



Position Title	Proprietor / Chief Engineer
Name of Expert	Mr. Satyaki Mukherjee
Date of Birth	01.12.1967
Country of Citizenship/ Residence	India

Education:

Educational Institutions	Jadavpur University, India
Dates	1989
Degree(s)/Diploma(s) obtained	Bachelor in Electrical Engineering

Other Trainings:

- ETAP Load flow, Short circuit, Motor starting, Transformer sizing studies.
- AutoCAD 2018.
- MS Office.
- PLS CADD.

Employment Record:

Period	Employing organization and your title/position. Contact information for references	Country	Summary of activities performed relevant to the Assignment
Jan 2004 – Present	Company: Satcon Position: Proprietor	India	Responsible for • Site visits, Data collection, Assistance to contour survey and Geotechnical investigation team, Basic Engineering, Preparation of Bid documents and bid drawings, Issuing clarifications to bidders, Bid evaluations and recommendation report, Contract negotiation meetings and finalization of contractor, Electrical system audit, Full Detail Engineering for 400/220/132/33kV AIS/GIS Substations, Transmission Lines and plants in India and abroad, Vendor drawings review and approval for all type of equipment and materials required in EHV T&D projects, Inspection of FAT at manufacturer's shop. • In addition, as Proprietor of the firm, undertake other responsibilities of Marketing, Sales, Adherence to Quality Management System (ISO-9001), Project Management for all running projects, Occasional site supervision, Sales, Man power resources, Public relations, Vendor development and management etc.
Jan 2000 – Dec 2003	Employer: Saudi Electricity Company (SEC-East), Dammam HQ Position:	Kingdom of Saudi Arabia (KSA)	Responsible for • Design and Project Engineering of 380/230/132/115/34.5kV GIS/AIS Substations and Gas Turbine Power Plants. Management and Supervision of Sub Consultant's work for Power Plant and EHV Substation designs and drawings. Electrical



Period	Employing organization and your title/position. Contact information for references	Country	Summary of activities performed relevant to the Assignment
	Engineer-I		system audit.
Dec 1999 – Dec 2000	Employer: Development Consultants Pvt. Ltd. (DCPL), Kolkata, India Position: Sr. Project Engineer	India	Responsible for Electrical design/ Project engineering, Electrical audits, erection supervision activities at site and commissioning in the field of Thermal Power Plants (Coal Fired / Oil Fired / Gas), industrial Co-generation Plants, Captive Power Plants, Chemical & Mineral beneficiation projects, HV/EHV Outdoor/Indoor/ GIS Substations (up to 400kV) and material handling Plants.
Oct 1998 – Nov 1999	Employer: The Kuljian Corporation (TKC), Philadelphia, USA Position: Sr. Project Engineer	USA	Responsible for Electrical design/ Project engineering, Electrical audits, erection supervision activities at site and commissioning in the field of Thermal Power Plants (Coal Fired / Oil Fired / Gas), industrial Co-generation Plants, Captive Power Plants, Chemical & Mineral beneficiation projects, HV/EHV Outdoor/Indoor/ GIS Substations (up to 400kV) and material handling Plants.
Jul 1989 – Sep 1998	Employer: Development Consultants Pvt. Ltd. (DCPL), Kolkata, India Position: Sr. Project Engineer	India	Responsible for Electrical design/ Project engineering, erection supervision activities at site and commissioning in the field of Thermal Power Plants (Coal Fired / Oil Fired / Gas), industrial co-generation plants, Captive Power Plants, Chemical & Mineral beneficiation projects, HV/EHV Outdoor/Indoor/ GIS Substations (up to 400kV) and material handling plants.

Countries in which He contributed in Projects (other than India):

- USA, UK, UAE, Saudi Arabia, Oman, Qatar, Iraq, Nigeria, Sierra Leone, Sudan, Central African Republic, Ghana, Niger, Namibia, Uganda, Rwanda, Dem. Republic of Congo, Gabon, Tanzania, R. P. Congo, Nepal, Bhutan, Bangladesh, Afghanistan.

Membership in Professional Associations and Publications:

- Fellow of the Institution of Engineers (FIE), India.
- Member of IEEE.
- Professional Engineer (India).
- Chartered Engineer.
- Certified Solar Chartered Engineer from Solar Energy Society of India (SESI).

