COMPANY PROFILE

ENGINEERS GUILD

YOUR TRUSTED SOLUTION PARTNER

WHO WE ARE

INTRODUCTION

Engineers Guild is an employees' owned entity, governed by highly reputed and well recognised professionals pursuing internationally accepted corporate governance rules and regulations.

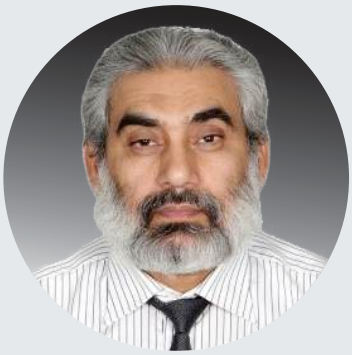
The company's professional staff possess end-to-end project delivery experience in multidisciplinary areas of the electric utility sector including concept development, planning, pre-feasibility and feasibility studies, preliminary engineering, design review and detailed engineering, procurement, installation and commissioning, asset condition assessment and management as well as project and construction management of small to large scale power generation, transmission and distribution projects for their clients across the globe including Canada, USA, Ghana, Guatemala, India, Indonesia, New Caledonia, Nigeria, Saudi Arabia, Tanzania, Tajikistan, Uganda and Pakistan.

VISION

To be the engineer of choice.

MISSION

Develop a synergetic team for providing value added engineering and technical services to project owners, developers and executers seeking optimal and sustainable solutions.



CEO INTRO

Dr. Salman Chaudhry, CEO of Engineers Guild, brings over 42 years of international experience in electric utilities, consulting and academia. His expertise spans power system planning, energy policy, organizational change, research, development and operations. He spent over 13 years at KAHRAMAA, leading transmission planning as a Senior System Studies and Power Quality Analyst. He also played a key role in strategic regional studies with the Gulf Cooperation Council Interconnection Authority (GCCIA) Planning Committee. His career reflects a commitment to advancing power systems through technical excellence and leadership.

(*Summary of Professional Qualifications and Expertise*)

SUMMARY OF PROFESSIONAL QUALIFICATIONS AND EXPERTISE

Power System Planning

Name and Title	Brief Profile	Fields of Expertise
Salman Chaudhry, P.Eng., PhD (Electrical Engineer) Member, PEC Fellow, IEEEP Chief Executive Officer, Engineers Guild (Pvt.) Ltd. Senior Advisor, LUMS Energy Institute (LEI) EX-Power System Analyst, KAHRAMAA	Dr. Salman Chaudhry holds a Ph.D. in Electrical Power Engineering and brings over 42 years of international experience in electric utilities, consulting and academia. His expertise spans power system planning, energy policy, organizational change, research, development and operations. He also serves as Senior Advisor, at LUMS Energy Institute (LEI) supporting power sector research initiatives. Recently, he served as the Transmission System Specialist for USAID's Power Sector Improvement Activity (PSIA) project. He spent over 13 years at KAHRAMAA, leading transmission planning as a Senior System Studies and Power Quality Analyst. He also played a key role in strategic regional studies with the Gulf Cooperation Council Interconnection Authority (GCCIA) Planning Committee. His career reflects a commitment to advancing power systems through technical excellence and leadership.	Corporate management, management consulting, energy policy, regulation, contract negotiations, compliance and monitoring, restructuring electric utilities, Power system planning these includes power flow, short circuit, transient and voltage stability, small signal stability and PSS tunning; delay voltage recovery; transmission and generation expansion planning; integration of RES (solar, battery storage & wind); reactive power compensation; generation and inter area interconnection; DC interconnection; grid impact studies for many IPPs project; Insulation coordination and switching studies; system performance/improvement and power quality; sub-synchronous resonance; series compensation and FACTS applications.

