



TRANSMISSION & DISTRIBUTION SERVICES

L&T-SARGENT & LUNDY LIMITED

Company profile

L&T-Sargent & Lundy Limited is a joint venture between Larsen & Toubro Limited, India and Sargent & Lundy L.L.C, USA providing engineering and consulting services for electric power business across the globe. Operating since 1995, it combines deep domain expertise, internationally aligned systems and processes, and modeling technique to converge technical consultancy with high-end solutions and delivery.

Joint Venture Partners

The synergy created by coming together of an engineering and construction conglomerate and a consulting giant has enabled L&T-S&L to consistently deliver solutions, which are technically sound and operationally efficient.

Larsen & Toubro is a USD 21 billion major technology, engineering, construction, manufacturing and financial services conglomerate, with global operations. L&T addresses critical needs in key sectors - Hydrocarbon, Infrastructure, Power, Process Industries and Defense - for customers in over 30 countries around the world.

The Company's manufacturing footprint extends across eight countries in addition to India. L&T has several international offices and a supply chain that extends around the globe.

Sargent & Lundy L.L.C (S&L) – With over 125 years of experience in providing engineering services exclusively focused on power, S&L is acknowledged as a premier force worldwide. S&L has an extensive and credible consulting experience in projects as diverse as combined cycle power plants, gas based, coal-based projects, renewable energy and nuclear projects.

Professional Expertise

Processes, systems and technology yield better results when talent combined with experience drive them. The multi-skilled team at L&T-S&L consisting of over 400 engineers and designers bring together specialists in the field of conventional and non-conventional energy, engineering disciplines, project management and client servicing. Integral to this team are experts in the field of information technology, quality assurance and finance.

T&D Capabilities

Capitalizing on its strength in core engineering services related to power projects, which include basic and detail engineering services, review engineering, site support services, L&T-S&L has extended its service portfolio to include Transmission & Distribution Services for Utilities, IPPs and private power companies.

L&T-S&L offers T&D engineering services in the following areas:

- Basic and Detailed Engineering indoor/AIS/GIS Substations
- Power System Studies
- Transmission Line Engineering



L&T-S&L has been also executing various projects in Middle East and has built up strong references in the region.



Services Offered

SUBSTATIONS / POWER DISTRIBUTION SYSTEMS

Basic & Detailed Engineering Indoor/AIS/GIS

Electrical

- Main Single line Diagram
- Equipment Layout
- Grounding, Shielding Protection & Lighting
- Raceway design
- Procurement Support
- Vendor drawing Review
- Cable Interconnection schedule

Protection and Automation Systems

- Relay and Metering Diagram
- Protection Logic Diagrams
- Interlock /Inter trip Logic Diagrams
- CT/VT Adequacy Check calculations
- Preparation of SAS, SOE, TFR and DSM Point list
- Relay Setting Calculations

Civil, Structural and Architectural

- Site Development Plan
- Civil and Structural Drawings
- Architectural Drawings/Designs
- Drainage and Plumbing
- Vendor Drawing review

Mechanical

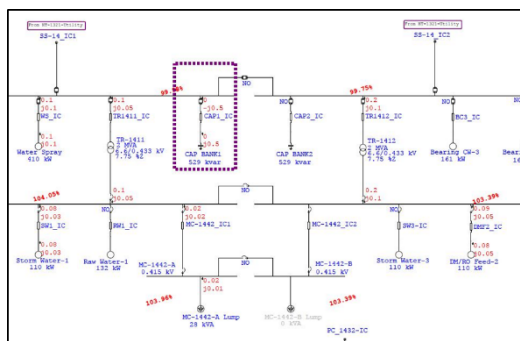
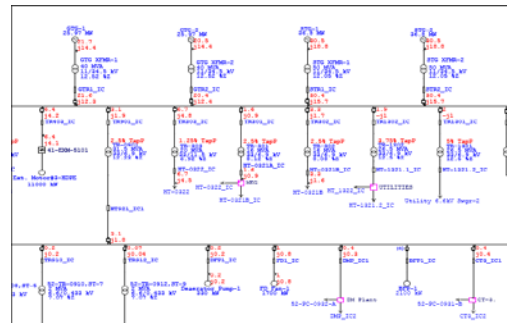
- HVAC System
 - o Capacity Calculation
 - o Detail Ducting design
 - o Air Flow & Control Schematic
- Fire Fighting System
 - o Calculation and design of Fire protection system
 - o Piping design and network analysis
 - o Hydrant and spray system piping layout

Services Offered

POWER SYSTEM STUDIES

Load flow calculations

For full determination of voltage, active, reactive power, power factor and transformer control requirements as well as the verification of equipment ratings in the event of outages and faults in a power system

