

CIGRE SC B4 MEETINGS AND
International Tutorials & Colloquium on
HVDC AND STATCOM
(Under the aegis of CIGRE Study Committee B4 on HVDC and Power Electronics)

21st - 26th September 2015

Venue : Jaypee Palace Hotel and Convention Centre, Agra, India

<i>Organized by</i>		<i>In association with</i>	
 CIGRE India	 NEW DELHI CBIP	 CIGRE SC B4	 पावरग्रिड

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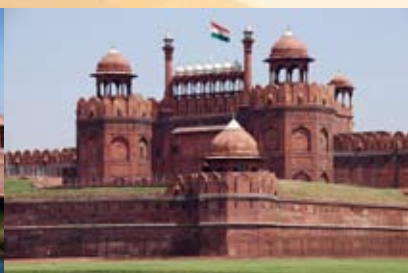
Mr. O. Chandy
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& ED, POWERGRID



Mr. V.K. Kanjlia
Secretary
CIGRE India

ATTRACTION FOR PARTICIPANTS IN THE TUTORIALS & COLLOQUIUM

- Opportunity to interact with renowned experts from participating countries including Chairman of CIGRE Study Committee B4 on HVDC available during the event.
- 40 top quality technical papers including international papers
- Views by International experts as Chairman of various sessions
- Tutorials by Senior Experts on the Subject





R.P. Sasmal
Director (Operations)
POWERGRID & Chairman
CIGRE NSC B4 (2012-14)

Invitation

CIGRE India is honored to host the meeting of CIGRE Study Committee B4 on HVDC and its working Group in India in conjunction with International Tutorials & Colloquium on HVDC and STATCOM from 21st to 26th September 2015.

We have pleasure in extending a cordial invitation to individuals and institutions concerned for participating in the above event.

We look forward to welcoming you in Agra and hope your stay and experience will be a memorable one.



Oommen Chandy
Executive Director
POWERGRID & Present
Chairman, CIGRE NSC B4

CIGRE AND THE COMMITTEE FOR CIGRE-INDIA

The International Council on Large Electric Systems (CIGRE), with its Headquarters at Paris deals in the field of Transmission and Generation. It functions through 16 Study Committees formed for various disciplines of Power Systems. Each Study Committee comprises about 24 experts drawn from various countries. In addition, some more experts are members of the Working Groups/Task Forces formed by these Study Committees. It is a matter of pride that India is represented in all the 16 CIGRE Study Committees as regular/observer member.

CIGRE (Paris) has about 10000 members from ninety countries. Where ever there are more than 40 equivalent members in any country a National Committee is formed with the following aims:

- To disseminate the technical information to the members of the national committee.
- To propose papers for presentation at CIGRE sessions
- To encourage membership of CIGRE
- To organize representation in CIGRE session / symposia.
- From India there were 330 equivalent members for CIGRE in the year 2014.

CIGRE (India) is an affiliate of Central Board of Irrigation and Power. It is the Indian National Committee of CIGRE and is a registered society. It co-ordinates the activities of CIGRE in India, through a number of National Study Committees and disseminates the information about the activities of the CIGRE Study Committees and Working Groups to various organization in India.

ABOUT CIGRE SC B4

Study Committee B4 of CIGRE is responsible for HVDC systems and power electronics for AC systems. The objective of CIGRE SC B4 is to provide an international forum to share information between electric utilities, manufacturers, universities, standardizing bodies and authorities in selected topics in the field of HVDC and Power Electronics. Overhead lines or cables, which may be used in HVDC systems are not included in the scope, but are the responsibility of SC B2 and SC B1 respectively. The members of B4 come from Manufacturers, Utilities, transmission system operators (TSOs), Consultants and Research Institutes. B4 is active in recruiting young engineers to participate in its activities. SC B4 focuses on the provision of unbiased and up to date application guides for the implementation of HVDC and FACTS projects. SC B4 also provides such technical information to support the standardization required for the testing and application of new technology solutions.

ABOUT THE TUTORIAL & COLLOQUIUM

CIGRE India is honored to host the meeting of CIGRE Study Committee B4 on HVDC and its working Groups in India from 21st to 23rd September 2015. To take advantage of the presence of CIGRE Study Committee, and its working Group members besides other International experts in India, CIGRE-India and Central Board of Irrigation and Power jointly with CIGRE Study Committee B4 on HVDC are organizing an International Tutorial and Colloquium on HVDC and STATCOM.