SUMMARY OF PROFESSIONAL QUALIFICATIONS AND EXPERTISE

Name and Title	Brief Profile	Fields of Expertise
Fiaz Chaudhry, P.Eng., PhD (Electrical Engineer) P.Eng. (ON, Canada) Member, PEC Fellow, IEEEP Senior Consultant, Engineers Guild (Pvt) Ltd. Chairman BOD, NTDC Senior Advisor, Lahore University of Management Sciences Ex- Global Practice Lead and Manager, Power System Planning, Hatch Ltd.	Dr. Fiaz Chaudhry holds a Ph.D. in Electrical Power Engineering and brings over 40 years of experience in management, engineering consulting, electric utilities and academia. His expertise spans power system planning, organizational restructuring, and large-scale infrastructure development. He was the founding Director of LUMS Energy Institute (LEI) and now serves as its Senior Advisor, supporting power sector research initiatives. Additionally, he is the Chairman of the Board of Directors at NTDC. Recently, he served as the Transmission Lead Advisor for USAID's Power Sector Improvement Activity (PSIA) project. Over the past 26 years, Dr. Chaudhry has held senior leadership and practice lead positions in the global power industry, delivering generation and transmission solutions to over 200 organizations, including IPPs, system operators, and transmission service providers across North and Central America, Asia, the Middle East, and Africa. His work has contributed to the development of generation and transmission assets worth tens of billions of dollars, along with driving organizational reforms and restructuring efforts. Dr. Chaudhry earned his BSc, MSc, and PhD in Electrical Engineering from the University of Engineering and Technology (UET) Lahore, Illinois Institute of Technology (Chicago), and Purdue University (West Lafayette), respectively.	Corporate management, management consulting, energy policy, regulation, contract negotiations, compliance and monitoring, restructuring electric utilities, power system planning, technical and operation studies, functional and technical specifications of electric facilities (including FACTS/HVDC), program and project management, power system planning, production simulations and operational planning, institutional capacity building and providing smart-grid solutions to electric utility industry.
Guangbin (Bin) Lian, P.Eng, PhD (Electrical Engineer) P.Eng (Canada) Senior Consultant- Generation Planning, Engineers Guild (Pvt) Ltd.	An Electrical Engineer with over 40 years of Canadian and overseas experience in energy consulting, power system analysis, financial and economic analysis, electricity market study, application software development, project management, capacity building, research and teaching. Bin has worked closely with various utility executive management teams, government agencies, regulators and other key stakeholders in the strategic planning of power system expansions and reinforcements, which provided technical and/or economic/financial support to decision makers on their policies, investment plans and/or tariff settings.	development of integrated resource plans and power system master plans to address load growth and system reliability in terms of requirements on generation capacity and related transmission and distribution system extensions and enhancement; or more focused planning and analysis to address specific stakeholder needs.

SUMMARY OF PROFESSIONAL QUALIFICATIONS AND EXPERTISE

Name and Title	Brief Profile	Fields of Expertise
Shahid Mohammad (Electrical Engineer) P.Eng. (Canada) P.Eng. (Nigeria) Registered Engineer (Saudi Arabia) P,Eng. (PEC) Senior Management Consultant, Engineers Guild (Pvt) Ltd.	Mr. Shahid is an Electrical Engineer with over 40 years of global experience in electric utility planning, system operation, management consulting, feasibility assessment studies, energy policy, energy markets, regulation, teaching, project and program management.	Corporate management, management consulting, energy policy, regulation, contract negotiations, compliance and monitoring, restructuring electric utilities, power system planning generation planning, transmission planning, load forecasting and production simulation studies.
Umer Farooq, M.Sc (Electrical Engineer) Member, PEC Senior Power System Planning Engineer, Engineers Guild (Pvt) Ltd.	Umer Farooq is an accomplished power system analyst with over 13 years of expertise in power system planning, generation and transmission studies and renewable energy integration. He currently serves as a Senior Power System Planning Engineer at Engineers Guild and contributes as a Research Associate at the Lahore University of Management Sciences (LUMS). Additionally, he has served as an independent consultant with the Energy Security Group (ESG). Previously, Umer played a key role in power system planning at National Transmission and Despatch Company (NTDC), Pakistan. Umer has made significant contributions to the energy sectors of Pakistan, Nigeria, and other regions through diverse projects and consultancies. His specialization lies in generation and transmission expansion planning, leveraging advanced optimization tools such as PLEXOS and PSS®E.	Corporate management, management consulting, energy policy, regulation, contract negotiations, compliance and monitoring, restructuring electric utilities, power system planning these includes power flow, short circuit, transient and voltage stability, small signal stability and PSS tunning; delay voltage recovery; transmission and generation expansion planning; integration of RES (solar, battery storage & wind); reactive power compensation; generation and inter area interconnection; DC interconnection; grid impact studies for many IPPs project.
Tayyab Chaudhry, Senior Specialist, Engineers Guild (Pvt) Ltd.	Tayyab Chaudhry holds a B.Sc. in Mathematics & Physics from King's College London, UK, and a Masters' degree in Energy Systems from the University of Melbourne, Australia. He has over 10 years' experience in developing wind power projects and analyzing power systems. He previously served in the project development team of Sapphire Wind Power Company Limited, leading the development of 200 MW of wind portfolio with project financing by international debt financing institutions and local partners. He co-developed the LUMS Power Dispatch Model for production simulation studies and performed various consulting services for international financing institutions and project developers. He has strong analytical skills with key understanding of energy markets.	Managing EPC and O&M bidding and award; assessing project progress and risks; and liaising with regulatory and international stakeholders to swiftly achieve financial close and commercial operations.

