

14th National Conference Safety, Earthing and Lightning Protection System

(Under the aegis of CIGRE NSC B3 on Substations & Electrical Installation)

Date: 1st – 2nd February 2024

Venue: CBIP Conference Hall, New Delhi



Organised by

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New Delhi
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CENTRAL BOARD OF IRRIGATION & POWER



INTER-TECH

INTRODUCTION

The Central Board of Irrigation & Power in association with CIGRE-India and International Association on Electricity Generation, Transmission and Distribution (Afro-Asian Region) is organizing 14th National Conference on “Safety, Earthing and Lightning Protection System” on 1st & 2nd February 2024 at Conference Hall of Central Board of Irrigation & Power, Malcha Marg, Chanakyapuri, New Delhi 110021.

AIMS AND OBJECTIVES

CBIP has been organizing conferences on earthing of electric power stations every year now. The last one was held in October 2022. CBIP has now again taken initiative to organize this National Conference on “**Safety, Earthing and Lightning Protection System**” on 1st & 2nd February 2024 with the aim to update the knowledge of professionals about the current techniques in Earthing Systems & advancements in Lightning Protection Systems and to discuss the various problems related thereto. Proceedings of this conference will also help the professionals in improving the performance and reliability of electrical power system, which is the need of the hour.

It is pertinent to mention that Earthing & Lightning Protection plays an important role in proper operation of generation, transmission and distribution systems. The function of earthing in an electric power system is to (i) maintain the potential of current carrying as well as non-current carrying parts of equipment, apparatus and appliances connected to the system, and (ii) to ensure safety of equipment and personnel and correct operation of protective devices during earth faults. Earthing also provides safety during lightning strikes on equipment or structures and on occurrence of induced voltages and currents on equipments of an electric system. A proper earthing system provides easy and shortest path to the flow of earth fault current without adversely affecting the continuity of service. It also ensures that a person present in the station area is not exposed to danger of electric shock.

The efficacy of an earthing system depends on various factors like resistivity of general mass of earth in and around the area where earth grid is buried and also that of surface layer of soil, duration and magnitude of fault current and grid current, shock duration, the maximum safe current that a human body can tolerate and the permissible values of dangerous voltages that shall arise due to the flow of grid current. Earthing of fence is another issue of importance.

The function of a lightning protection system is to protect structures from fire or mechanical destruction and to prevent that persons in buildings from injury or fatal accident. It protects the internal electrical components of a building, helping to prevent fires or electrocution.

TOPICS

Various topics of interest have been identified for deliberation during this conference.

- Types of earthing and design parameters
- Latest International concepts of Earthing
- New concepts of Earthing – SIGMA Earth; dissipating faults of variable frequencies
- IEEE 80 2000 (Grounding substation earthing)
- Earthing of generating plants, modern electric grid substations, transmission lines, distribution lines, generating plants, and load distribution centers
- Use of computer software for earthing design
- Current for design of earthing system
- Earthing of electronic equipment in power stations
- Role of earthing in protection of installations and equipment from lightning
- Soil resistivity measurements and interpretation
- Requirements of earthing in hilly and corrosion prone areas
- Testing, installation and inspection & maintenance together with their periodicity
- Functions of an external & internal Lightning Protection System.
- Lightning Protection System – Past, Present & Future.
- Advancements in the Lightning Protection System.
- Importance of Lightning Protection System.
- Designing of Lightning Protection System.
- Case studies.

FACULTY

Eminent experts from Utilities, Manufacturing organizations and Academic field shall be drawn as faculty. The following renowned experts in field of Earthing and Lightning Protection will tentatively deliver the lecture during the Conference.

Shri Nihar Raj, Chairman CIGRE NSC B3 on Substations & Sr. Vice President (O&M), Adani Transmission Limited; Dr. Rajesh Arora, DTL; Dr. Vikas Almadi, CEO & Director, DEHN India; Mr. Steve Horsley, Sales Director EMEA-ASIA, Shri K.K. Sarkar, Sr. GM, POWERGRID; Shri B.G. Prashanth, M&D & CEO,

JEF Techno Solutions Pvt Ltd. and Shri Pravinchandra Mehta, Former Superintending Engineer, GEB and CEO, Persotech Solutions, Vadodara

DATES AND VENUE

The Conference will be held on 1st & 2nd February 2024 in the Conference Hall of Central Board of Irrigation & Power, Malcha Marg, Chanakyapuri, New Delhi-21.

The conference timing will be 9.30 am to 5.00 pm on both the days.

CALL FOR PAPERS

Experts who desire to participate by delivering lectures on different aspects of Earthing including case studies are requested to furnish the write-ups to reach CBIP office latest by 20th January 2024.

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.

REGISTRATION

The perspective participants, desirous of attending the conference may register themselves by sending the following details to CBIP along with necessary payments:

Delegate Name: _____

Designation: _____

Organisation: _____

Mailing address: _____

Phone/Fax/E-mail: _____

	Registration fee per participant	Discounted fee for	
		CBIP/CIGRE/AARO Members	Students
Amount	Rs. 12,000/-	Rs. 10,000/-	Rs. 2,500/-

GST : 18% extra.

GST No. : 07AAAJC0237F1ZU

Note : Participating Organisations/ Individuals are required to send the GST Number and full address of their organisation to CBIP secretariat in advance for preparation of Tax Invoice for arranging payment of Registration Fee by them.

The conference is non-residential.

The registration fees includes, working lunch, tea during the Conference, a copy of the conference proceedings. The participants will have to make their own arrangements for boarding and lodging, transport etc. at New Delhi.