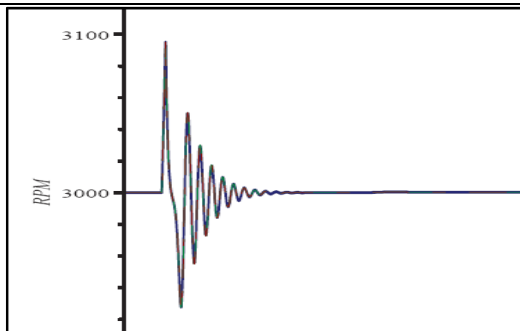
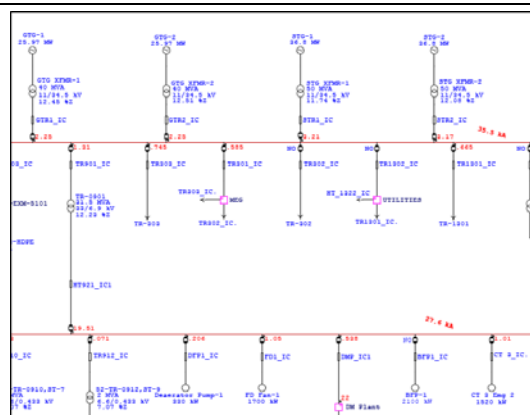


Reactive power compensation study

To improve power factor of the power system by suitably placing capacitor banks or other type of reactive power compensation device.

Short circuit calculations

Considering symmetrical and asymmetrical faults, for the verification of equipment rating, earthing requirement, fault voltages and current as well as equivalent connection point impedance.



Transient Simulation Study (In IEEE Format)

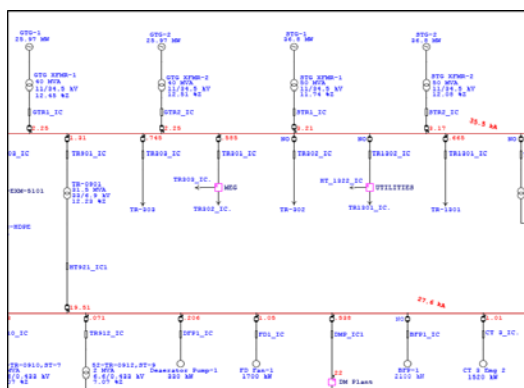
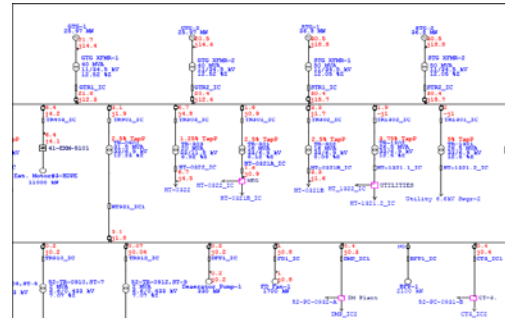
Determination of critical fault clearing time under different loading and operating conditions

Services Offered

POWER SYSTEM STUDIES

Load Flow Study

Load flow study is the steady state solution of the power system network. This study determines the voltage profile, power flow, power factor, Transformer tap control requirements and verification of equipment ratings in the event of outages / faults in power system.

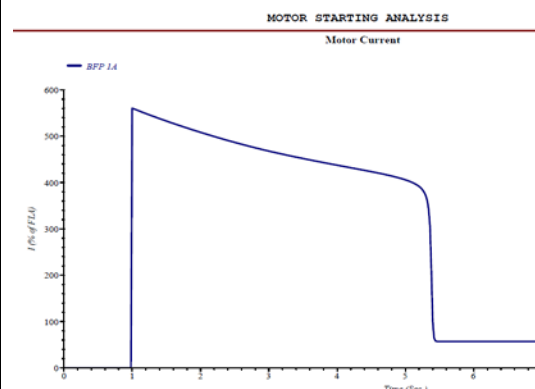


Short Circuit Study

These studies are performed to determine the magnitude of currents flowing throughout the system for various types of faults at different locations. This information is used to select / verify equipment short circuit ratings and system earthing requirements. The same is also used in protection relay setting calculation.

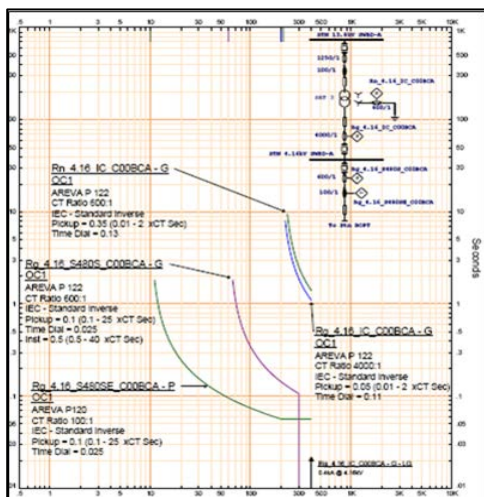
Motor Starting Study (Static / Dynamic / Reacceleration)

This study is performed to select the best method of starting, motor parameters and the required system design for minimizing the impact of motor starting on the entire system. This study also helps in determining the starting time of motor and re-acceleration philosophy