SUMMARY OF PROFESSIONAL QUALIFICATIONS AND EXPERTISE

Name and Title	Brief Profile	Fields of Expertise
Rizwan Javed (Electrical Engineer) Member, PEC Costing Specialist, Engineers Guild (Pvt) Ltd.	Rizwan Javed is an Electrical Engineer with over 10 years of experience in the electric utility industry, specializing in the engineering of transmission facilities. He began his career at National Engineering Services Pakistan (NESPAK), where he served for four years, gaining extensive expertise in construction management and testing & commissioning of high-voltage substation projects at 500 kV, 220 kV and 132 kV levels. Currently, Rizwan is serving Engineers Guild (Pvt) Ltd. as a Costing Specialist, where he provides significant support for preparing cost estimates for substations and transmission lines planned by the transmission planning team in their technical studies. He has also collaborated with the Energy and Security Group, LLC (ESG) as a Costing Specialist, in developing unit cost estimates for high-voltage transmission and substation facilities. These cost estimates are integral to NTDC's Transmission System Expansion Plan (TSEP) and Indicative Generation Capacity Expansion Plan (IGCEP), ensuring accurate budgeting for future infrastructure development.	Substation and transmission facilities engineering—including cost estimation, technical proposal preparation, tendering and bid evaluations—localization of power equipment manufacturing, project management.

SUMMARY OF PROFESSIONAL QUALIFICATIONS AND EXPERTISE

SUSTAINABILITY

Name and Title	Brief Profile	Fields of Expertise
Mohammad Usman Sheikh, P.Eng, CEM, CEA, PMP (Industrial Engineer) P. Eng (Canada) Member - PEC Sr. Sustainability & Energy Management Consultant Engineers Guild (Pvt) Ltd	Mohammad Usman is a results-driven sustainability and energy management professional with over 15 years of experience in industrial, manufacturing, and commercial sectors. His expertise lies in guiding organizations through climate change adaptation, decarbonization strategies, and ESG compliance, ensuring alignment with global sustainability frameworks. Currently serving as the Sustainability & Energy Management Consultant at Engineers Guild, he oversees a broad portfolio of initiatives aimed at carbon neutrality, supply chain sustainability, and regulatory compliance. His leadership spans across climate risk management, energy efficiency, ESG auditing, and sustainable supply chain governance.	Sustainability (ESG), Decarbonization & Supply Chain Compliance: Net-zero strategy (2030 & 2050), carbon footprint accounting (Scope 1-3), GHG reduction, renewable energy planning. Energy & Resource Management: Certified Energy Auditor & Manager, ISO 50001 implementation, energy efficiency, ASHRAE Level II & III audits. Project & Operations Leadership: PMP-certified, Lean Six Sigma Black Belt,
Rizwan Javed, CEM (Electrical Engineer) Member PEC Energy Manager Expert, Engineers Guild (Pvt) Ltd	Rizwan Javed is an Electrical Engineer with over 10 years of experience in the electric utility industry, specializing in energy management, energy conservation, and sustainability. Currently serving as an Energy Management Expert at Engineers Guild (Pvt) Ltd., Rizwan leads energy efficiency and conservation projects, focusing on optimizing energy use in large-scale facilities. His expertise includes energy auditing, demand-side management, energy efficiency measures (ECMs), and renewable energy integration. He has successfully conducted Level-1 energy audits in university buildings, identifying key energy-saving opportunities through lighting optimization, HVAC efficiency improvements, and behavioral energy conservation strategies. His professional expertise spans energy auditing (ASHRAE & AEE standards), energy conservation strategies, renewable energy integration, demand-side management, and sustainability planning, making him a key player in driving energy efficiency and sustainability initiatives in Pakistan.	Energy Auditing & Conservation (ASHRAE & AEE Standards); Sustainability & Energy Efficiency Strategies; Demand-Side Management (DSM); Renewable Energy Integration; Building Energy Optimization; HVAC & Lighting Energy Efficiency; Net Zero Energy Planning

SUMMARY OF PROFESSIONAL QUALIFICATIONS AND EXPERTISE

Name and Title	Brief Profile	Fields of Expertise
Muhammad Talha Saeed (Architect) Member, PCATP Junior Architect, Engineers Guild (Pvt) Ltd.	Muhammad Talha Saeed is an architect at Engineers Guild, with over 5 years of experience in industry, specializing in spatial planning and energy-efficient building design. As an accomplished professional, Talha brings extensive knowledge in building codes and regulations, as well as construction documentation and project management. He has worked on a variety of projects that showcase his technical proficiency, creativity, and passion for sustainable architecture.	Spatial planning; Energy-efficient building design; Sustainable architecture; Building codes and regulations; Construction documentation and project management.

