4th Annual Conference

TRANSMISSION LINES, TOWERS AND SUBSTATIONS

October 20-21, 2016, The Leela, Gurgaon

Organised by:

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*Lead and Co-sponsorship slots are available
**Mission**

- Investments in power evacuation infrastructure are increasing in response to the policy attention received by the transmission segment. However, right-of-way (RoW) acquisition remains a key impediment to network expansion efforts.
- New designs, solutions and construction techniques for transmission lines, towers and substations are thus becoming a growing area of interest for utilities and the industry.
- Advanced conductor technologies are playing an important role where RoW issues are limiting the creation of new corridors. High temperature low sag (HTLS) conductors, which can carry almost double the current than the commonly used ACSR conductors, are being widely adopted. The solutions being used for uprating and re-conductoring include STACIR conductors and gap-type conductors.
- A variety of new tower designs have entered the transmission market space. These include guy type towers and chainette towers, which are cost effective and weigh less than conventional towers. Other innovations include high voltage transmission towers, towers with a delta configuration of conductors and towers with insulated cross-arms.
- New tower foundation designs aim to customise structures in accordance with the terrain as well as to limit construction time. 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.
- New developments in semiconductor devices and components in the area of FACTS and high voltage direct current (HVDC) are increasing the reliability of these technologies. Voltage sourced converter (VSC)-based designs, including configurations for static synchronous compensators (STATCOM), and VSC-based back-to-back DC links are increasingly being considered as a viable solution for challenging direct current (DC) transmission projects.
- Automated substations with intelligent electronic devices (IED) 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 increasing cost of land being a major constraint, new substation designs that economise space requirements are becoming a priority. In this context, there is wide-scale application of gas insulated switchgear (GIS) based substations by transmission utilities.
- Modern construction methods are allowing transmission companies to significantly optimise erection time. Advances are also being made in the design of transmission corridors. Aerial light detection and ranging (LIDAR) surveys, global positioning systems (GPS) and power line systems-computer aided design and drafting (PLS-CADD) modelling techniques are being increasingly used for detailed surveys, route alignment, etc.

**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 being organised by India Infrastructure Publishing, the leading provider of information on infrastructure sectors through magazines, newsletters, reports and conferences. It publishes a range of magazines including Power Line (India’s premier power magazine), Renewable Watch, Smart Utilities and Indian Infrastructure. It also publishes a series of reports on the energy sector including Transmission in India, Distribution in India, Electricity Market in India and Power Equipment Market in India. The company also publishes the Power Line Directory and Yearbook.

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AGENDA/STRUCTURE

KEY TRENDS IN TRANSMISSION
- What are the key trends in technology adoption by the power transmission sector?
- What are the growth drivers for network modernisation?
- What are the new and emerging requirements?
- What are the key issues and challenges? What is the outlook for the segment?

TRANSMISSION LINE DESIGN
- What are the challenges faced by existing transmission lines?
- What are the key considerations in constructing new transmission lines?
- What are the recent advances in transmission line design?
- What initiatives have transmission utilities in India undertaken in this regard?

TRANSMISSION TOWER 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 TOWER FOUNDATIONS
- What new types of tower foundations are being considered to minimise execution time and overcome difficult terrains?
- What are the key challenges in installing foundations?
- How are these being addressed?

ADVANCED CONDUCTOR TECHNOLOGIES
- What technologies are being adopted to improve conductor performance?
- What are the trends in the uptake of HTLS conductors by transmission utilities?
- What are some of the solutions for uprating and re-conductoring existing lines?

NEW REQUIREMENTS: RoW AND BEYOND
- What impact have RoW issues had on utility requirements?
- What technology options could address this issue?
- What project management practices could help?

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

SUBSTATION AUTOMATION
- What is the basic architecture of modern automated substations?
- What solutions do vendors provide to cater to changing requirements?
- What are the recent developments with regard to a shift to open standards-based solutions?

TRANSMISSION LINE MONITORING AND MAINTENANCE
- What preventive, predictive and breakdown methods for maintenance is the industry deploying?
- What new methods are being deployed for hotline maintenance?
- What new technologies do transmission utilities propose to introduce?

HVDC AND FACTS
- What are some of the new innovations in HVDC transmission technologies?
- What is the role of FACTS devices in transmission systems?
- What are some of the projects being implemented using these technologies?
- What are the challenges involved and how are these being addressed?

RE-CONDUCTORING
- What are the transmission industry's re-conductoring requirements?
- What technologies are being used to uprate existing lines?
- What are the issues and challenges involved?

BEST PRACTICES IN CONSTRUCTION
- What are the key factors to consider during the installation and construction of lines and towers?
- What are some of the new methods being deployed for stringing activities, installing foundations and tower erection?
- What has been the experience so far with hotline stringing and use of drones in this regard?

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?

Previous Participants

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- 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

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