



5th Annual Conference

TRANSMISSION LINES, TOWERS AND SUBSTATIONS

October 30-31, 2017, The Leela Ambience, Gurgaon

Organised by:

POWERLINE

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TRANSMISSION LINES, TOWERS AND SUBSTATIONS

Mission

- The Indian power transmission sector is expected to witness investments of around Rs 2.6 trillion over the next few years, mainly due to the thrust provided by recent policy and regulatory developments, and government initiatives.
- New designs, solutions and construction techniques for power evacuation infrastructure (transmission lines, towers and substations) are thus becoming a growing area of interest for utilities and the industry.
- Tower designs that address RoW issues, reduce visual impact, help in faster execution and provide ease of installation have entered the transmission market. Tower designs that are catering to the emerging requirements include monopoles, delta configuration towers and chainette towers.
- Advancements have also taken place in tower profiles, foundation designs and materials used for tower construction. Tube profiles are being used in place of angle profiles as they help in faster erection, reduce the steel requirement, and attract lower wind loads. Pre-cast and grillage foundations, which are factory-made solutions, as well as monopole foundations, which are compact, lightweight and visually more aesthetic, are solutions that are being considered to provide customised solutions and reduce construction time. Pultruded fibre-reinforced polymer (P-FRP) towers and cross-arms are also being used as replacements for ageing wood poles in remote/extremely humid locations.
- Advanced conductor and cable technologies are also playing an important role in reducing the RoW requirement in addition to providing greater efficiency, reliability and ease of design. Some of the emerging conductor designs are high temperature low sag (HTLS) and high performance superconductors. XLPE cables and gas-insulated lines (GILs) offer attractive alternatives for undergrounding lines in urbanised areas. The solutions being used for uprating and re-conductoring include STACIR conductors and gap-type conductors.
- Meanwhile, transformer technologies too have evolved considerably over the years, from conventional oil-filled transformers to dry-type transformers and further to advanced smart transformers. The next generation of transformer technology, including smart transformers, comes with remote monitoring of a wide range of grid parameters as well as transformer parameters.
- Technological advancements have resulted in making switchgear that is more compact, reliable and environment friendly. Gas-insulated switchgear (GIS) and hybrid switchgear help lower the RoW requirement and reduce the cost of construction and maintenance. Another emerging trend in the switchgear segment is the use of intelligent switchgear, which allows real-time flow of information.
- Automated substations with intelligent electronic devices (IEDs) are gaining prominence, allowing utilities to secure real-time and enterprise-wide information, and enabling them to improve the overall reliability of the system. There is also an increased emphasis on upgrading substation automation systems to IEC 61850-compliant open standards.
- With the ever increasing load growth, there is an increasing focus on deploying solutions for regulating power flows, increasing the network transfer capacity and reducing short circuit levels. Some of solutions available to address these issues are series capacitors, FACTS devices, phase-shifting transformers and fault current limiters.
- With advancements in transmission equipment technology, design and construction methods have also evolved. Light detection and ranging (LIDAR) surveys, global positioning systems (GPS), building information modelling (BIM) techniques and power line systems-computer aided design and drafting (PLS-CADD) modelling techniques are being used for the design of lines and substations. Further, mechanised techniques such as helicopters, drones and cranes for line stringing, monitoring and repair are becoming increasingly popular.
- Asset management based on advanced analytics is helping utilities prevent failures, identify critical assets and avoid premature asset replacements. New technologies, especially devices for remotely monitoring and controlling equipment, are being deployed to make grid operations more efficient.
- **The mission of this conference is to highlight the latest innovations and most promising and relevant technologies in transmission towers, conductors and substations. It will also discuss the new and emerging requirements of the transmission segment as well as showcase successful projects and best practices.**

Target Audience

The event is expected to draw participation from executives, managers and decision makers from:

- Transmission companies
- Transmission structure manufacturers (towers and substations)
- State electricity boards
- Private utilities
- Interstate transmission operators
- Conductor manufacturers
- Private developers
- Design and consulting organisations
- Technology providers
- Transmission line manufacturers
- Foundation and piling companies
- Steel companies, etc.

Organisers

The conference is organised by **Power Line** and **Global Transmission**. **Power Line** is a leading provider of information on the power sector. Its parent company, **India Infrastructure Publishing**, provides information on infrastructure sectors through magazines, newsletters, reports and conferences. It publishes a range of magazines including **Renewable Watch** and **Smart Utilities**.