SUMMARY OF PROFESSIONAL QUALIFICATIONS AND EXPERTISE

DESIGN & ENGINEERING

Name and Title	Brief Profile	Fields of Expertise
Mushtaq Azad (Electrical Engineer) P.Eng (Pakistan) Senior Consultant, Engineers Guild (Pvt) Ltd.	Mr. Azad brings over 45 years of extensive experience in the electrical and mechanical design of overhead transmission lines (AC & DC). He specializes in technical studies, specifications, and all phases of project development and execution. His expertise encompasses insulation design, conductor and span optimization, insulator string arrangement (V-string/I-string), and field investigations of composite insulators. He has played a pivotal role in developing and implementing material, design, and construction standards, as well as preparing bid documents and technical specifications. His experience includes bid proposal evaluation, prequalification of manufacturers, and witnessing type tests. Mr. Azad's deep technical acumen and leadership continue to drive innovation and excellence in transmission line design and execution.	Electrical & Mechanical Design of Overhead Transmission Lines (AC & DC) and Technical Studies on Insulation Design; Conductor & Span Optimization; Optimization of Insulator String Arrangement (V-string or I-string); Field Investigation of Composite Insulators; Spacer Dampers, Aeolian Vibrations/Sub-span Oscillations; Development and Implementation of Material; Design & Construction Standards; Bid Documents/Technical Specifications; Evaluation of Bid Proposals; Prequalification of Manufacturers; Witnessing Type Test and review of Design submittals.
Mohammad Tahir Moaz (Electrical Engineer) Member, PEC Senior Consultant, Engineers Guild (Pvt) Ltd.	Mohammad Tahir Moaz is an Electrical Engineer with over 40 years of experience in the design and engineering of high-voltage (HV) and extra-high-voltage (EHV) substations. He has led substation design engineering at National Grid, Saudi Arabia, contributing to the successful execution of over 100 substation projects, including more than 50 GIS substations at 380 kV, 220 kV, and 110 kV voltage levels. His expertise covers substation engineering design, tendering, testing and commissioning, and material standardization. He has been actively involved in the prequalification of substation equipment, ensuring compliance with stringent technical and operational standards. Additionally, he has played a key role in developing and implementing substation design and construction standards, ensuring high-quality and cost-effective solutions. His extensive experience in managing bid evaluations and reviewing technical specifications has contributed to the successful execution of numerous substation projects.	Substation engineering design; tendering; testing and commissioning; material standardization; prequalification of substation equipment; protection and control; construction management skills; network planning studies; power control & economic power dispatch.