Services Offered

POWER SYSTEM STUDIES

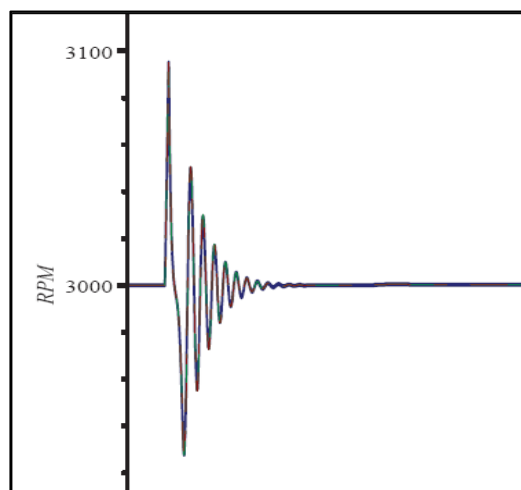
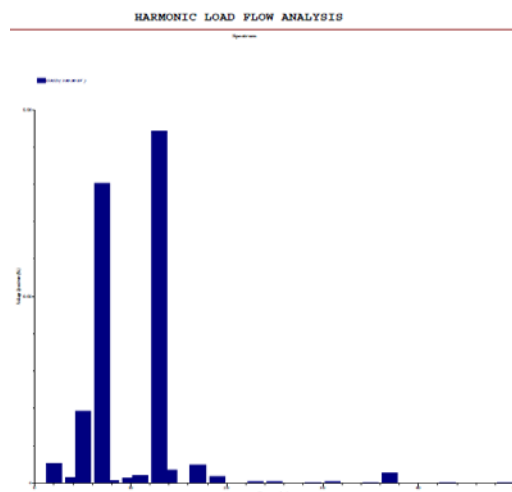


Protection Relay Setting and Coordination Study

This study is done to determine the most suitable settings for protective relays of Motors, Transformer, Cables & Overhead Lines. Further, calculation of overcurrent and earth fault settings to provide protection coordination to the plant equipment with optimum sensitivity, stability and selectivity is also performed. Comprehensive relay configuration files and setting sheets are developed to ease the commissioning activities.

Harmonic Analysis

The main information obtained from this study comprises different harmonic indices / factor related to the voltage / current waveform. This information is essential for analyzing the quality of power at different voltage levels. Also by this study the requirement of harmonic filters is ascertained.



Transient Stability Study

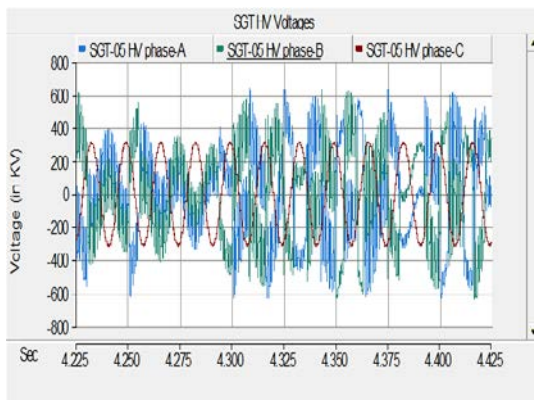
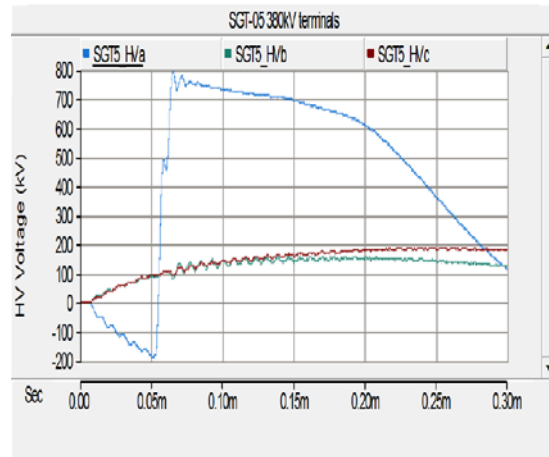
Determination of critical fault clearing time under different loading and operating conditions. Verification / tuning of the turbine control, excitation control system and PSS to obtain desirable performance of the generating unit. Also determination of PSS effect on system damping in small signal stability analysis.

Services Offered

POWER SYSTEM STUDIES

Insulation coordination study

Insulation coordination study determines the selection and verification of surge arrester at right place to limit various types of overvoltages in the system within the equipment withstand levels. Maximum overvoltage like Temporary overvoltage, switching overvoltages, lightning overvoltages and Very fast front overvoltages are determined for various operating conditions.

