

# National Conference Challenges in Distribution Sector and its Mitigations

Date: 10-11 November 2022 Venue: The Institution of Engineers (India), Kolkata



**Chief Guest**

**Shri Suresh Kumar, IAS**  
Additional Chief Secretary – Power  
Govt. of West Bengal

*Organized by*



Central Board of Irrigation and Power

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## ANNOUNCEMENT

The Central Board of Irrigation & Power is organizing National Conference on 'Challenges in Distribution Sector and its Mitigations' on 10-11 November 2022 at Kolkata. The CESC Ltd. is the knowledge partner of this important Conference. The aim of this conference is to make the participants aware of various ailments in Distribution sector and to discuss the solutions/remedies.

## AIM & OBJECTIVE OF THE CONFERENCE

The Government has an ambitious program to create a reliable distribution mechanism to provide affordable and consistent electricity supply to all the citizens including the key sectors like agriculture, manufacturing and services to ensure healthy and continued economic growth. Weakest link in the power system value chain is distribution sector. DISCOMs (power distribution companies) have accumulated operational losses. High AT&C losses continue to remain the key factor for their weak financial position. Despite concerted efforts, trajectory of AT&C loss reduction has been gradual. DISCOMs continue to incur losses on each unit of power sold and resort to load shedding to manage demand and minimize losses resulting in suppressed demand. Due to legacy issues, they are trapped in a vicious cycle of debt trap. While technical losses can be minimized by using upgraded technology but reducing commercial losses would need adoption of multipronged strategy particularly in view of fact that there is lot of theft of power in the system. Financially strained DISCOM's failure to supply adequate power at affordable rates hampers the quality of life. Overloading issues resulting in power outages which further impacts the country's overall economic growth and development. Permitting issues like violation of clearances that disturb public safety also cannot be ignored. Furthermore, difficulties in offering new connections, especially for the MSME sector due to limited grid capacity remain one of the key concerns for the DISCOMs. Emerging requirements like changing generation mix including renewable generation, net metering, and new types of loads, customer service needs and upgradation of existing distribution network with advanced technologies such as conductors with high current carrying capacity and relatively lower losses will be the drivers of business transformation in the distribution segment. Utilities need to adapt to business processes and technology to meet these requirements with greater focus on building robust energy accounting systems and automating metering, billing & collection.

Load forecasting is an emerging and important tool for demand management and calls for using advanced analytics to evaluate network and consumer data and also undertaking demand-side management measures such as time of day (TOD) metering for smoothening demand curve by DISCOMs. With ageing network and equipment, condition monitoring and diagnostics will play a key role in reducing failure rate of key equipment like distribution transformers to ensure uninterrupted power supply. Power procurement costs are the biggest proportion of the costs of DISCOMs, which are increasing due to increased cost of generation. Existing Power Purchase Agreements (PPA) have no exit Clause and DISCOMs are concerned about possible renegotiations of tariff escalation in the existing PPA's. There is other very serious issues relating to safety of public in general and workman particular, the maintenance of distribution system and accident prevention therefore needs serious attention. The skilling of workers and adequate focus by management on the subject is a must. Besides above the areas like Grid discipline and effective energy management, Reforms in Distribution sector including deployment of smart metering, modernization of the distribution grid with advanced technologies like conductors with higher current carrying capacity and relatively lower losses etc. needs to pay adequate attention to avoid maladies in this sector and ensure quality and reliable power supply to all consumers at affordable cost.

## ABOUT CBIP

The Central Board of Irrigation and Power (CBIP), a premier institution, was constituted in 1927 by the GoI. It is serving the Nation in the disciplines of Water Resources, Power and Renewable Energy and Allied Sectors for more than 95 years.

The main objective of CBIP is dissemination of technical knowledge through various modes, such as :

- Organizing National and Intl. Conferences, Symposiums, Workshops, Training Programme etc.
- Publication of technical documents e.g., manuals, technical reports, guidelines and journals etc.
- To provide info. about technological developments to the engineers/professionals and other stake holders.