SUMMARY OF PROFESSIONAL QUALIFICATIONS AND EXPERTISE

OPERATION & MAINTENANCE

Name and Title	Brief Profile	Fields of Expertise
Ikram Ul Haq, M.Sc (Electrical Engineer) Member, PEC Asset Manager-I&C, Engineers Guild (Pvt) Ltd.	Ikram Ul Haq is an Electrical Engineer with over 40 years of experience in power generation sector. He was head of multiple testing and commissioning teams involved in development of large Power Generating Plants. In addition, he managed multiple plant operation teams providing O&M services to various power plants and their associated switchyards while at GE. Currently, Mr. Ikram is leading the Operational Services Division of Engineers Guild.	Control system fault findings; modifications; upgradation; commissioning & start-up of systems; technical support on unplanned and planned outages of power and compressors drive plants; SCADA/PLCs; instrumentation; electrical equipment at switchyards, etc.
Mohammed Uneeb, CEng, Ph.D. (Mechanical Engineer) Fellow-IMechE (U.K.) Member, PEC Asset Manager-Mechanical, Engineers Guild (Pvt) Ltd.	Dr. Mohammed Uneeb holds a PhD. and M.Sc. in Mechanical Engineering from Imperial College London, UK, and University of Wisconsin-Madison, USA. He is a power industry executive with over 40 years of experience in various power plant technologies; steam turbines, open cycle gas turbines, combined cycles, using varied fuel types including furnace oil, coal, natural gas, low BTU gas and high-speed diesel. He previously served as Plant Manager at Pakistan's leading IPP called HUBCO 1292 MW oil-fired power plant. He possesses strong engineering skills and with key understanding of energy systems and economics.	Project Management; Power System Reliability; Power plant optimization; Environmental Monitoring of particulate pollutants; Crude Oil Measurement; Burner Design; Quality Audit; Team Building, Strategic Leadership; Corporate Governance, etc.
Nadeem Ahmed, P.Eng (Chemical Engineer) P.Eng, (Alberta, Canada) Specialist Member, IIRSM, UK JHSC Member, MLTSD, ON, Canada Member, PEC Environmental Management System Expert, Engineers Guild (Pvt) Ltd.	Nadeem Ahmad holds bachelor's degree in chemical engineering from University of the Punjab, Pakistan. He is a Certified Safety Professional CSP from BCSP, USA. He is an HSE and risk management expert and has over 35 years of global experience in plant commissioning, operations, process safety, environmental protection, and sustainable development.	Development and implementation of process safety management system; Hazard Identification & Risk Analysis; Emergency management system, site emergency response plan and Incident management; Energy control, Lockout / Tagout; Process Safety Information (PSI); Performance management, development, monitoring and analysis of KPIs; Competency development through training need analysis and HSSE training, Environmental Impact Assessment EIAs and Project Permitting, Hazardous and nonhazardous waste management, ISO management systems; ISO 14001, 45001 and Responsible Care program RC 14001, Industrial security, security risk assessment and site access control

SUMMARY OF PROFESSIONAL QUALIFICATIONS AND EXPERTISE

PROJECT & CONSTRUCTION MANAGEMENT

Name and Title	Brief Profile	Fields of Expertise
Manzoor Ahmad (Electrical Engineer) Member, PEC Principal Consultant, Engineers Guild (Pvt.) Ltd.	Manzoor Ahmad, a trailblazing Transmission Infrastructure Specialist with an exceptional career spanning over 38 years, stands as a monumental figure in Pakistan's energy sector. His unparalleled expertise in high-voltage infrastructure development helped the nation in meeting ambitious targets set for the expansion of power transmission network, positioning him as a transformative leader. His expertise extends to transmission line route selection, substation siting, construction of HVDC and HVAC systems, strategic project financing, and stakeholder engagement. He has driven groundbreaking efforts in digital transformation, such as integrating SAP Enterprise Asset Management and Supply Chain Management, enhancing asset lifecycle management by 20%. His leadership in policy formulation, including the National Indigenization Policy, reduced procurement costs by 15% and fostered local manufacturing.	Project planning & estimation; project scope & schedule control; team development & performance monitoring; bid & proposal management; risk assessment & mitigation; specification compliance & quality assurance; project budgeting & financial oversight; procurement & contract administration; construction supervision & execution; commissioning & system integration; energization & handover management.

SUMMARY OF PROFESSIONAL QUALIFICATIONS AND EXPERTISE

(SERVICES AND EXPERTISE)

SERVICES AND EXPERTISE

A. Energy

1. System Studies

i) *System Operation and Planning*

- Transmission System Expansion Planning
- Generation Capacity Expansion & Resource Adequacy
- Renewable Energy Integration (Solar, Wind, Hydro)
- System Operating Procedures
- Remedial Action Schemes
- System Restoration Plan
- Load Forecasting
- Load Flow, Short-Circuit, & Transient Stability Studies
- Generation & Load Interconnection
- Blackout/Outage Reconstruction
- Protection Coordination Study
- Generation Dispatch Studies
- Reliability Assessment
- Voltage Stability & Reactive Power Compensation
- FACTS & HVDC Integration
- Contingency Analysis (N-1, N-2, N-k)
- Network Congestion Management
- Optimal Power Flow (OPF)
- Smart Grids & Smart Metering
- Integration of EVs
- Demand-Side Management
- Feasibility Studies
- Harmonic Analysis
- Grid Topology Optimization
- Frequency Response & System Inertia Analysis
- Sub-Synchronous Resonance (SSR)

ii) *Energy Markets*

- Power Market Modelling & Simulation
- Economic Feasibility Analysis
- Power Market Design
- Grid Code Development & Compliance