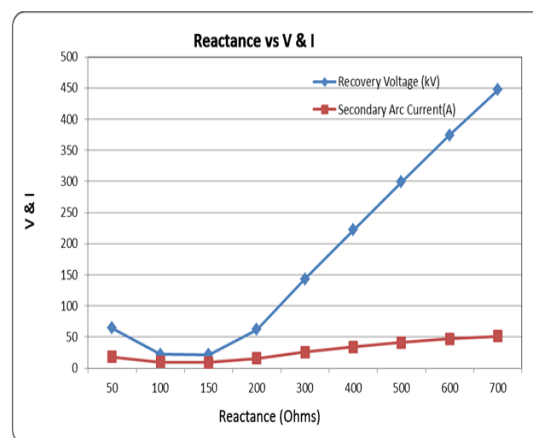


Ferro resonance study

Ferro resonance is a non-linear resonance phenomena which occurs in a low loss electric circuit. This study is performed to find out various operating scenarios and system configurations of electrical network, which may lead to Ferro-resonance of power transformers and voltage transformers and to provide the solution to limit the over-voltages occurring during Ferro-resonance.

Neutral Grounding Reactor Sizing Calculation

This study is performed to design a neutral grounding reactor (NGR) to minimize the recovery voltage and residual fault current (secondary arc current) during a single line to ground fault which are about 80% of the transient faults, thereby reducing the reclosing time of transmission line circuit breaker to increase the system reliability and stability limit.



Services Offered

POWER SYSTEM STUDIES

Arc flash study

This study is to used ascertain the incident energy available in the event of occurrence of short circuit while working on or operating an exposed and energized piece of equipment. This incident energy is used to determine the flash protection boundary and the appropriate level of Personal Protective Equipment (PPE), which can minimize personal injury from exposure to an electrical arc flash and maximize the probability for survival.



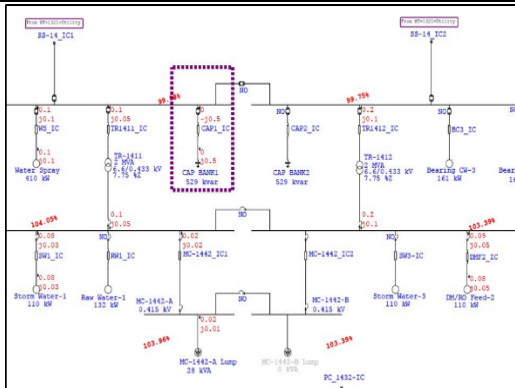
WARNING

Arc Flash and Shock Hazard

Appropriate PPE Required

124 mm	Flash Hazard Boundary
0.59	J/cm ² Flash Hazard at 457 mm
Category 0	Untreated Cotton
400 VAC	Shock Hazard when cover is removed
00	Glove Class
1067 mm	Limited Approach (Fixed Circuit)
305 mm	Restricted Approach
25 mm	Prohibited Approach

Bus: 19BJA Prot: 19BJA01A

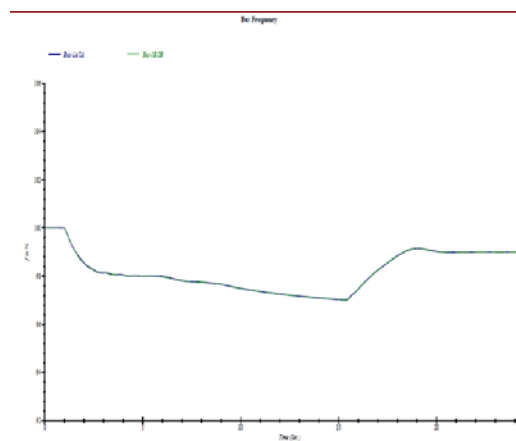


Reactive Power Compensation Study

This study is performed improve power factor of the power system by suitably placing capacitor banks or other type of reactive power compensation device. Rating and location is also determined to optimize the number of capacitor banks in the system.

Load Shedding Study

The main information obtained from this study comprises the system electrical frequency, output power of the machines as well as the voltage levels of the buses under different outage conditions with and without load shedding actions in the system. From these study results, load shedding assessment, necessary remedies or enhancement to improve the system frequency is analyzed.



Review of Generator Protection Settings

Review of generator protection settings provided by manufacturers to reinforce the client's satisfaction and to ensure the coordination with the rest of the system.

Services Offered

TRANSMISSION LINE ENGINEERING

Transmission line routing and design, structural design of latticed towers, poles and frames, sag and tension calculations using software with integrated terrain modeling, engineering, spotting, and drafting functions

SOFTWARE DEPLOYED

PLS-CADD &
PLS Tower

ETAP –System Studies

AUTOGRID PRO –
Grounding Studies

Micro station– Layouts &
SLD's.