Language Skills :

Language	Reading	Writing	Speaking
English	Excellent	Excellent	Excellent
Bengali (Mother Tongue)	Excellent	Excellent	Excellent
Hindi	Excellent	Excellent	Excellent



Adequacy for the Services:

Detailed Tasks Assigned on Consultant's Team of Experts:	Reference to Prior Work/Assignments that Best Illustrates Capability to Handle the Assigned Tasks
	<u>Experience no. 1:</u> Job Title / Description: Load Flow study, Earthing design, Conductor sizing, Preparation of SLD of new and existing 33kV Single Circuit Overhead Line for FEED for Power Network Extension Project of Al Dhafra Petroleum Operations Company, UAE. Location: Abu Dhabi, UAE. Position Held: Project Manager. Year: 2024 – Ongoing. Client: M/s Enfras Technical Services LLC, Abu Dhabi. <u>Assignment/Activities:</u> Leading the activity for Load Flow study, Conductor sizing, Preparation of Technical Specifications & Data Sheets, Earthing drawings & calculations, Single Line Diagram, provide necessary clarifications to Client's query, etc.
	<u>Experience no. 2:</u> Job Title / Description: Design, Engineering and Consultancy services for Sag-Tension & Short Circuit Force calculation, Preparation of Civil Design Basis, Civil & Structural design for 220kV Switchyard of 400MW Solar Power Plant at Fatehgarh, Rajasthan. Location: Rajasthan, India. Position Held: Project Manager. Year: 2024 – Ongoing. Client: M/s Sterling & Wilson Renewable Energy Limited, India. <u>Assignment/Activities:</u> Leading a team of Engineers for System study, Basic & Detail Design Engineering, Preparation of Project documents, etc.
	<u>Experience no. 3:</u> Job Title / Description: Owner's Engineering Services for 33/400kV Substation and 400kV Transmission Line for 800 MW Hybrid (Solar, Wind and BESS) Power Plant at Kurnool in Andhra Pradesh. Location: Andhra Pradesh, India. Position Held: Project Manager. Year: 2024 – Ongoing. Client: M/s ABC Cleantech Private Limited, India. <u>Assignment/Activities:</u> Leading a team of Engineers for Preparation of Request for Proposal (RFP) comprising of Technical specifications and conceptual drawings for 33/400kV, 3 x 315MVA PSS and 400kV Transmission Line (5-6km) for evacuation of 800MW Power generated through Hybrid Power Plant (Solar, Wind and BESS), Bid



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	evaluation (Technical part) and Recommendation report. Review and approval of all the Electrical, Civil & Structural drawings, documentations, calculation review and approval for construction of 33/400kV PSS with MCR (Main Control Room) and 400kV Transmission Line, Vendor drawings review and comments / suggestions.
	<u>Experience no. 4:</u> Job Title / Description: Design, Engineering and Consultancy services for Construction of 220/132kV, 80/100MVA AIS Substation of Himachal Pradesh Power Transmission Corporation Limited at Himachal Pradesh. Location: Himachal Pradesh, India. Position Held: Project Manager. Year: 2024 – Ongoing. Client: M/s Kanohar Electricals Ltd., India. <u>Assignment/Activities:</u> Leading a team of Engineers for System study, Basic & Detail Design Engineering, Preparation of Electrical, Civil & Structural drawings & calculations, Cable schedule & Interconnection diagram, etc.
	<u>Experience no. 5:</u> Job Title / Description: Design, Engineering and Consultancy services for completion of one (1) no. new 132kV Transformer Bay of Solar Plant in existing 132kV Switchyard at Shree Cement Limited – Unit Solar, Beawar, Rajasthan. Location: Rajasthan, India. Position Held: Project Manager. Year: 2023 – 2024. Client: M/s Udayan Heavy Electricals Pvt. Ltd., India. <u>Assignment/Activities:</u> Leading a team of Engineers for System study, Basic & Detail Design Engineering, Preparation of Technical Specifications & Data Sheets, Electrical, Civil & Structural drawings & calculations, Relay settings & Relay coordination study, Cable schedule & Interconnection diagram, provide online training to Client's personnel etc.
	<u>Experience no. 6:</u> Job Title / Description: Design, Engineering and Consultancy services for Manufacture, Supply and Construction of 2x60MVA, 132/33kV Substation at Birnin-Kudu with 2x132kV Bay Extension at Dutse Substation of Transmission Company of Nigeria. Location: Jigawa State, Nigeria. Position Held: Project Manager. Year: 2024 – Ongoing.