2. Engineering & Consulting

i) *Construction & Commission Supervision*

- Contract Management Support
- Construction & Installation Supervision
- Commissioning Test Planning & Specification Review
- Onsite Testing & Engineering Support

ii) *Design Review*

- Supplier Engineering & System Studies Oversight
- Contractor Design Validation & Approval

iii) *Technical Specification & Procurement Assistance*

- Technical Specification Preparation & Review
- Tender Document Development & Procurement Strategy
- Pre-Bidding & Post-Bidding Assistance
- Technical & Economic Bid Evaluation

3. Power Plant Operation & Performance Optimization

i) *Asset Management & Performance Assessment*

- Maintenance Policy & Best Practices Review
- Optimized Maintenance Planning
- Standard Maintenance Guidelines & Procedures
- Power Outage & Asset Performance Analysis
- Failure Modelling & Risk Assessment
- Plan Validation Using Historical & Real-Time Data
- Condition-Based Maintenance Strategies
- Regulatory Compliance & Environmental Risk Mitigation
- Technical Auditing of Power Plant Assets
- Heat Rate & Capacity Testing
- Technical Specification & Tender Assistance

ii) *Grid Code Compliance & Testing*

- Grid Code Requirement Analysis
- Compliance Test Procedure Development
- Test Planning & Coordination
- Generating Unit Behaviour Analysis
- Compliance Test Reporting

SERVICES AND EXPERTISE

B. Sustainability

1. Environment, Social and Governance (ESG) Compliance

- ESG Strategy & Framework Development
- ESG Reporting & Compliance
- Regulatory Compliance Audits
- ESG Risk Management & Due Diligence
- SBTi target validation for organization
- CDP & GRI reporting for organization
- Carbon Footprint & Net-Zero Strategy
- Sustainable Procurement & Supply Chain Advisory
  - Metals (Al/Iron/Steel/Copper)
  - Carbon Offsets
  - Renewable energy Credits
- Social Impact & Diversity, Equity and Inclusion (DEI)
- Stakeholder Engagement & Materiality Assessments
- Life Cycle Analysis and Environmental Product Declarations
- Green Finance & Investment Advisory
- Corporate Governance & Ethics
- Sub-Synchronous Resonance (SSR)

2. Decarbonization, Energy Efficiency & Auditing

- Energy Audits (ASHRAE Level 1, 2, 3)
- Building Energy Performance Benchmarking
- Industrial Energy Efficiency Assessments
- HVAC & Lighting System Optimization
- Power Quality & Load Management
- Smart Metering & Energy Monitoring
- Demand-Side Management & Peak Load Reduction
- Energy Management Systems (ISO 50001)
- Renewable Energy Feasibility Studies
- Logistics decarbonization
- Carbon Footprint Reduction & Energy Conservation
- Behavioural Energy Efficiency Programs

3. Sustainable Architecture

- Green Building Certifications
- LEED certification
- Energy-Efficient & Net-Zero Energy Building Design
- Building Performance & Energy Optimization
- HVAC & Lighting Efficiency Improvements
- Indoor Environmental Quality Optimization
- Smart & Resilient Infrastructure
- Water Conservation & Drainage Solutions
- Sustainable Material Selection & Life Cycle Assessments (LCA)
- Building Retrofitting & Energy Conservation

4. Environmental Studies

- Environmental Impact Assessments
- Strategic Environmental Assessments
- Air Quality & Emission Control
- Climate Change Risk & Adaptation Planning based on TCFD

(Engineers Guild Team Recent Representative Experience)