Global Transmission is a provider of information and analysis on the global electricity transmission industry. It organises conferences on crucial issues and topical themes relevant to the transmission industry. It also publishes a series of reports including **Global Transmission Substation Market and Upcoming Projects Report**, **Global Electricity TSO Profiles and Benchmarking Report**, **Global High Voltage Transmission Line Projects Database and Report**, **Global Electricity Transmission Equipment Market Report** and **Global Transmission Investment Report**.

AGENDA/STRUCTURE

KEY TRENDS AND OUTLOOK

- ❖ What are the key trends in technology adoption by the power transmission sector?
- ❖ What are the new and emerging requirements?
- ❖ What are the key issues and challenges?

POWERGRID PERSPECTIVE

- ❖ What are the issues faced by the utility in project execution?
- ❖ What technology options could address these issues?
- ❖ What project management practices could help address these issues?

OPERATOR/DEVELOPER PERSPECTIVE

- ❖ What has been the project execution experience of operators and developers?
- ❖ What are the issues and challenges faced?
- ❖ What are some of the new designs and technologies being introduced in the market?

EPC PERSPECTIVE

- ❖ What has been the project execution experience of EPC providers?
- ❖ What are the issues and challenges faced?
- ❖ What are some of the new designs and technologies being introduced in the market?

TRANSMISSION LINE DESIGN

- ❖ What are the challenges faced in designing new transmission lines?
- ❖ What are the key considerations in constructing new transmission lines?
- ❖ What are the recent advances in transmission line design?

ADVANCES IN TOWER AND FOUNDATION DESIGN

- ❖ What are the challenges involved in transmission tower design?
- ❖ What designs and structures are being deployed to optimise RoW requirements?
- ❖ What are the plans of transmission utilities in this regard?

TRANSMISSION LINE STRINGING

- ❖ What are the new techniques being utilised for transmission line stringing?
- ❖ What are some of the best practices in this regard?
- ❖ What are the key challenges?

ADVANCED CONDUCTOR TECHNOLOGIES

- ❖ What technologies are being adopted to improve conductor performance?
- ❖ What are the trends in the uptake of HTLS, superconductors, XLPE cables and GILs?
- ❖ What are some of the solutions for uprating and re-conducturing existing lines?

TRANSFORMER AND SWITCHGEAR TECHNOLOGIES

- ❖ What are the latest transformer and switchgear technologies?
- ❖ What are the major trends in the uptake of smart transformers and switchgear by utilities?
- ❖ What are the issues and challenges?

SUBSTATION DESIGN

- ❖ What are the key design criteria for substations?
- ❖ What are the new technologies available for substation design?
- ❖ What are the challenges faced in substation design?

SUBSTATION AUTOMATION

- ❖ What are the key developments in substation automation?
- ❖ What are the plans of transmission utilities in this regard?
- ❖ What solutions are available to cater to the changing requirements?

FACTS, FAULT CURRENT LIMITERS AND PHASE SHIFTING TRANSFORMERS

- ❖ What are the trends in the uptake of FACTS devices by utilities?
- ❖ What are the plans of utilities for deploying fault current limiters?
- ❖ What are the plans for deploying phase shifting transformers in the country?

TRANSMISSION LINE AND TOWER CONSTRUCTION

- ❖ What are the key factors to consider during the installation and construction of lines and towers?
- ❖ What has been the experience with the use of aerial technologies in this regard?
- ❖ What are the other technologies available for transmission line construction?

ASSET MAINTENANCE AND MONITORING

- ❖ What methods are utilities deploying for the maintenance and monitoring of transmission assets?
- ❖ What new asset maintenance solutions are available in the marketplace?
- ❖ What are the issues and challenges faced?

PROJECT SHOWCASE

- ❖ What are the key features of the project (components/technology used, design approach, etc.)?
- ❖ What were the issues and challenges faced?
- ❖ What lessons can be learnt from it?