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	Client: M/s Sanrouk Engineering Services Limited, Nigeria. Assignment/Activities: Leading a team of Engineers for System study, Basic & Detail Design Engineering, Preparation of Electrical, Civil & Structural drawings & calculations, Cable schedule & Interconnection diagram, etc.
	Experience no. 7: Job Title / Description: AC & DC Load calculation, Battery & Battery Charger Sizing calculation, Preparation of Schematic drawings, Technical Specification with Data Sheet, Engineering drawing review for the following Projects in USA: 345/34.5kV Substation for Battery Energy Storage System in Indigo Solar PV Plan at Fisher County, Texas. 138/34.5kV Substation for Pine River Solar Project at Alma, Michigan. 115/34.5 kV Substation for Horseshoe Solar Project at Livingstone & Monroe, New York. 69/34.5kV Substation for Ventasso BESS Project at El Cajon, California. 69/25kV Substation for Harrington Solar Project at Harrington, Delaware. Location: USA. Position Held: Project Manager. Year: 2023 – 2024. Client: M/s Keentel LLC, Florida, USA. Assignment/Activities: - Leading a team of Engineers for System study, Basic & Detail Design Engineering, Preparation of Project documents, etc.
	Experience no. 8: Job Title / Description: Detail Engineering Services for the 20MW/80MWh Battery Energy Storage System (BESS). Location: USA. Position Held: Project Manager. Year: 2023 – 2024. Client: M/s Energy System Studies, Wyoming, USA. Assignment/Activities: Leading a team of Engineers for System study, Basic & Detail Design Engineering, Preparation of Technical Specifications & Data Sheets, Electrical drawings & calculations, Logic diagrams, Cable schedule & Interconnection diagram, provide online training to Client's personnel etc.
	Experience no. 9: Job Title / Description: Design, Engineering and Consultancy services for Construction of new 132kV Single



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	Circuit Transmission Line from existing 132kV Overhead Line to new 132/11kV DASA Substation at Niger. Location: Niger. Position Held: Project Manager. Year: 2024 – Ongoing. Client: M/s Global Atomic Corporation, Canada. Assignment/Activities: • Leading a team of Engineers for System study, Basic & Detail Design Engineering, Preparation of Electrical, Civil & Structural drawings & calculations, Cable schedule & Interconnection diagram, etc.
	Experience no. 10: Job Title / Description: Electrical Power System studies for the Coke Handling system of BR-9 Expansion Project of Indian Oil Corporation Ltd. (IOCL) at Barauni. Location: Barauni, India. Position Held: Project Manager. Year: 2022 – Ongoing. Client: M/s Macawber Beekay Pvt. Ltd., Noida. Assignment/Activities: • Leading a team of Engineers for the following study: • Load flow study. • Short circuit and earth fault study. • Motor starting and reacceleration study. • Relay coordination study and Relay setting calculations.
	Experience no. 11: Job Title / Description: Prebid Engineering services for the Tanzania – Zambia Transmission Interconnector Project comprising of Proposed Iringa, Kisada, Mbeya, Tunduma 400/220/33kV Substations (Lot-1 & 2) and Sumbawanga 400/220/66/33kV Substation (Lot-3) of TANESCO in Tanzania. Location: Tanzania. Position Held: Project Manager. Year: 2022. Client: M/s L & T Ltd., Power Transmission & Distribution, Sharjah. Assignment/Activities: • Leading a team of Electrical, Civil, Structural and Mechanical Engineers for Prebid Engineering to verify the quantified items of Tender BOQ, estimate the BOQ of 'LOT' items and preparation of Electrical layout Plan & Section of the proposed 400/220/33kV and 400/220/66/33kV Substations.