Engineers Guild Team
Recent Representative Experience

Years/Project/Location	Client/Summary of Services
2025-Ongoing Technical Audit Services for 1236MW Combined Cycle Power Plant, Jhang, Pakistan (P-0020)	**Punjab Thermal Power (Pvt) Limited** • The scope of this technical audit includes a comprehensive assessment of the Operation & Maintenance (O&M) Contractor's capabilities, procedures, and adherence to industry best practices. The audit will cover mechanical, instrumentation & control (I&C), electrical, and operational procedures, evaluating maintenance plans, SOPs, safety protocols, and regulatory compliance. Additionally, it will review risk mitigation strategies, performance optimization, asset reliability, and emergency preparedness to ensure efficient operations, minimize downtime, and enhance overall system reliability.
2024-2025 Energy efficient building design of 10 Marla house at DHA Phase-XI, Lahore (P-0019)	**133-C, Mr. Mubashir Ali** • The scope involves creating comfortable living conditions inside the house with the least possible amount of energy consumption to keep the house fully functional and thermally comfortable for its occupants. The design team is considering all the insulating materials, especially for the building envelope, which can considerably improve energy efficiency and help to achieve the heating and cooling targets.
2023 Energy efficient building design of 1 Kanal house at DHA Phase-8, Lahore (P-0018)	**EX-CEO, Engineers Guild (Pvt) Ltd.** • The scope involves creating comfortable living conditions inside the house with the least possible amount of energy consumption to keep the house fully functional and thermally comfortable for its occupants. The design team is considering all the insulating materials, especially for the building envelope, which can considerably improve energy efficiency and help to achieve the heating and cooling targets.
2022-Ongoing System studies for review of the grid system performance and proposals for system stability improvement Under national power transmission modernization Phase –1 project (NTMP-1) (P-0017)	**CESI, Italy/ National Transmission and Despatch Company, Pakistan** • The scope involves performing the necessary system studies to analyze the performance of the NTDC power system considering different scenarios and to define proposals to improve the system security and stability keeping in view the power system expansion plan for near future.
2022-2024 Computerized Maintenance System under enhancement & strengthening of power network in eastern region, Bangladesh (P-0016)	**Power Grid Company of Bangladesh Ltd** • The scope involves review and assessment of existing maintenance organization maintenance infrastructure and finalization of maintenance policy framework & strategies. The operation and maintenance expert will also develop the procurement packages which will be needed in the short term.

Engineers Guild Team
Recent Representative Experience

Years/Project/Location	Client/Summary of Services
2021 Power supply capability assessment of the existing and planned 132kV network of FESCO (P-0014)	**DESCON** • The project involved carrying out a load flow study to identify the most appropriate reinforcement option to enhance power supply capability of the existing and planned 132kV network of FESCO to the industrial consumers of FIEDMC before the commissioning of the planned 500/132 kV grid station at Allama Iqbal Industrial City (AIIC) in 2023
2020-2021 Third party witness services for commissioning and trial operations of the HVDC link Matiari-Lahore, Pakistan (P-0013)	**CESI, Italy** • The project involved witnessing of all tests on 500 kV AC switchyards and Converter/Inverter Halls at Matiari and Lahore as per applicable standards. Engineers Guild's team has supported CESI to issue Certificate of Readiness to CET & NTDC for commissioning of the 4000 MW ±660 kV HVDC 886 km long transmission line from Matiari to Lahore.
2020 Preparation of PC-1 _ Power Supply Solution for 600 MW Demand of the Special Economic Zones in the FIEDMC area (P-0012)	**Faisalabad Industrial Estate Development and Management Company (FIEDMC)** • The project involved development of one 500/132 kV and four 132/33 kV grid stations along with the associated electrical facilities. The proposed solution will meet a total demand of 600 MW of the two industrial estates, Allama Iqbal Industrial City (AIIC) under CPEC and M3-Industrial City (M3-IC), of Faisalabad Industrial Estate Development and Management Company (FIEDMC) located at Sahianwala Interchange, Faisalabad.
2019-2020 Wind Power Curtailment Assessment Study for Hawa/JPL from April-2020 to March-2025 (P-0009 and P-0011)	**JCM Power Limited, Canada** • An assessment of wind power curtailment from April 2020 to December 2025 for Hawa 50 MW and JPL 50 MW wind farms in Jhimpir, Sindh. The Projects have recently been subjected to prolonged curtailment events by the system operator (SO). The Client wishes to evaluate the economic impact should this situation continue in the future. LUMS Power Dispatch Model (LPDM) and PSSE software are employed for these simulations and assessments.
2019-2020 Production Simulations and Power Flow Studies Karachi., Pakistan (P-0008)	**Engro Energy Ltd. (for Siddiqsons Energy Ltd.)** • An assessment of transmission capacity utilization of the 4000 MW HVDC Line from Matiari to Lahore for two year period (March 2021 to March 2023). The scope includes production simulation studies and power flow analysis for assessing generation dispatch and evaluating power transfer requirement from south to north of the country. LUMS Power Dispatch Model (LPDM) and PSSE software are employed for these simulations and assessments.
2019-ongoing Transmission Options for Supplying HUBCO 600 MW to K-Electric Karachi, Pakistan	**HUB Power Company Ltd. (HUBCO)** • Transmission interconnection feasibility study for supplying additional 600 MW power from the existing HUBCO plant to K-Electric under a direct contract or through the wheeling arrangement. The scope includes identifying transmission options, preparation of cost estimates for transmission facilities, techno-economic comparison of