## ABOUT CESC LIMITED

CESC Ltd. is India's first fully integrated electrical utility company and has been on an epic ride ever since 1899 in generating and distributing power in Kolkata and Howrah. CESC Ltd. has private participation in the generation, transmission, and distribution of electrical power. CESC Ltd. is the sole distributor of electricity within an area of 567sq km of Kolkata & Howrah and serves 2.9 million consumers which include domestic, industrial, and commercial users. CESC owns & operates three thermal power plants generating 1125 MW of power.

## TOPICS

Papers are invited on any topic pertaining to the aim and scope of the Conference that includes, but not limited to the following:

### Planning, Erection and Commissioning

- Planning of Distribution Systems
- Compact / Underground Sub-stations / GIS
- Quality Assurance & Quality of Erection of Distribution Assets etc.
- Implementation of advanced technologies like conductors with a higher current carrying capacity/covered conductors/ monopoles, etc.
- Modern Construction Technology, Special Type of Construction in Disaster prone areas

- Earthing and Grounding; Right of way issues including Encroachment under Sub-transmission Lines

### Best O&M Practices including Safety

- Segregation of Feeders
- Failure of Distribution Transformers—it's Prevention & Repair
- Failure of Underground/ ABC cables – Causes and Remedies
- Minimizing Fault Restoration Time
- Condition monitoring to Minimize Damage of Equipments
- Safety and Accident prevention

### Power Quality and Reliability

- Power Quality – Impact of Non-linear loads and DERs
- Reliability Issues – Measurement and improving Reliability
- Managing Voltage Quality and Current Distortion
- Mitigation including Harmonics etc.
- Infrastructure with the ability to handle peak load conditions/ improve reliability indices including SAIFI, SAIDI

### Grid Discipline and Effective Energy Management

- Load Forecasting Techniques
- DSM/Demand Response as a Resource of DISCOMs
- Effect of Unpredictable Demand

### Reforms in Distribution Sector including Deployment of Smart Metering

- Metering Pre-paid
- Poor Financial Health of DISCOMs
- Revenue Management and Loss Reduction Techniques – Need for Energy Audit
- Meeting SOP Norms / Key performance indicators for DISCOMs – Assessment and Evaluation
- Innovations in Customer Management and Value-Added Services by DISCOMs
- Revitalising Ageing Infrastructure

- Issues in implementing Central schemes Franchisee and Outsourcing
- Open Access including Short Term Open Access in Distribution – Impact and Remedies
- Distribution Automation including AMI
- Regulatory Issues and Challenges in Distribution Sector

### Renewable Integration & Distributed Energy Resources (DERs)

- Roof top Solar Generation – Issues and Challenges
- Thrust on Renewable Energy and Need for Balancing Power Required at Distribution Level
- Deployment of Distributed Energy Resources as a tool for Energy Access to Masses
- Impact of EV and its Charging Network on Distribution Grid
- EV (Electric vehicle) Charging Infrastructure – Issues of Standards

### Micro Grid and Smart Grid in Distribution Systems

- Micro Grid and Smart Grid and it's Adoption in Distribution sector
- IT application/SCADA - Reliability of SCADA System

### Skilling of Manpower

- Shortage of Trained Staff / Ageing Workforce
- Capacity Building/ Training / Re-skilling of Staff

## PRESENTATIONS BY EXPERTS

The Eminent experts from Utilities and Industries on the subject have been invited to deliver expert lectures during the Conference. The professionals who desire to make presentations/case studies on the above subject are also welcomed. The full length paper/case studies/ PPT may be sent to the CBIP office in advance positively by **31st October 2022**.

## WHO SHOULD ATTEND

The Conference will be of special interest to:

- Planners, Independent Power Producers, Operators, Consultants, Electrical Contractors
- Researchers / Academicians, Manufacturers, Power Utilities / Corporations, State Govt. / SEBs, etc.