PSCAD & EMTP- Insulation
Coordination Studies, &
Ferro-resonance Analysis

Dialux- Lighting
Calculations

Staad Pro
SAFE
ETABS
Frameworks Plus

Bentley Architecture
P-Arch

Reference List

T&D SUBSTATION ASSIGNMENTS

CUSTOMER	PROJECT DETAILS
L&T Construction (PT&D), India	Proposal Engineering Services for Mobile Substation Project in Ethiopia
CLP India Private Limited, India	Technical Due Diligence for Transmission Line & Substation, India
L&T Construction (PT&D), India	Proposal Engineering Services for 18 Nos. 220/132/33 kV AIS SS, Tunisia
L&T Construction (PT&D), India	Pre-Bid Engineering Services for 18 Nos. 220/132/33kV AIS SS, Tunisia
L&T Construction (PT&D), India	Proposal Engineering Services for 132kV Kole-Gulu-Nebbi-Arua Transmission Line, Uganda
L&T Construction (PT&D), India	Pre-Bid Engineering Services for 2 Nos. 400/220/33kV Outdoor AIS SS, Mozambique
L&T Construction (PT&D), India	Pre-Bid Engineering for Al Nahdah 220kV GIS Project, Egypt
Alghanim International, Kuwait	Pre-Bid engineering services for 5 nos. of 400kV Substation of a 1500 MW Solar park, Kuwait
Gujarat State Fertilizers & Chemicals Ltd.	Owner's Engineering Services for 132 KV Switchyard and Substation, India
L&T-Hydrocarbon / PDO	Detail engineering of extension of existing 132kV AIS Switchyard for Y3DC project
L&T Construction (PT&D)	Detailed Engineering Services for Mekele & Dallol Substation, Ethiopia
Bhilosa Industries Pvt. Ltd, India	Basic & Detailed Engineering Services for 66/11 kV Switchyard , India
EDRC International (L&T PT&D), India	Secondary Engineering Services for Qatar Phase 13 substation, Qatar
Al-Jazirah Engineers & Consultants, Saudi Arabia	Detailed Engineering Services for 380/132/13.8 kV New Switching Station , Saudi Arabia
Bhilosa Industries Pvt. Ltd, India	Owner's Engineering services for 66 /11 KV switchyard, Naroli plant, Silvassa, India
SSEM / AJEC, Saudi Arabia	Consultancy service for Modification works at Yanbu-3 and Madinah BSP, Saudi Arabia
SSEM / AJEC, Saudi Arabia	Consultancy service for Modification works at Yanbu-3 and Madinah BSP, Saudi Arabia

Reference List

CUSTOMER	PROJECT DETAILS
Grasim Industries Limited, India	Review Engg of 66/6.6 KV Substation for Birla Cellulose Process Plant, India
EGEC, Qatar	Detail Engineering of 33/11KV S/S ,Qatar
Larsen & Toubro Limited, EAIC - Control & Automation BU	Engineering Support for 132/33/0.433kV Substation Package, Talaipalli
L & T - /EBG Electrical Systems & Equipment	Detail Engineering of 220 kV switchyard for 125 MW TPP in Senegal
AJEC, Saudi Arabia	Detail Engineering for Airport Housing Substation project
L & T - /EBG Electrical Systems & Equipment	Detail Engineering of 220 kV switchyard for 125 MW TPP in Senegal
AJEC, Saudi Arabia	Detailed Engineering for construction of 380kV underground cables for Dubha Power plant
Bhilosa Industries Pvt. Ltd, India	Basic Engineering and Consultancy related to 220 kV Substation and Transformer packages for BIPL Naroli CP site, India
L&T/ MPPGCL, India	Detail Engineering of 400kV AIS Switchyard of 2x660 MW Shree Singaji TPP (Stage-II), Madhya Pradesh, India
Alghanim International, Kuwait	Review Engineering of 400kV GIS for 750MW Sabiya-3 Combined Cycle Project. This is one of the largest GIS in Middle East region with bus Rating of 6000A, 80kA for 3 sec with 26 bays. Details engineering for Civil and Structural design of 400kV GIS. Details engineering for HVAC and Fire Protection system design for 400kV GIS. Details engineering for Electrical packages i.e. Lighting, Grounding, Lightning Protection.
Al-Toukhi / AJEC, Saudi Arabia	Detail Engineering of Al-Waha 380/110/13.8kV GIS BSP in Saudi Arabia
SSEM / AJEC, Saudi Arabia	Detail Engineering of New Aziziyah 380/132/33/13.8 kV GIS BSP in Saudi Arabia
Al-Toukhi / AJEC, Saudi Arabia	Detail Engineering of Riyadh Metro 380/132/33kV GIS BSP in Saudi Arabia
Al-Toukhi / AJEC, Saudi Arabia	Detail Engineering of Al-Jilah 380/132/33kV GIS BSP in Saudi Arabia
Alghanim International, Kuwait	Review Engineering of 400kV GIS modification work for 250MW Sabiya-1 Combined Cycle Conversion Project, Kuwait