Engineers Guild Team
Recent Representative Experience

Years/Project/Location	Client/Summary of Services
(P-0007)	transmission alternatives including power flow, short circuit and stability studies.
2019 An Assessment of Plant Factors for Power Plants Owned by Engro Energy Karachi, Pakistan (LEI-0001)	**Engro Energy Ltd. (for three power plants)** • The scope of work of the study included to conduct production simulation studies and assess multi-year plant factors for three power plants with different fuel options. LUMS Power Dispatch Model (LPDM) was employed for these simulations and assessments.
2019-Ongoing Electric System Design of Airline Campus Lahore, Pakistan (P-0006)	**Educational Excellence Ltd. (A subsidiary of Punjab Group of Colleges)** • Design of electrical, communication, illumination, HVAC, networking, security, standby power and safety systems for a seven (7) story building with about 150,000 SQF area of a college campus. A complete set of design drawings, calculations and technical specifications of the associated equipment will be prepared and delivered.
2019 Shunt Reactor Sizing Study for a 500 kV Line Thar, Pakistan (P-0005)	**Thar Energy Ltd. (HUBCO)** • The study established size and location of shunt reactor(s) for the 248 km long 500 kV double circuit line between the 330 MW Thar Energy Limited Coal Fired Power Plant (TEL CFPP) and the 500 kV switchyard of the Matiari HVDC Converter station. A standalone power system model was developed to assess shunt reactor requirements at TEL CFPP and Matiari ends and to control voltage profile of the line under different generation dispatch and operating configuration options.
2018 and 2019 Transmission Capacity and Dispatch Analysis for HUBCO 1292 MW HUB, Pakistan (P-0002 and 4)	**HUB Power Company Ltd. (HUBCO)** • Power flow studies were performed to identify transmission constraints in the National Transmission and Despatch Company (NTDC) transmission system due to the incorporation of new coal fired power plants south of Jamshoro and many other new generation projects in the country. In addition, impacts on monthly load factors of HUBCO 1292 MW oil fired plant were evaluated for FY2018-2019 and FY2019-2020. PSSE and in house developed Power Dispatch Model were employed to conduct these analyses.
2018-2019 Review of NEPRA Performance Standards Washington D.C.,USA (P-0003)	**National Association of regulatory and Utility Commissioners (NARUC), USA** • Critical review of three Performance Standards Rules of NEPRA for Generation, Transmission and Distribution facilities in Pakistan. The scope included quick literature review of effective standards in the electric power industry, identification of NEPRA's regulatory strengths and weaknesses for monitoring and enforcement, Investigation of areas with known gaps to recommend improvements, review of alternative transitional world-class regulatory models, in light of international best practices, consultation with stakeholders, analysis for how to improve data and information reporting to allow for timely

Engineers Guild Team
Recent Representative Experience

Years/Project/Location	Client/Summary of Services
	and effective performance standards measurement and evaluations for the benefit of all stakeholders.
2018-Ongoing Human Resource Management/ Organizational Development of National Transmission and Despatch Company (NTDC) (P-0001)	**Earnest & Young Ford Rhodes** The scope of services includes: • Understand vision, mission, strategic objectives and business plan of NTDC. • Understand existing organization structure, major business processes and key performance indicators. • Assistance in preparation and finalization of high level process documentation of department/ business units. • Analyse blueprints of future state to identify various organizational structures options and finalization of organizational structure in consultation with NTDC management and HR Committee. • Assistance in the development of grading structure of the NTDC employees as per the detailed structure. • Assistance in the preparation of delegation of power and authority in form of authority matrices for financial and administrative powers. • Assistance in the preparation of competency framework and job descriptions of the unique positions (upto AM level plus specified positions in Grade 14 and 16) based on their departmental roles. • Assistance in indication of critical success factors and performance indicators for departmental objectives. • Assistance in defining framework for the performance evaluation system of the employees of the NTDC. • Training needs analysis policy and framework including identification of the technical and behavioral competencies required up to AM Level for executing the revised tasks/activities per the proposed organizational structure. • Assistance in designing benefits and allowances in accordance with the regulations, grading structure. • Assistance in development of unique manpower planning process and prepare a procedure for HR budgeting. In addition, assessment of current manpower skills & competence and finalize HR business plan for 5 years. • Assistance in development of transition and implementation plan. current state assessment of each department against roles and responsibilities, development of organizational and department structures as well as workflow processes, job description, key performance indicators, competency framework, performance evaluation system of employees, authority matrices, human resource assessment and rationalization, manpower planning process, development of new HR policies, development of transition and implementation plans.

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