This colloquium is in conjunction with the meeting of CIGRE Study Committee B4 and its working groups in India from 21st to 26th September 2015 at J.P. Hotel, Agra

Two days International Colloquium on "HVDC and STATCOM" is scheduled on 25-26 September 2015. The Colloquium is the biennial Technical Discussion Forum of the Study Committee for members, associates and experts of the discipline from the host country (i.e., India in this case). The Preferential Subjects which are going to be discussed are within the following scope:

PS 1 : Planning Study and Future Requirements for DC System : Technological development; Operational feed back; Reliability & constraints

PS 2 : Issues and Challenges in Integration of Renewable Resources (Solar & Wind) : Technological development; Operational feed back; Reliability & constraints

PS 3 : VSC based DC Transmission System and STATCOM : Technological development; Operational feed back; Reliability & constraints

DATE & VENUE : 21st - 26th September 2015, Jaypee Palace Hotel and Convention Centre, Agra, India

PROGRAMME : The schedule for various activities during the above event is as below:

Sl. No.	Date	Activities	Participation
1	21 st Sept. 2015 (Monday) 0900 - 1730 hrs.	Working Group Meetings	Participation restricted to members and Invitee only
2	22 nd Sept. 2015 (Tuesday) 0900 - 1730 hrs	Working Group Meetings	
3	23 rd Sept. 2015 (Wednesday) 0900 - 1730 hrs	B4 Study Committee Meeting	
4	24 th Sept 2015 (Thursday) 0900 - 1730 hrs	Tutorial on Latest Development in HVDC Technology, HVDC Grids & STATCOM <ul style="list-style-type: none"> General Guidelines of HVDC Electrode Design: by Jingxuan (Joanne) Hu, RBJ Engineering Corp., Canada Guidelines for procurement and testing of STATCOM : by Ms Dan Kell, TransGrid Solutions, Canada 	Participation Open for all on payment of Registration fee
5	25 th September 2015 (Friday)	Colloquium on HVDC and STATCOM followed by a technical visit to the HVDC 800 kV Multi terminal project at Agra & Dinner	
6	26 th September 2015 (Saturday)	Colloquium on HVDC and STATCOM contd.	

Agra Terminal of the HVDC 800 kV North East to Agra Multi Terminal Project the venue for Technical Visit

The 800 kV HVDC terminals at Agra is located about 10 km from the venue. The Agra HVDC terminal is the Inverter station of the world's first 800 kV Multi terminal HVDC Project of 6000 MW capacity and total line length of about 1700 km. One Bipole Rectifier station is located in Biswanath Chariali (Assam) and the second one at Alipurduar (West Bengal). This multi terminal HVDC project was envisaged for evacuation of bulk power from North Eastern Region of India. North Eastern Region of India is endowed with large hydro potential of the order of 50 GW which is required to be transmitted to the load centers of Northern/Western and Southern regions of India. Transmission of such quantum of power over a long distance and through certain geographically narrow corridors called chicken-neck area of West Bengal required a HVDC solution. Looking into the generation addition program, the project has been developed stage wise using parallel groups of converters. Each pole of the Multi terminal HVDC Project has continuous power capacity of 2000 MW i.e., a 33% overload capability which can be utilized to compensate full power for loss of one pole by increasing power flow on the other three available poles. A huge indoor DC yard of about 75 m × 75 m and 40 m height is a special feature at the Agra Inverter Station.

PARTICIPATION

Participation in the Study Committee/Working Groups Meetings is restricted to its members only. Invitees in the form of observers can also be allowed on specific invitation from Secretaries and Treasurer, CIGRE India.

The colloquium participants will include top experts in the field of development, design, application and operation of HVDC FACTS and power electronic equipment. The colloquium will be informative and beneficial for generating companies, transmission system planners, designers, operators, asset owners and managers, equipment developers and manufacturers, research institutions and universities and policy makers and regulators.

Participation in the Tutorials and Colloquium is open on payment of prescribed registration fee.