OTHER ATTRACTIONS

Scope exists for organizations to be sponsor on lump sum payment with following attendant benefits:

Category	Fee	Delegates free	Coloured advt.
Platinum Sponsor	Rs. 3,00,000	10	Back Cover Page
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PAYMENTS

All payments should be made by NEFT/cheque at par/ Demand Draft drawn in favour of **“Central Board of Irrigation and Power”**, payable at New Delhi or by transfer the amount to HDFC Bank, 209-214, Kailash Building, 26 Kasturba Gandhi Marg, New Delhi 110 001

Saving Bank Account No. : 00031110004411

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ADDRESS FOR CORRESPONDENCE

All correspondences relating to Conference should be addressed to:

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Sanjeev Singh, Director

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Mukul Nakra, Manager - M : 9555938212

E-Mail : mukul@cbip.org

EMINENT KEY SPEAKERS



Shri Nihar Raj is the Chairman CIGRE NSC B3 on Substations & Sr. Vice President (O&M), Adani Transmission Limited. He received his engineering degree from M.S. University, Vadodara. He has designed several air insulated substations from 11 kV to 765 kV and gas insulated substations ranging from 36 kV to 400 kV. He is also involved in the design of 800 kV Mixed Technology Switchgear and GIS solutions. Shri Nihar has presented several technical papers at various national & international level conferences.



Dr. Vikas Almadi, is the CEO & Director, DEHN India Pvt. Ltd. He is having vast experience of 24 years in the field of Lightning and Surge Protection. He is expert in the subject of Lightning and Surge Protection in India. He is President of ELP Alliance and Member of National Building Code of India committee. He presented papers in national and international seminars. He is also expertise in design and application of Lightning and Surge Protection Solutions. His area of interests include Lightning and Surge Protection, Grounding of electrical and electronic devices, Power Quality, Electrical Safety, Power Electronics and application of IOT to improve electrical safety.



Mr. Steve Horsley is the Sales Director EMEA -ASIA for Sertec SRL Lightning Protection Engineering and Technology (IET) / IEEE Institute of Electronic and Electrical Engineers / IEEE Power and Energy sector (PES) / CIGRE International Council on large Electrical systems / Member National Standards Authority Ireland NSAI. Committee member IEC62305 TC81. He provides lectures all over the world on lightning protection using de-ionisation.



Shri B.G. Prashanth, Managing Director & CEO, JEF Techno Solutions Pvt Ltd. He is an electrical engineering industry professional with over three decades of experience across multiple sectors and geographies. He co-founded the JEF Group of companies in 1994 at a time when India was just opening up to the world. Since then, under his astute leadership, the company has become a leader in the specialized electrical engineering space in the subcontinent and MENA region covering the entire spectrum from LV, HV to EHV.

Since completing his Electrical Engineering in 1991 he has been involved deeply in the field of LPS & Grounding. With particular focus on innovation, he has led the development of several platforms and methods, many of which are classified as "Industry First". He also has a few patents to his credit.

He is a member of several industry forums and bodies in the field of Grounding. He has been instrumental in the formulation of several industry-level guidelines and standards in over half a dozen countries. Some of his topics of expertise and interest include grounding, lightning protection, power quality, and electromagnetic interference and compatibility.



Dr. Rajesh Kumar Arora obtained the B. Tech. & ME in Electrical Engineering from Delhi College of Engineering. He completed his PhD in Grounding System Design from UPES, Dehradun. He is also certified Energy Manager and Auditor. He has experience of more than 26 years in the different areas of Power Sector. He has worked in 400 kV and 220 kV Substations for more than 13 years in Delhi Transco Limited (DTL). He has also worked as Deputy Director (Transmission and Distribution) in Delhi Electricity Regulatory Commission (DERC) for 3½ years. He has also given his contribution in the OS department of DTL for more than 2 years and rendered his services in the SLDC of Delhi Transco Limited (DTL) also. Presently he is working in 220/66/33 kV substation. His research interests include high voltage technology, grounding system, protection system, computer application in power system and power distribution automation. He has presented many papers in the national and international seminars or conferences.



Shri K.K. Sarkar is B. Tech (Hons.) in Electrical Engineering (1995) from IIT, Kharagpur. Since joining as executive trainee in 1995 he is with POWERGRID serving mostly in corporate substation engineering division and is presently Sr. General Manager at POWERGRID. He is mainly involved in design, engineering and standardization of substation layout & equipments of EHV substations at voltage levels of 132 kV, 220 kV, 400 kV and 765 kV. He has expertise in EHV substation engineering & Earthing Systems. He has wide experience in designing of earthing system at difficult conditions and has published papers and contributed in various manuals on substation layout & earthing systems.



Shri Pravinchandra Mehta, Graduated in 1985 Presently running a proprietary company named "Persotech Solutions" at Vadodara involved in design of substation and line, training the engineers, Analysis of equipment failure in power system, load flow, short circuit, harmonics flow study and protection coordination of industrial plant/ power system. Quality inspection of equipment, guidance on Factory acceptance test, site acceptance test, design (type) test of equipment and materials. Study of insulation coordination, etc. Effect of renewable on grid, study of developing renewable source for rural areas etc. He has total experience of > 30 yrs. in power sector. He is also involved in the training, R&D activities. He is a member of IEEE, CIGRE National Study Committee (NSC) C4 on system technical performance, International Study Committee JWG-C4-42 formed by CIGRE and CIRED, Expert committee for revision of substation layout Manual by CBIP, Institute of Engineers India (MIE) and Chartered Engineer, Institute of Electronics and Telecom Engineers. He has presented several papers on electrical system design and study related subjects at International/National level.