

- Modeled and analyzed power plant grid connection with the NTDC and PESCO grid and concluded that new connection meets the NEPRA Grid Code planning criteria.

Site survey, data gathering, & modeling with NTDC network model, load flow, short circuit, stability, recommendations.

Name of Project: Electrical network study of 200MW combined cycle power plant

Year: 2016

Location: Pakistan

Client: Fauji Kabirwala Power Company Ltd. FKPCL (157MW)

Main project features:

Commissioned in early nineties, FKPCL wanted to expand the capacity to 200MW. Expansion size and parameters quantification required in view of limited grid capacity at the give location was challenge to meet grid code requirements.

Positions held: Power system Analyst

Activities performed:

- Simulate 200MW FKPCL plant to 132/220kV MEPCO and NTDC system towards NGPS Multan, Kassowal and Yousufwala via 132kV Khanewal grid in PSS/E software
- Carried out detailed load flow analysis from FKPCL to Khanewal grid MEPCO and then towards NTDC system (NGPS Multan, Kassowal and Yousufwala) under normal as well as N-1 contingency conditions
- Carried out detailed short circuit study to calculate the maximum and minimum fault current at FKPCL grid and existing transmission system (NTDC and MEPCO) involved in power evacuation
- Carried out detailed dynamic stability analysis on the existing transmission system involved power evacuation (200MW approx.) from 200MW FKPCL plant to 132/220kV MEPCO and NTDC system under different system disturbances
- Performed analysis for the selected horizon/future year case with all the transmission systems components and generation in service

Name of Project: Grid connection impact assessment studies, 2.6 MW Ghanool Hydro Power plant

Year: 2016

Location: Pakistan

Client: Ghanool Hydro Power

Main project features:

Positions held: Power system Analyst

Activities performed:

- Modeled and analyzed power plant grid connection with the PESCO and NTDC grid and concluded that new connection meets the NEPRA Grid Code planning criteria.

Site survey, data gathering, & modeling with NTDC network model, load flow, short circuit, stability, recommendations.

Name of Project: Grid interconnection studies of 50MW Siddiqsons (Nowshera) solar PV power plant

Year: 2016

Location: Pakistan

Client: Access Power

Main project features:

Positions held: Power system Analyst

Activities performed:

- Modeled and analyzed power plant grid connection with the NTDC grid and concluded that new connection meets the NEPRA Grid Code planning criteria.
- Site survey, data gathering, & modeling with NTDC network model, load flow, short circuit, power quality stability, recommendations.

Name of Project: Grid interconnection studies of 50MW Siddiqsons (Kohat) solar PV power plant

Year: 2017

Location: Pakistan

Client: Access Power

Main project features:

Positions held: Power system Analyst

Activities performed:

- Modeled and analyzed power plant grid connection with the NTDC grid and concluded that new connection meets the NEPRA Grid Code planning criteria.
- Site survey, data gathering, & modeling with NTDC network model, load flow, short circuit, power quality stability, recommendations.