Previous Participants

Some of the participants from our previous transmission conferences were: A.P. Transco, A2Z, ABB, ACB, Accenture, ACME, Adani transmission, Adhunik Power, Aditya Birla Insulators, AES, AIC Steel, Airbus Group, Alstom T&D, Altec Industries, Amara Raja, Apar Industries, AMAT, Arcturus Business Solutions LLP, Assam Electricity Grid Corporation, Associated Power Structures, AVEVA Information Technology, Bain & Company, Bajaj Electricals, Barclays, Bechtel, Bekaert, Bentley Systems, BGR Energy, BHEL, Bihar State Power Transmission, BNC Power Projects, Bothe Windfarm Development, Brugg Cables, Burns McDonnell, Cabcon, Cargill, CESC, Chloride Power Systems, CLP, CRISIL, Crompton Greaves, CTC Global, Customized Energy Solutions, Damodar Valley Corp, Delhi Transco, DNV-GL, DSP Merrill Lynch, Easun -MR Tap Changers, EDAC Engineering, Electrotherm, Elite Powertech, EMC, Entegra, ERA T&D, ERDA, Essar Power, Essel Infra, Exide Industries, FLIR, Focal Energy, France Elevateur, Galaxy Transmission, Gammon, Garware -Wall Ropes, GE, GIZ, Godrej & Boyce, Good Luck Steel, GETCO, Gupta Power, HPERC, Himalayan Heli Services, Hind Aluminium, HVPNL, Hyosung T&D, iEngineering, IFC, IL&FS Energy Development, Inabensa, India Power, Indian Railways, Indo-German Energy Forum, International Energy Resources, Isolux Corsan, IVRCL TLT, Jagdamba International, Jaigad Power Transco, Jindal Steel & Power, J-Power Systems, JSK Industries, JSW Power Trading, Jyoti Structures, Kalpataru Power Transmission, Karamtara, Karnataka Power Transmission, KEC, KEI Industries, Kloeckner DESMA Machinery, KSEB, L&T, L&T Infra Finance, L&T Sargent & Lundy, L&T (Kudgi Transmission), Lara Global, M&I Materials, MacLean Power, MAHATRANSCO, Maharashtra SLDC, MAN Structurals, MAP Power LLP, Maschinenfabrik Reinhausen GmbH, MMC UAV, Modern Insulators, MP Power Transmission, MTEK PRO, Nandan Steels & Power, NLC, NTPC, OPTCL, Orange Renewable Power, Parbati Koldam Transmission, PFC, POSOCO, Power Grid, Powerlinks, Pradman Engineering Services, PwC, Primtech, PSTCL, PTC, PTCUL, Punj Lloyd, Purulia & Kharagpur Transmission, R.S. Infraprojects, RRVNL, Ramboll, Ramelex, REC Transmission, Reliance Infrastructure, Rites, SBI, SBI Capital Markets, Septelt Advisory Services, SGD La Granja Vidriera, Shenzhen Micromulticopter Aero Technology, Shyam Indus Power, Sicame, Siddhartha Engineering, Siemens, SJVNL, Skipper, SMEC, State Grid Corporation of China, SAIL, Sterling and Wilson, Sterlite Power Grid, Sterlite Technologies, Sumitomo, Supreme & Co., Suzlon Energy, Tag Corporation, Tamil Nadu Transmission Corporation, Tata Power, Tata Projects, Taurus Powertronics, TBEA, TESMEC, Tokyo Rope Mfg., Torrent Power, Transrail Lighting, Trimble, TSE International, UPPTCL, UbiFrance, Utarksh Tubes & Pipes, Valmont Structures, Virtuous Energy, WBSCTCL, Wipro, Yes Bank, ZTT Cable, etc.

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Registration Form

I would like to register for the conference. I am enclosing Rs _____ vide cheque/demand draft no. _____ drawn on _____ dated _____ in favour of **India Infrastructure Publishing Pvt. Ltd.** payable at New Delhi.

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	INR	GST @ 18%	Total INR	Total USD	INR	GST @ 18%	Total INR	Total USD
One delegate	18,000	3,240	21,240	327	22,500	4,050	26,550	408
Two delegates	30,360	5,465	35,825	551	37,950	6,831	44,781	689
Three delegates	42,720	7,690	50,410	776	53,400	9,612	63,012	969
Four delegates	55,080	9,914	64,994	1,000	68,850	12,393	81,243	1,250

- There is a 20 per cent "early bird" discount for those registering before October 5, 2017.
- There is a special low fee of Rs 5,000 per participant for the state electricity boards and their successor units (state-owned transcos), regulatory authorities and research/academic institutions.
- Registration will be confirmed on receipt of the payment.
- To register online, please log on to <http://indiainfrastructure.com/conf.html>

Payment Policy:

- The conference is a non-residential programme.
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