CIGRE SC B4 Regular members & Observer members and Working Group conveners are invited to participate in the Tutorials & Colloquium without payment of registration fee.

REGISTRATION

The registration fee payable by the delegates, including authors of papers, for participation in the Tutorial and Colloquium is as follows:

Sl. No.	Event	Fee payable by					CIGRE SC B4 & WG Members
		SAARC Countries in Rs.			Others in US Dollar		
		Participants	Companion	Students/ Faculty	Participants	Companion	
1	Tutorial	5000/-	1,000/-	1,000/-	125	25	NIL
2	Colloquium	15,000/-	2,500/-	2,500/-	350	75	
3	Tutorial & Colloquium	18,000/-	3,500/-	2,000/-	400	100	

Important : Service Tax as applicable will be extra for the payment in INR.

- CIGRE SC B4 Regular members, Observer members and Working Group conveners are exempted from payment of Registration fee.
- 10 % discount in registration fee to CBIP & CIGRE-India members
- Companions are immediate relative or one normally residing with the participant

- However the spot registration is available to a limited extent, it is advisable to register well in advance.

The registration fee covers the cost of registration kit, Tutorial and Colloquium proceedings, and lunch and tea in-between technical sessions. The participants will have to make their own arrangements for travel, boarding and lodging.

PROGRAMME FOR ACCOMPANYING PERSONS

The programme including local sightseeing will be organized for accompanying persons, on payment. The details of the programme will be made available at the time of registration.

SPONSORSHIP OPPORTUNITIES

The Colloquium 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. Sponsors are assured of full visibility with printing of their names on proceedings, banners and other publicity material related to Colloquium and will have the privilege of distribution of their product's pamphlets/catalogues during the Colloquium. Sponsors will also have the privilege of sending delegates exempted from payment of registration fee as indicated hereunder:

Category of Sponsorship	Fee in Rs.	Free Delegates in Tutorial & Colloquium	Free Editorial in the Proceedings
Platinum	10,00,000	10	5 pages
Gold	5,00,000	5	3 pages
Silver	3,00,000	3	2 pages
Supporter	2,00,000	2	--

For further details, please contact the Colloquium Secretariat.

CALL FOR ADVERTISEMENTS

A limited space for insertion of advertisements in the Colloquium proceedings is available at the following rates:

Position	Charges for Colour Advertisements	
	SAARC countries (Indian Rs.)	Other Countries (US\$)
Back cover page	50,000	1000
Second or third cover page	30,000	600
Full page (20 cm x 10 cm)	15,000	300

PAYMENT AND CORRESPONDENCE

The payments for the event (registration fee, sponsorship & Advertisement are to be made to CIGRE India by the following methods:

- Banker's cheque payable to : Central Board of Irrigation and Power, New Delhi
- Bank transfer: Bank charges if any are to be borne by Participants

Beneficiary Name (Payee Name & address): **Central Board of Irrigation & Power**, Malcha Marg, Chanakyapuri, New Delhi 110021

PAN No. : AAAJC 0237F ; **Service Tax Numbers** : AAAJC 0237F ST001

Complete Bank Details : **Bank Name** : HDFC Bank ; **Saving Bank Account Number** : 00031110004411

Branch & Address : G-3/4, Suryakiran Building, 19, Kasturba Gandhi Marg, New Delhi 110001

Branch /RTG/NEFT IFSC : HDFC0000003 **MICR Code** : 110240001 **Swift Code** : HDFCINBBDEL

All the payments details for the event to be furnished along with the registration form and Name of the event should be mentioned under subject in all the correspondence relating to this event.

Note : No other method of payments is acceptable.

ACCOMMODATION AND TOUR

The official venue hotel for the Colloquium is Jaypee Palace Hotel and Convention Centre, Agra. Limited number of rooms have been blocked from 20th - 26th September, 2015 to secure accommodation for the delegates attending the conference.

Hotel Name	Room Category	Location	Distance from Venue	Single	Double
				USD	USD
Jaypee Palace	Deluxe	Fatehabad Rd.	Venue Hotel	116	125

- The special rate is inclusive of complimentary buffet breakfast at the coffee shop 24/7.
- The applicable taxes will be charged extra.
- The check in & checkout time is 1400 Hrs. & 1200 Hrs. Noon respectively
- In case of early check in before 12 noon, please secure reservation from previous night.
- Room's availability is on first come first serve basis only.
- The special tariff is valid only during the Colloquium period.