## DATE AND VENUE

The conference will be held on 10-11 November, 2022 at R.N. Mookerjee Auditorium, The Institution of Engineers (India), 8, Gokhale Road, Kolkata 700020. The conference timings will be 10.00 AM to 5.30 PM on both the days. The registration will start at 9.00 AM on 10th November 2022.

## REGISTRATION FEE

All those who wish to participate in the Conference are expected to register in advance by sending the details through email to the organizers along with payment of registration fee as indicated under:

1. Name : \_\_\_\_\_
2. Position : \_\_\_\_\_
3. Organization : \_\_\_\_\_
4. Address : \_\_\_\_\_
5. Phone : \_\_\_\_\_ Fax No. \_\_\_\_\_
6. Email : \_\_\_\_\_

1. Non – Member fee is Rs. 12,000/- per participant
  2. Discounted fee for members of CBIP/CIGRE and AARO is Rs. 10,000/- per participant
  3. Special Discounted fee for students is Rs. 2,500/- per student
- GST @ 18% shall be charged extra GST No. 07AAAJC0237F1ZU

The Registration fee covers the registration kit, tea/coffee/lunch during the Conference. The Conference is non-residential. Participants will have to make their own arrangements for travel, boarding and lodging etc.

All payments be made through cheque at par in favour of 'Central Board of Irrigation & Power', payable at Delhi or amount deposited/transferred to HDFC Bank, CBIP A/c no. 00031110004411, MICR Code. 110240001,

Swift Code : HDFCINBBDEL, IFSC: HDFC 0000003, Address: 209-214, Kailash Building, 26 Kasturba Gandhi Marg, New Delhi – 110001

Please arrange to furnish the details like UTR, Organization name, etc. to CBIP Sectt. after making the online payment at the earliest possible.

## SPONSORSHIP OPPORTUNITIES

The Conference provides an effective opportunity for sponsoring companies to promote their products/services to a focused audience, besides networking with engineers of utility, manufacturers and academic institutions during tea/coffee and lunch intervals. Main banner and other publicity material related to Conference and will have the privilege of distribution of their product's pamphlets/catalogues during the event. Sponsors will also have the privilege of sending delegates exempted from payment of registration fee as indicated hereunder:

Platinum Sponsor : Rs. 5,00,000/-	Gold Sponsor : Rs. 3,00,000/-	Silver sponsor : Rs. 2,00,000/-
<ul style="list-style-type: none"> <li>10 delegate passes for participation in the Conference</li> <li>Company logo on main backdrop and other banners</li> <li>Company logo on Cover page of Proceedings Volume/ Base Paper</li> <li>Advertisement (Prominent Position) in the Proceedings Volume</li> <li>Circulation of Company Literature during the event</li> <li>Announcement -Thanking sponsor</li> <li>Speaking Opportunity</li> <li>Invitation to the key person of the organization as special invitee during Inaugural session</li> <li>Complimentary Advertisement in the Key Journal Published immediately after the event covering report of the event.</li> </ul>	<ul style="list-style-type: none"> <li>05 delegate passes for participation in the Conference</li> <li>Company logo on main backdrop and other banners</li> <li>Company logo on Cover page of Proceedings Volume/ Base Paper</li> <li>Advertisement in the Proceedings Volume</li> <li>Circulation of Company Literature during the event</li> <li>Announcement -Thanking sponsor</li> <li>Complimentary Advertisement in the Key Journal Published immediately after the event covering report of the event.</li> </ul>	<ul style="list-style-type: none"> <li>03 delegate passes for participation in the Conference</li> <li>Company logo on main Backdrop</li> <li>Company logo on Cover page of Proceedings Volume/ Base Paper</li> <li>Announcement – Thanking sponsor</li> </ul>

For further details, please contact the Conference Secretariat.

### CONFERENCE SECRETARIAT

**Shri A.K. Dinkar**, Secretary, CBIP

**Shri Sanjeev Singh**, Director, CBIP

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