Reference List

CUSTOMER	PROJECT DETAILS
SSEM / AJEC, Saudi Arabia	Detail Engineering of Al-Kharj 380/132/33/13.8kV GIS BSP in Saudi Arabia
SSEM / AJEC, Saudi Arabia	Detail Engineering of As-Safa 380/132/13.8kV GIS BSP in Saudi Arabia
Alghanim International, Kuwait	Review Engineering of 400kV GIS Extension work for 500MW Sabiya-2 Open Cycle Project, Kuwait
SSEM / AJEC, Saudi Arabia	Detail Engineering of Sultanah 380/132/13.8kV GIS BSP in Saudi Arabia
Mother Dairy, India	Review of calculations, SLDs, protections, Vendor drawings, Schematics etc. of 66KV AIS Substation
L&T / RRVUNL	Review Engineering of 400kV AIS Switchyard of 2x660MW Chhabra Super Thermal Power Plant, Rajasthan
Lanco Vidarbha Thermal Power, India	Review of calculations, SLDs, protections, Vendor drawings, Schematics etc. 765kV AIS Switchyard for 2x660 MW Lanco Vidharbha
Madhya Pradesh Power Generating Company, India	Review of calculations, SLDs, protections, Vendor drawings, Schematics etc. 400kV & 220kV Switchyard for 2x600 MW Malwa TPS
Lanco Anpara Power, India	Owner's Engineering of 765kV & 400kV AIS Switchyard of 2x600 MW Anpara "C" TPS
Lanco Amarkantak Power, India	Review of Detailed engineering of 400kV AIS Switchyard of 2x300 MW Lanco Amarkantak TPS
L&T/ IOCL, Panipat	Basic & Detailed engineering of 33kV GIS of 2x45 MW IPCL Co-generation Power Plant
DOOSAN, Korea	Basic & Detailed engineering of 245kV GIS extension of 1x700 MW TPS for Doosan, Korea
Gujarat Cement Works, India	220kV AIS Switchyard of 50 MW Liquid Fuel Based CCPP, Pipavav
L&T/ Nabha Power, India	Vendor drawing review of 400KV AIS Switchyard of 2x660 MW Rajpura TPS
L&T/ GSECL, India	Vendor drawing review of 220kV AIS Switchyard of 375 MW Dhuvaran CCPP
L&T/ D B Power, India	Vendor drawing review of 400kV AIS Switchyard of 2x600 MW DB Power TPS

Reference List

CUSTOMER	PROJECT DETAILS
Thermax, India	Vendor drawing review of 400kV AIS switchyard of 2x150 MW TPS at Krishnapattanam for Thermax
L&T/ GMR Rajahmundry Energy, India	Vendor drawing review of 400kV AIS Switchyard of 2x383.8 MW GMR Rajahmundry Energy CCPP
L&T/ KEOPL, India	Vendor drawing review of 400kV AIS Switchyard of 445 MW Konaseema CCPP.
L&T/ VPGL, India	Vendor drawing review of 400kV AIS Switchyard of 388.5 MW Vemagiri CCPP.

POWER SYSTEM STUDIES

CUSTOMER	PROJECT DETAILS
Al-Jazirah Engineers & Consultants, Saudi Arabia	Insulation co-ordination study for Expansion of Qassim-2 BSP (9025) 380/132/13.8kv SS, Saudi Arabia
Thermal Limited, India	Power System Study for 2x25MW Power Plant of RCF at Trombay, India
Thermal Limited, India	Power System Studies for 1x20 MW GTG based power plant for NFL Bhatinda project, India
Thermal Limited, India	Power System Studies for 1x20 MW GTG based power plant for NFL Panipat project, India
Thermal Limited, India	Power System Studies for 1x20 MW GTG based power plant for NFL Nangal project, India
Al-Jazirah Engineers & Consultants, Saudi Arabia	Insulation Co-ordination Study - 230/132/13.8KV Sub-100 for Rastanura Refinery Clean Fuels Project, Saudi Arabia (Saudi Aramco project)
Bhilosa Industries Pvt Ltd., India	Consultancy for Root Cause Analysis on trip incidents of Rakholi Plant and trip incidents & system study at Naroli Plant, India
Bhilosa Industries Pvt Ltd., India	Power System Studies and Relay Coordination for Naroli Polyester Complex Phase-III
Larsen & Toubro Limited, EAIC - Control & Automation BU	System Study Services for Martabe HFO Power Station Project, Indonesia
Almana Engineering & Contracting Co	Study for Upgrade of Sewerage Treatment Plant at Dukhan, Qatar