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	<u>Experience no. 12:</u> Job Title / Description: Design Engineering of 2x60MVA, 132/33kV Transformer Substation at Ekori, Ugep with 2x132kV Bay Extensions at Calabar and Ikom. Location: Nigeria. Position Held: Project Manager. Year: 2022 – Ongoing. Client: M/s Laga Cepower Ltd. <u>Assignment/Activities:</u> • Leading a team of Engineers for Site visit, Data Collection, System study, Basic & Detail Design Engineering, Preparation of Technical Specifications, Electrical, Civil & Structural drawings & calculations, Logic diagrams, Cable schedule & Interconnection diagram, provide online training to Client's personnel etc.
	<u>Experience no. 13:</u> Job Title / Description: 132/33kV Outdoor Substation at Muhammadu Buhari Industrial Park and 1 no. 132kV Line Bay extension at existing Dadin Kowa Hydro Electric Power Plant Switchyard. Location: Nigeria. Position Held: Project Manager. Year: 2021 – Ongoing. Client: M/s AJF Trading and Mining Company (Nig) Ltd. <u>Assignment/Activities:</u> • Leading a team of Engineers for Site visit, Data Collection, System study, Basic & Detail Design Engineering, Preparation of Technical Specifications, Electrical, Civil & Structural drawings & calculations, Logic diagrams, Cable schedule & Interconnection diagram, provide online training to Client's personnel etc.
	<u>Experience no. 14:</u> Job Title / Description: Design Engineering of 2 nos. 33/11kV GIS Substation at Zubair & Rafidiya and 5km 33kV D/C Overhead Line from Zubair Mishrif to Zubair new S/S in Iraq. Location: Zubair Oil Field, Iraq. Position Held: Project Manager. Year: 2021 – 2022. Client: M/s Hambleton Holding INC., Iraq & UK. <u>Assignment/Activities:</u> • Leading a team of Engineers for Site visit, Data Collection, System study, Basic & Detail Design Engineering, Preparation of Technical Specifications, Electrical, Civil & Structural drawings & calculations, Logic diagrams, Cable schedule & Interconnection diagram, Sag & Tension calculation for 33kV OHL, provide online training to Client's personnel etc.



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	<u>Experience no. 15:</u> Job Title / Description: Engineering and Consultancy of 220/33kV, 2x100 MVA GIS Substation at Two Locations (Bihpuria & Jakhalabandha) and Associated 220kV Transmission Lines under Assam Intra-State Transmission System Enhancement Projects (Phase-I). Location: Assam, India. Position Held: Team Leader. Year: 2022 – Ongoing. Client: Assam Electricity Grid Corporation Limited (AEGCL). <u>Assignment/Activities:</u> • Leading a team of Engineers for Site visit, Data Collection, System study, Basic & Detail Design Engineering, Preparation of Technical Specifications, Electrical, Civil & Structural drawings & calculations, Control & Protection schemes, Logic diagrams, I/O Lists, SCADA Block diagram, Cable schedule & Interconnection diagram, provide online training to Client's personnel, etc.
	<u>Experience no. 16:</u> Job Title / Description: Design and Engineering of 132kV Outdoor Switchyard for Madhya Solu Khola Hydro Power Project. Location: Nepal. Position Held: Project Manager. Year: 2018 – 2020. Client: M/s GH Energy Pvt. Ltd., India. <u>Assignment/Activities:</u> • Leading a team of Engineers for Site visit, Data Collection, System study, Basic & Detail Design Engineering, Preparation of Technical Specifications, Electrical, Civil & Structural drawings & calculations, etc.
	<u>Experience no. 17:</u> Job Title / Description: Marsyangdi Corridor 220kV Transmission Line Project: 220/132/33kV GIS Substations at Khudi & Manang. Location: Nepal. Position Held: Project Manager. Year: 2019 – 2021. Client: M/s TBEA Co. Ltd., Nepal & China. <u>Assignment/Activities:</u> • Leading a team of Engineers for Site visit, Data Collection, System study, Contour survey, Geotechnical investigation, Basic & Detail Design Engineering, Preparation of Technical Specifications, Electrical, Civil & Structural drawings & calculations, Control & Protection schemes, SCADA design, Procurement assistance, Inspection of equipments at Manufacturers' works, etc.



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	<u>Experience no. 18:</u> Job Title / Description: Prebid Engineering for 400kV Kalawad GIS Substation and 220/66kV Bhildi GIS Substation. Location: Gujarat, India. Position Held: Project Manager. Year: 2020. Client: M/s Gupta Power Infrastructure Ltd. <u>Assignment/Activities:</u> Leading a team of Electrical, Civil, Structural and Mechanical Engineers for Prebid Engineering to estimate the BOQ of 'LOT' items.
	<u>Experience no. 19:</u> Job Title / Description: Design and Engineering for Extension of 220/20kV Transformer Bay, installation of new 20kV Switchgear and 20kV Overhead line to Camp Clark ANSF base in Herat, Afghanistan. Location: Afghanistan. Position Held: Project Manager. Year: 2019 – 2021. Client: M/s Masterlogist Construction Group. <u>Assignment/Activities:</u> Leading a team of Electrical, Civil and Structural engineers for Design and Engineering.
	<u>Experience no. 20:</u> Job Title / Description: Electrical Consultancy Services for Load Flow study, Short Circuit study, Relay Setting calculations by ETAP, Earthing & Lightning Protection calculations, MV & LV Cable sizing calculations for Visitor Center Substation # 08 at Hamad Port. Location: Doha, Qatar. Position Held: Project Manager. Year: 2019 – 2020. Client: M/s United Construction Establishment. <u>Assignment/Activities:</u> - Site visits & Data collection. - Attending meetings. - Feasibility study. - Preparation of Technical Specifications. - Load Flow study of entire MV & LV network. - Over Current protective device Short Circuit & Earth Fault study of entire MV &