In addition the indicative tariffs of various Guest Houses/ Hotels can be provided on request. However the following hotels in different category are also recommended for stay and the details of tariffs (tentative) are given below:

S. No	Hotel Name	Room Category	Location	Distance from Venue	Single	Double
					USD	USD
1	Mansingh Palace	Standard	Fatehabad Road, Tajganj	4 km/ 15 Mins	70	70
2	Utkarsh Vilas	Standard	Opposite TDI Mall, Fatehabad Road	1.5 km/ 10 Mins	44	48
3	Royal Residency	Standard	Near TDI Mall	2 km/ 10 Mins	40	44
4	Mayur Tourist Complex	Standard	Fatehbad Road	3.5 km/ 15 Mins	35	35
5	Pushp Villa	Executive	VIP Road to Taj Mahal, Fatehabad Road	2.5 km/ 15 Mins	36	40
6	Amar Yatri Niwas	Standard	Fatehbad Road, near Tourist Complex Area	4 km/ 15 Mins	22	28

Note: Above rates are inclusive of breakfast and hotel taxes and 3.50% Govt. service tax will be extra on total billing

The above negotiated rates are offered for booking through official travel partner. The Participants are advised to make reservation for accommodation well in advance and for assistance they may contact official travel partner.

OFFICIAL TRAVEL PARTNER

M/s Cox & Kings Limited has been appointed the official travel partner for the Colloquium. For all your travel related requirements such as accommodation airport / railway transfers, local city tours, Post conference Tours kindly contact the official travel partner at the address below:

Mr. Deep Kumar Yadav/ Mr. Nimesh Thakur, Cox & Kings Limited, Kamal Cinema Commercial Complex Block A & B, Safdarjung Enclave, New Delhi-110029.

Phone : 91-11-26767900 Fax : 91-11-26177373 Email : ibtconf.del@coxandkings.com

GENERAL INFORMATION

Official Language : The official language of the session is English.

Official Invitation : The invitation contained in this bulletin should generally suffice to plan travel formalities. However, should an official invitation is needed; the same can be sent to the participants on request.

Visa and Custom Requirement : All visitors to India require a visa, except visitors from Nepal and Bhutan. The best place to get your visa is at Indian Embassy and High Commissions in your country of residence. Please check your nearest Embassy, Consulate or High Commission for all the details for getting visa. Keep your passport with you at all the time.

Travel : Agra is connected to Delhi by NH2 and the new Yamuna Expressway. The drive time is about 4-5 hours depending on traffic and time of the day. Jaipur is connected to Agra by NH11 and is a 4-hour drive. Gwalior, connected by NH3 is a 1.5-hour drive while Lucknow and Kanpur, connected by NH2, are about a 2-hour and 5-hour drive respectively.

Agra is situated on the Delhi-Mumbai and Delhi-Chennai route and is well connected to most cities across India. There are regular trains to Agra from cities like Delhi, Jaipur, Gwalior and Jhansi. Agra is also well connected to cities in other parts of the country such as Kolkata, Mumbai and Chennai. There are five railway stations in Agra - Agra Cantt Station (the main station), Agra Fort Railway Station, Raja ki Mandi, Agra City and Idgah Railway Station.

Banking and Communication Facilities: Foreign exchange facilities, fax and phone service are available at the hotels as well as the venue of the Colloquium.

Climate: Agra being a city in North India gets a privilege of all four weathers of Indian Subcontinent. The month of July marks the commencement of monsoons in Agra, which last almost till October. The rainy season comes as a relief from the hot summers, to the people of Agra. The intensity of rainstorm decreases in the month of September as monsoon starts to withdraw. Temperature in Agra ranges between 17 °C to 34 °C in the month of September.

INDIA - THE HOST COUNTRY

India – The very name conjures images of vibrant colors, mysticism, royalty; an amalgam of religions, a kaleidoscope of art and culture, all of which find expression in the beautiful temples, sculptures and monuments. India's ancient and diverse culture, sweeping back at least 5000 years, with successive waves of migration absorbed into the fabric of Indian life, has enriched it time and again to make a multi-cultural nation with a rich diversity of languages, customs, cuisines, religions, literature and arts. Within this kaleidoscope of immense variety there is a thread of continuity that has determined Indian civilization and social structure.