Reference List

CUSTOMER	PROJECT DETAILS
Larsen & Toubro Limited, EAIC - Control & Automation BU	System Study Services for Martabe HFO Power Station Project, Indonesia
Bhilosa Industries Pvt Ltd (BIPL), India	Relay Co- ordination study of 220 kV Substation for BIPL Naroli CP site, India
SSEM, Saudi Arabia	Technical consultancy services for Relay Setting for Qurayat Power Plant Extension-III, Saudi Arabia
Radicon Gulf, Saudi Arabia	Insulation co-ordination study of 380/110/13.8kV Ashbailiyah Substation, Saudi Arabia
Radicon Gulf, Saudi Arabia	Insulation co-ordination study of 380/110 kV AL-Khaldiya Substation, Saudi Arabia
Siemens, India	Insulation co-ordination study of 220 kV GIS/AIS System for Reliance J3 project, Jamnagar, India
SSEM / AJEC, Saudi Arabia	Electrical System Study of 380/110/13.8kV AL-ADEL Substation, covering Insulation co-ordination study including TOV, lightning surge, switching surge, VFTO and Transferred surge Calculation & Ferro resonance
SSEM / AJEC, Saudi Arabia	Short circuit calculation of 380 kV and 132 kV Bisha Substation and Insulation co-ordination study including, TOV, lightning surge, switching surge, VFTO and Ferro-resonance
IOCL, India	Consultancy services to IOCL for Load Flow Study, Short Circuit Analysis, Relay Co- ordination Study, Reactive Power Compensation Study, Harmonic Analysis, Transient Stability and Load Shedding Analysis at Panipat, Haryana, India
Alok Industries, India	Earthing System, Protection Application, Harmonic Analysis and Power System Study for Relay Setting, Relay Coordination from 220 kV LILO Station to 415 Volt System
L&T-Power / D B Power, Chhattisgarh, India	2x600 MW Coal based Power Project, Chhattisgarh, India (BOP and BTG Civil) Load Flow Study, Short Circuit Analysis, Motor Starting Study, Relay Co- ordination Study and Insulation Coordination Study
L&T Power / Nabha Power, India	2x700 MW Rajpura Super Thermal Power Station, Punjab, India Load Flow Study, Short Circuit Analysis, Motor Starting Study, Transient Stability Study and Insulation Coordination Study

Reference List

CUSTOMER	PROJECT DETAILS
Arabian Bemco, Saudi Arabia / Sargent & Lundy, USA	Conversion of Qurayyah Open Cycle Power Plant to CCPP Load Flow Study, Short Circuit Analysis, Motor Starting Study and Relay Co- ordination Study
DOOSAN, Korea	1x700 MW Super Critical Thermal Power Project, Thailand Load Flow Study, Short Circuit Analysis, Motor Starting Study, Relay Co- ordination Study and Insulation Coordination Study
L&T- EPC Power / GMR Rajahmundry Energy, Andhra Pradesh, India	2x383.8 MW GMR Rajahmundry Energy Combined Cycle Power Project, AP, India Load flow study, Short Circuit Analysis, Motor Starting Voltage Drop Studies
Thermax (Power Division), India	2x150MW Thermal Power Plant at Krishnapatnam, AP, India Load Flow Study, Short Circuit Analysis, Motor Starting Study, Relay Co- ordination Study and Insulation Coordination Study
Arabian Bemco, Saudi Arabia / Sargent & Lundy, USA	2000 MW Simple Cycle Qurayyah Power Plant Relay Co-ordination and Protections System Study
DOOSAN, Korea	216 MW Taweelah A10 Power and Desalination Project, UAE Load Flow Study, Short Circuit Analysis, Motor Starting Study, Relay Co- ordination Study and Insulation Coordination Study, Dynamic & Transient Stability, EMTP-SSR Studies, Harmonic Analysis
DOOSAN, Korea	370 MW Amman East Combined Cycle Power Plant Load Flow Study, Short Circuit Analysis, Motor Starting Study, Relay Co- ordination Study and Insulation Coordination Study
Mirant Mid-Atlantic, USA	Morgantown SCR Project Unit Relay Setting Calculations and Coordination Study
Al-Toukhi, Saudi Arabia	Tihama Power Plant Extension Project, Saudi Arabia Switching Surge Analysis at 132kV side of GT, Load Flow Study, Short Circuit Analysis, Motor Starting Study, Relay Coordination Study
Arabian Bemco Co., Saudi Arabia	PP9- Tank Farm Project, Saudi Arabia , Load Flow and Relay Coordination Study
Pratt & Whitney Power Systems, USA	Generator Protection Setting review

Reference List

CUSTOMER	PROJECT DETAILS
Indian Oil Corporation, (EIL) / L&T-EPC Power	194 MW IOCL Panipat Cogen Power Project Short Circuit Study, Load Flow Study, Motor Starting Study, Dynamic and Transient Stability Studies, Harmonic Analysis, Reactive Power Compensation Studies, Protection Coordination Study
Al-Toukhi, Saudi Arabia	250 MW Jazan Power Plant Extension Project, Saudi Arabia Load Flow Study, Short Circuit Analysis, Motor Starting Study, Relay Co- ordination Study
EXCEL Energy, USA / Sargent & Lundy, USA	468 MW Riverside Generating Plant, Minnesota, USA Load Flow Study, Short Circuit Analysis, Motor Starting Study
Sargent & Lundy, USA	250 MW PEC-TECH, LNG Plant, Indonesia Transient Stability Studies
GE Hydro, Australia	Banimboola Hydroelectric Project Study Motor Starting Analysis and Relay Coordination Study
Doosan / Sohar Power Company, Oman	585 MW Sohar Water and Power Project in Oman Load flow study, Short Circuit Analysis, Relay co-ordination, Electro-magnetic Transient Study
Toshiba, Japan	Calabar Power Station, Ihovbor Power Station & Sapele Power Station, Nigeria Load Flow Study, Short Circuit Analysis, Motor Starting Study, Relay Co- ordination Study
Qatar Petroleum, Qatar	Dukhan Fields of Qatar Petroleum Relay Co-ordination and System Study
L&T – EPC / VPGL, Andhra Pradesh, India	388.5 MW Vemagiri CCPP, Andhra Pradesh, India Load flow Study, Short Circuit Analysis, Motor Starting Voltage Drop Studies
L&T – EPC / KEOPL, Andhra Pradesh, India	445 MW Konaseema CCPP in Andhra Pradesh, India Short Circuit Analysis, Motor Starting, Voltage Drop Studies
L&T-GTFB / HPL Cogeneration, India	116 MW Haldia CCCPP, West Bengal Load Flow Study, Short Circuit Analysis, Motor Starting Voltage Drop
Sargent & Lundy, USA / STI Guna India	330 MW STI Guna Power TPS Load Flow Study
Grasim Industries, India	2x289 MW Bina Power TPS Load Flow Study

Reference List

CUSTOMER	PROJECT DETAILS
DFID, Great Britain / Sargent & Lundy, USA	Andhra Pradesh Power Sector Reform Load Flow Study , Stability Study, Short Circuit Study, Recommended for Static VAR Compensation and Reactive Compensation
L&T- EPC Power / Gujarat Cement Works, India	53 MW Pipavav CCPP, Gujarat Load Flow Study, Short Circuit Analysis, Motor Starting, Voltage Drop Study
L&T- EPC Power / AES Kelanitissa , Sri Lanka	1x168.1 MW AES Kelanitissa CCPP in Sri Lanka Load Flow Study, Short Circuit Analysis, Motor Starting Voltage Drop, Relay Co-ordination Study

TRANSMISSION LINE ASSIGNMENTS

CUSTOMER	PROJECT DETAILS
CLP India Private Limited, India	Technical Due Diligence for Transmission Line & Substation, India
NRSS XXXVI Transmission Limited	Lender's Engineering for 400 kV Double Circuit 167.4 km long Transmission line
Warora-Kurnool Transmission Limited	Lender's Engineering for Transmission project of Essel Group
North Karanpura Tranco Ltd.	Lender's Engineering for Development of transmission lines for NKTL
State Bank of India, India	Lender's Engineering for 400kV Multi Circuit Line & 400kV DC line Transmission Projects of KPTCL, Karnataka
L&T / NTPC, India	Proposal Engineering support for 400kV Transmission Line for Telangana BOP
SEPCO III, Indonesia	Proposal Engineering support for 500kV Transmission Line for a project in Indonesia
Jindal Investimentos S.A., Mozambique	Owner's Engineering Specification for 220kV transmission line for 1x150 MW Chirodzi Thermal Power Project in Mozambique
Orange Powergen, India	Prepared Technical Specification and typical drawings for 33/11kV Transmission Line for Bercha Wind Project.
L&T / NTPC, India	Turnkey Specification of 66kV transmission line for 2x660MW NTPC Khargone Power Project.

Reference List

CUSTOMER	PROJECT DETAILS
L&T, India / NWPGL, Bangladesh	Review Engineering of 230kV & 132kV transmission lines at Bheramara CCPP, Bangladesh.
L&T, India / BPDB, Bangladesh	Review of 230kV single circuit transmission line route & gantry design within Power Plant boundary for Sikalbaha Power Plant, Bangladesh.
L&T / MPPGCL, India	Preparation of Specification for 11kV, Overhead line to Raw water Intake area for Malwa Phase-II Power Project.

Photo gallery

Detail Engineering of As-Safa 380/132/13.8kV GIS BSP in Saudi Arabia



Photo gallery

Detail Engineering of Sultanah 380/132/13.8kV GIS BSP in Saudi Arabia

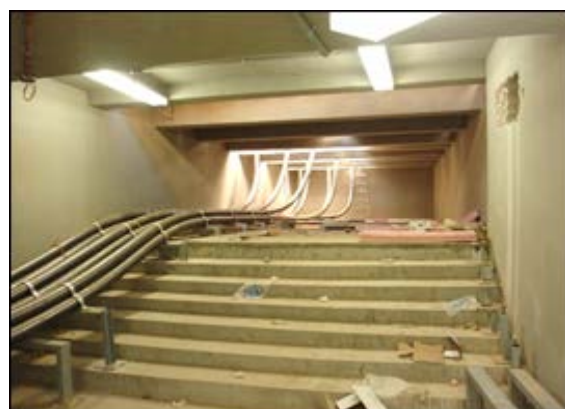


Photo gallery

Review Engineering for 230kV & 132kV Transmission Lines in Bangladesh



Contact us

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