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	LV network. • Harmonic analysis. • Protective Relay Setting & Coordination study of entire MV & LV network. • Design verification for Earthing calculations. • Lightning Protection calculations. • Earthing layout drawings and Lightning Protection layout drawings. • Lighting (Lux) calculations and verification of Lighting layout drawings. • MV & LV Cable sizing calculation.
	<u>Experience no. 21:</u> Job Title / Description: Electrical System Study and Consultancy Services for 220/22/0.433kV System of NPP-0057 Package (Port Infrastructure and Buildings) of New Port Project near Doha in Qatar. Location: Doha, Qatar. Position Held: Project Manager. Year: 2014 – 2019. Client: M/s Sinohydro-UCE JV, M/s Construction Development Company LLC, M/s Trans Gulf International Electro-Mechanical WLL, M/s United Construction Establishment (UCE), Qatar. <u>Assignment/Activities:</u> • Site visits & Data collection. • Attending meetings. • Feasibility study. • Preparation of Technical Specifications. • Load Flow study of entire MV & LV network. • Over Current protective device Short Circuit & Earth Fault study of entire MV & LV network. • Harmonic analysis. • Protective Relay Setting & Coordination study of entire MV & LV network. • Design verification for Earthing calculations. • Lightning Protection calculations. • Earthing layout drawings and Lightning Protection layout drawings. • Lighting (Lux) calculations and verification of Lighting layout drawings. • MV & LV Cable sizing calculation.
	<u>Experience no. 22:</u> Job Title / Description: Design and Engineering for the rehabilitation and strengthening of HV networks (63kV to 110 kV) line. Construction & rehabilitation of 110/63/15kV Bangui-B



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	Substation and 63/110kV Boali-1 Substation in Central African Republic. Location: Central African Republic. Position Held: Project Manager. Year: 2018 – 2022. Client: M/s Jaguar Overseas Ltd. Assignment/Activities: Leading a team of Electrical, Civil & Structural engineers for Basic & Detail Design and Engineering, Site visit & Data collection, Procurement assistance, Vendor drawing review & approval, Meeting with Client / Consultant, Preparation of As Built drawings & documents, Provide necessary trainings to Client's personnel.
	Experience no. 23: Job Title / Description: 220/132kV New Substation and 220kV D/C Transmission line at Maithon, W.B, India. Location: West Bengal, India. Position Held: Project Manager / Control & Protection Engineer. Year: 2018 – 2019. Client: M/s India Power Corporation Ltd. Assignment/Activities: Site visit, Data Collection, Basic Engineering, Preparation of Technical specifications and Tender drawings, Preparation of Bid documents, Bid clarifications, Bid evaluations, Control & Protection schemes of the Substation, Assistance for contractor finalization, Vendor drawing review and approval. Project Management and Supervision, Inspection of FAT at manufacturer's works.
	Experience no. 24: Job Title / Description: 220/132/33kV, 2x150MVA, 2x50MVA Grid Station at Godda and 220/132kV, 2x150MVA Grid station at Garhwa of JUSNL in Jharkhand, India Location: Jharkhand, India. Position Held: Project Manager. Year: 2017 –2019. Client: M/s Jakson Limited. Assignment/Activities: Site visit, Data collection, Coordination with JUSNL to obtain approval of drawings, Preparation of Technical specifications, Detail engineering drawings for Electrical, Control & Protection scheme, Civil, Structural, SCADA, HVAC, Fire protection and PLC Communication systems, Inspection of FAT at manufacturer's works.



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	<u>Experience no. 25:</u> Job Title / Description: Site Survey, Data Collection, Meeting with Client/Contractor, System Study, Detail Engineering Services for 63/20 kV, 2x10 MVA Outdoor Substation and 63kV Double Circuit LILO Overhead Line. Location: Franceville, Gabon. Position Held: Project Manager. Year: 2016 – 2018. Client: M/s Gabon Special Economic Zone (GSEZ). <u>Assignment/Activities:</u> • Site visit, Data collection, Meeting with Client / Contractor, Detail Design & Drawing, Vendor drawing review and approval, Site survey, System study for LILO arrangement and suggest most cost effective design, Modification in existing Transmission line tower for LILO arrangement, Preparation of As Built drawings and documents.
	<u>Experience no. 26:</u> Job Title / Description: Detail Design, Engineering and Consultancy Services for 132/13.8kV, 3x50/67MVA AL Bader GIS Substation No. 8131 of National Grid, Saudi Arabiya at Riyadh Industrial Area. Location: Riyadh, Saudi Arabia. Position Held: Project Manager. Year: 2016 – 2018. Client: M/s Dar Al Riyadh Consultants. <u>Assignment/Activities:</u> • Basic and Detail Design & Engineering services including application of computerized design software for Electrical, Civil, Structural, Architectural, SCADA, Telecom, FDA, Fire Fighting, HVAC systems of the 132/13.8kV, 3x67MVA Bader substation no. 8131 and additions/modifications at Remote Substations # 9013, 8075 & 8064 of National Grid (Saudi Arabia) in Riyadh. • Review of Vendor drawings as much as required for integration with Design & Engineering work and preparation of 'As built' drawings considered for as-built assessment (non-availability of existing files with SEC) of remote end substations.
	<u>Experience no. 27:</u> Job Title / Description: Design, Engineering, Site Supervision and Project Management Services for Construction of 168km, 330kV D/C Transmission Line from Kumasi Metropolitan District to Keta District, Ghana. Location: Ghana. Position Held: Project Manager. Year: 2017 – 2018.



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	Client: M/s Qingdao Wuxiao Group Co. Ltd., China. Assignment/Activities: • Complete Design, Engineering and Consultancy Services including Quality assurance, FAT, Control, Project Management and Supervision of Construction Works for the Project. The details of the project are as follows: • Construction of 168km 330kV D/C Transmission Line linking Kumasi Metropolitan District and Keta District in Ghana. The project also consists of bay extensions at both ends consisting of 330kV Circuit Breakers, Isolators, Current Transformers, Capacitive Voltage Transformers, Lightning Arresters, LV Power & Control cables, Instrument cables, LV AC & DC auxiliary systems, Station Batteries, Battery Chargers, Cabling accessories, Overhead ACSR/AAAC conductors, Hardware, Clamps, Connectors, SCADA Computers/Servers, LAN networking, Fiber Optic Communication systems, Grid meters, Protective Relay (Numerical & auxiliary), Earthing system, Lightning Protection system, Indoor & Outdoor Lighting systems, Water supply, Civil works and Steel Structures for the Transmission Line and Substation power distribution systems.
	Experience no. 28: Job Title / Description: Design, Engineering, Site Supervision and Project Management Services for Construction of 153km, 330kV Transmission Line, Linking Assin Fosu, Atebulu and Awoshie, Ghana. Location: Ghana. Position Held: Project Manager. Year: 2016 – 2018. Client: M/s Qingdao Wuxiao Group Co. Ltd., China. Assignment/Activities: • Complete Design, Engineering and Consultancy Services including Quality assurance, FAT, Control, Project Management and Supervision of Construction Works for the Project. The details of the project are as follows: • Construction of 153km 330kV D/C Transmission Line linking Assis Fosu, Atebulu and Awoshie in Ghana. The project also consists of bay extensions at both ends consisting of 330kV Circuit Breakers, Isolators, Current Transformers, Capacitive Voltage Transformers, Lightning Arresters, LV Power &Control cables, Instrument cables, LV AC & DC auxiliary systems, Station Batteries, Battery Chargers, Cabling accessories, Overhead ACSR / AAAC conductors, Hardware, Clamps, Connectors, SCADA Computers/Servers, LAN networking, Fiber Optic Communication systems, Grid meters, Protective Relay (Numerical & auxiliary), Earthing system, Lightning Protection system, Indoor & Outdoor Lighting systems, Water supply, Civil works and Steel Structures for the Transmission Line and Substation power distribution systems.
	Experience no. 29: Job Title / Description: Basic and Detail Engineering & Consultancy Services, Quality Assurance, Project Management, Site Supervision and Control of Electrical, Civil, Structural, HVAC, Fire Fighting, Plumbing, SCADA, PLCC Systems for Rehabilitation and Reinforcement of



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	10 Nos. 2x300MVA, 500/220/132kV AIS Substation in Sudan. Location: Sudan. Position Held: Project Manager. Year: 2016 – 2017. Client: Qingdao Wuxiao Group Co. Ltd. & Ahmin Technology & Power Systems Ltd. J.V, Abuja, Nigeria. Assignment/Activities: • Complete Design, Engineering and Consultancy Services including Quality assurance, FAT, Control, Project Management and Supervision of Construction Works for the following Project for which we are the Consultant of the Main Contractor to National Electricity Corporation of Sudan. The details of the project are as follows: • Rehabilitation and Reinforcement of 10 nos. 2 x 300MVA outdoor Substation having 500/220/132kV Switchyard including distribution feeders, tariff metering for the incoming feeders and outgoing feeders, Supervisory control & data acquisition system (SCADA), voice and data transmission through Power Line Carrier Communication (PLCC), etc. at Khartoum, Port Sudan, Omdurman, Khartoum North, El Obeid, Wad Madani, Kassala, El Fasher, Genema and Ad Damazin Transmission Substations in Sudan. The project consists of 500kV, 220kV & 132kV Circuit Breakers, Isolators, Current Transformers, Capacitive/Inductive Voltage Transformers, Lightning Arresters, LV cables, Instrument cables, LV AC & DC auxiliary systems, Station Batteries, Battery Chargers, Cabling accessories, Overhead ACSR / AAAC Conductors, Hardware, Clamps, Connectors, SCADA computers/servers, LAN networking, Fiber Optic Communication systems, Grid meters, Protective Relay (Numerical & auxiliary), Earthing system, Lightning Protection system, Indoor & Outdoor Lighting systems, Water supply, Fire Protection system, Civil works and Steel Structures for the Substation and power distribution system.
	Experience no. 30: Job Title / Description: Upgrade of Freetown Primary 33kV Distribution Network for Energy Access Project, Ministry of Energy (MOE), Sierra Leone Expansion of 161/33kV Kingtom Substation by installing 1x40MVA Transformer with bays, New 33kV Switchyard at Kingtom Substation, Installation of a new 33/11kV PSS at Ropoti, Renovation/Upgradation of existing 33/11kV Substations at Wellington, Wilberforce and Blackhall, Construction of 8km long 33kV Overhead Line on slim lattice Towers. Location: Freetown, Sierra Leone. Position Held: Project Manager. Year: 2015 – 2017. Client: M/s BES Europe Ltd. Assignment/Activities: • Site visit, Data collection, Coordination with MOE & EDSA to obtain approval of drawings, Preparation of Technical specifications, Detail engineering drawings for Electrical, Control & Protection scheme, Civil, Structural, SCADA/SOE-DRS, HVAC and Fire protection systems, Inspection of FAT at manufacturer's works in India and abroad. The job also included visits to site for interactions with MOE, EDSA,



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	Site construction team for management and supervision of Erection, Testing and Commissioning.
	<u>Experience no. 31:</u> Job Title / Description: Construction, Rehabilitation and Reinforcement of 330/132kV and 132/33kV Transmission Substations with 330kV LILO Arrangement of TCN, Nigeria (Lot 2). Location: New Kano, Billiri & Gusau, Nigeria. Position Held: Project In-Charge. Year: 2016 – 2017. Client: M/s Supreme & Co. Pvt. Ltd. <u>Assignment/Activities:</u> Site visit, Data collection, Coordination with TCN & Project Consultant (AF Consult) to obtain approval of drawings, Preparation of Technical specifications, Detail engineering drawings for Electrical, Control & Protection schemes, Civil, Structural, SCADA, HVAC, Fire protection and PLC Communication systems, Inspection of FAT at manufacturer's works.
	<u>Experience no. 32:</u> Job Title / Description: Consultancy Services for Design and Supervision of New 132/33kV Samad & Sinaw GIS Grid Stations, OETC Tender No. 121/2014. Location: Oman. Position Held: Project In-Charge. Year: 2015. Client: M/s Atlas International Engineering Consultants. <u>Assignment/Activities:</u> Preparation of Tender Document and Tender Drawings for Electrical, Civil, Structural, HVAC, Fire Fighting, SCADA, FO communication, Integrated Security System (CCTV), Plumbing Systems etc., Seminar presentation of Designs.
	<u>Experience no. 33:</u> Job Title / Description: Consultancy Services for Design and Supervision of Addition Of 3rd & 4th 132/33 KV 125MVA Transformers At Madinat Barka & Al Khadra Grid Stations" OETC Tender No. 81/2015. Location: Oman. Position Held: Project In-Charge. Year: 2016. Client: M/s Atlas International Engineering Consultants. <u>Assignment/Activities:</u> Preparation of Tender Document and Tender Drawings for Electrical, Civil, Structural, HVAC, Fire Fighting, SCADA, FO communication, Integrated Security



Detailed Tasks Assigned on Consultant's Team of Experts:	Reference to Prior Work/Assignments that Best Illustrates Capability to Handle the Assigned Tasks
	System (CCTV), Plumbing Systems etc., Seminar presentation of Designs.
	<u>Experience no. 34:</u> Job Title / Description: Consultancy Services for Design and Supervision For 33kv Feeder From New 33kv Switchgear Substation At Rusayl And Construction Of 3X20 MVA Primary Substation Rusayl 09 At Rusayl Industrial Area." MEDC Tender No. 48/2013. Location: Oman. Position Held: Project In-Charge. Year: 2015. Client: M/s Atlas International Engineering Consultants. <u>Assignment/Activities:</u> Preparation of Tender Document and Tender Drawings for Electrical, Civil, Structural, HVAC, Fire Fighting, SCADA, FO communication, Integrated Security System (CCTV), Plumbing Systems etc., Seminar presentation of Designs.
	<u>Experience no. 35:</u> Job Title / Description: Basic & Detail Engineering Services, Project Management, Site Supervision and Control of Electrical, Civil, Structural, HVAC, Fire Fighting, Plumbing, SCADA, PLCC Systems of 132/33kV AIS Substation at Song. Location: Nigeria. Position Held: Project In-Charge. Year: 2013 – 2017. Client: M/s Qingdao Wuxiao Group Co. Ltd. & Ahmin Technology & Power Systems Ltd J.V, Abuja, Nigeria. <u>Assignment/Activities:</u> Site visit, data collection, Assistance in site survey, System study, Basic & Detail design of 132/33kV Substation, Basic & Detail design of 132kV LILO arrangement, Preparation of design calculations, Preparation of Bill of materials, Procurement assistance, Project management services & Supervision of Site Construction works, Assistance in project budget analysis, Visit to End Client's office at Nigeria for attending meetings.
	<u>Experience no. 36:</u> Job Title / Description: Basic & Detail Engineering Services, Project Management, Site Supervision and Control of Electrical, Civil, Structural, SCADA, PLCC Systems Of 2x132kV Line Bay Extension at existing 330/132kV Yola Substation of TCN. Location: Nigeria. Position Held: Project In-Charge. Year: 2013 – 2017. Client: M/s Qingdao Wuxiao Group Co. Ltd. & Ahmin Technology & Power Systems Ltd J.V, Abuja, Nigeria.



Detailed Tasks Assigned on Consultant's Team of Experts:	Reference to Prior Work/Assignments that Best Illustrates Capability to Handle the Assigned Tasks
	<u>Assignment/Activities:</u> Site visit, data collection, Assistance in site survey, System study, Basic & Detail design of 2x132/33kV Line Bay extension, Preparation of design calculations, Preparation of Bill of materials, Procurement assistance, Project management services & Supervision of Site Construction works, Assistance in project budget analysis, Visit to End Client's office at Nigeria for attending meetings.
	<u>Experience no. 37:</u> Job Title / Description: 400/220/132kV, 2x315MVA, 2x160MVA Substation at Jammalamadugu of APTRANSCO in Andhra Pradesh, India. Location: Andhra Pradesh, India. Position Held: Project Manager. Year: 2013 – 2015. Client: M/s Techno Electric & Engineering Co. Ltd. <u>Assignment/Activities:</u> Site visit, Data collection, Coordination with APTRANSCO to obtain approval of drawings, Preparation of Technical specifications, Detail engineering drawings for Electrical works, Metering, Control & Protection schemes of the entire Substation, Vendor drawing review and approvals.
	<u>Experience no. 38:</u> Job Title / Description: 400/33kV switchyard of 4x270MW Thermal Power Plant of Abhijit Infra Pvt. Ltd. in Jharkhand. Location: Jharkhand, India. Position Held: Project In-Charge. Year: 2010 – 2012. Client: M/s Areva T&D India Ltd. <u>Assignment/Activities:</u> Site visits, Data collection, Study of the Technical specification, Load flow and short circuit study, Basic Engineering, Preparation of Technical specifications, Detail engineering drawings for Electrical works, Vendor drawing review and approvals.

Expert's contact information:

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Phone: +913340628483

Certification:

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience, and I am available, as and when necessary, to undertake the assignment in case of an award. I understand that any misstatement or misrepresentation described herein may lead to my disqualification or dismissal by the Client, and/or sanctions by the Bank.



Satyaki Mukherjee

30/11/2024

Name of the expert

Signature

Date

Satyaki Mukherjee

30/11/2024

Name of the authorized representative of the
Consultant (person who signs the Proposal)

Signature

Date