India, it is often said, is not a country but a continent. From north to south and east to west, the people are different, the languages are different, and the country is different. There are few countries on earth with the enormous variety that India has to offer.

India is a land of romance and dreams, of splendor and extravagance, of forts and palaces, beaches and jungles, a kaleidoscope of vibrant colors and rituals. Explore the diversity of Northern India expressed by the mystic ambience in Varanasi, through the architectural magnificence of the Taj Mahal in Agra and the majestic forts and palaces of Gwalior and Rajasthan.

India rewards the traveler with her timeless landscapes, spectacular architecture, monumental history, cultural kaleidoscope and undeniable aura of romance and mysticism. To explore India is to discover unending secrets to the mystery of life, to enjoy India is to celebrate the very fact of living.

AGRA - THE HOST CITY

Agra is a city on the banks of the river Yamuna in the northern state of Uttar Pradesh, India. With a population of 2 Million, it is one of the most populous cities in Uttar Pradesh and the 19th most populous in India. It is a major tourist destination because of its many splendid Mughal-era buildings, most notably the Tāj Mahal, Agra Fort and Fatehpūr Sikrī, all three of which are UNESCO World Heritage Sites. Agra is included on the Golden Triangle tourist circuit, along with Delhi and Jaipur.

Legend ascribes the founding of the city to Raja Badal Singh, a Sikarwar Rajput king (c. 1475), whose fort, Badalgarh, stood on or near the site of the present fort. However, the 11th century Persian poet Mas’ūd Sa’d Salmān writes of a desperate assault on the fortress of Agra, then held by the Shāhī King Jayapala, by Sultan Mahmud of Ghazni. It was mentioned for the first time in 1080 AD when a Ghaznavide force captured it. Sultan Sikandar Lodī (1488–1517) was the first to move his capital from Delhi to Agra in 1506. He governed the country from here and Agra assumed the importance of the second capital. He died in 1517 and his son, Ibrāhīm Lodī, remained in power there for nine more years and several palaces, wells and a mosque were built by him in the fort during his period. Finally being defeated at the Battle of Panipat in 1526. Between 1540 and 1556, Afghans, beginning with Sher Shah Suri ruled the area. It achieved fame as the capital of the Mughal Empire from 1556 to 1658.

In and around Agra: Agra’s neighborhood provides exciting excursion and tourist’s circuits. It is an ideal stay for business and relaxation. However, there are quite a few worthwhile places to visit in Agra and around, apart from India’s most famous monument -- the Taj Mahal. The many interesting remnants of the Mughal era will surprise you and the crazy, congested bazaars of the Old City will fascinate you. It’s possible to experience village life and get close to nature as well.

For more details please contact Conference Secretariat

CIGRE India

C/o Central Board of Irrigation and Power

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E-mail : cbip@cbip.org, cbip@vsnl.com

Website : www.cbip.org

CONTACT PERSON

Mr. V.K. Kanjlia, Secretary, CIGRE India &

Mr. Vishan Dutt, Sr. Manager (Tech.), CIGRE India - (Mobile No. 09811431554)

E-mail : vishandutt@cbip.org; cbip@cbip.org; Website: www.cbip.org

REGISTRATION FORM

(please send this form to CIGRE- India : Email : vishandutt@cbip.org : Fax : 91-011-26116347)

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21-26 September 2015

Venue : Jaypee Palace Hotel and Convention Centre, Agra, India

Willing to attend Tutorial _____; Colloquium _____ or Both _____ (Pl. tick)

Delegate Name:..... Designation:.....

Organisation:Address for Correspondence.....

.....

Phone.....Fax.....E-mail.....

• Companion Guest if any :

• Are you CIGRE SC B4 Member or WG convener _____ Author of Paper _____ Pl. tick in appropriate box

For International participants and their companion guest, additional details are required apart from the above information:

Passport No.	Date & Place of Issue	Arrival date, Time & Flight Number	Departure date, Time & Flight Number

Details of Registration fee Paid: