


**cigre**

For Power System Expertise

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# Call for PAPERS

## TUTORIAL AND REGIONAL CONFERENCE ON POWER SYSTEMS

'Maintaining System Sustainability and Resiliency  
with Increasing Shares of Renewables'

**BALI, 21 – 23 JUNE 2023**

Electricity supply industry has been facing an unprecedented challenge in a global scale with the increasing pressure to decarbonize power generation. Shifting from fossil - based generation to Renewable Energy Sources has been coined as one of the critical global actions in the fight against climate change.

To address the challenge, CIGRE Indonesia is organizing a regional conference (the Conference) in conjunction with Tutorial on HVDC Transmission and High Voltage Transmission.

It is expected that the Conference will bring together experts and key players from power industry to address the current challenges in delivering sustainable and resilient electricity supply with increasing shares of renewables.

This unique platform will facilitate power system engineers, owners of generation, transmission and distribution assets, system operators, policy makers, regulators and academics to share and discuss the current practices and future directions of the electricity industry.

## Abstract *Submission*

You are invited to submit abstract(s) for the Conference. Your abstract(s) can be submitted through the conference web site.

Abstract shall be text only without figures of 300 words maximum. Your abstract shall contain Title, name(s) of author(s) and affiliation, keywords, and concise summary of your paper.

Language used in Abstracts and Full Papers is English.

## Important *Dates* are extended to

Abstract Submission	:	14 May 2023
Notification of Acceptance	:	24 May 2023
Submission of Full Papers	:	09 June 2023

## Date & *Venue*

The Conference will be held on 21 to 23 June 2023 in **Holiday Inn Resort Baruna Bali**, Jl. Wana Segara, No. 33, Tuban, Kec. Kuta, Kab. Badung, Bali 80361



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**BALI, 21 – 23 JUNE 2023**

## Preferential *Subjects*

The Conference has selected three Preferential Subjects (PS) as follows:

### **PS1. Driving towards an Enhanced System Sustainability and Resiliency with Increasing Shares of Renewables**

- Interconnection and transmission development for decarbonization of electricity supply industry
- High Voltage Overhead Lines
- The future challenges in generation, transmission and utilization of electricity for sustainable energy
- Improving business practices and operating efficiency and enhancing reliability and power quality.
- Innovative solutions for a more flexible power system for a higher share, cost-effective integration and utilization of renewables

### **PS2. Innovations in Future Power Grids in Energy Storage, Electric Vehicles, Digitalization and Power Electronics**

- Recent development in battery storage technologies and energy storage applications
- Opportunities and challenges of digital transformation of utilities in improving the digitalization
- Development in the use of plug-in electric vehicles, impacts of EV on power grid, and emerging new concept of V2G
- HVDC grid and multi-terminal HVDC systems.

### **PS3. Trends in Challenges in Future Grid Operations with Higher Variable Generation**

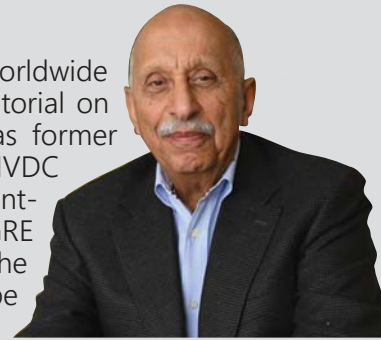
- System operator of the future and nature of grid operation in high VRE environment
- Requirements for modernization of Control Centres towards
- Coordination of TSO – DSO/DERM
- Coordinated control of multi-region HVDC interconnections.

## Correspondence

Further information on the Conference can be inquired by contacting the Secretariat of CIGRE Indonesia on **cigre.idn@gmail.com** or **cawir.ginting@hvt-id.com** and Whatsapp: **+62 859 2123 1859**

## Tutorial

Dr. Muhamed Rashwan, a worldwide expert in HVDC will give tutorial on HVDC Transmission. He was former Chairman CIGRE SC B4 : HVDC and Power Electronics. Currently he is member of CIGRE Steering Committee 2024. The following topics will be covered in the tutorial:



- Considerations of HVAC and HVDC transmission systems for interconnection and bulk power transmission,
- Planning aspects: transmission costs, transmission benefits, risks,
- Technology: HVDV topology (monopolar, bipolar, point to point overland system, point to point submarine system, back-to-back HVDC links, parallel HVAC and HVDC, multi-terminal HVDC), LCC converters, VSC converters, overhead HVDC lines, HVDC cables, electrodes,
- Operation aspects: monitoring & coordinated control, specific requirement for control centres.

In addition to Tutorial on HVDC Transmission, there will be a series of short course on Overhead Transmission Lines during plenary sessions delivered by Prof. Konstantin O Papailiou of CIGRE, a world expert who has led the publication of CIGRE Green Book on Overhead Lines.



## Registration

Registration can be made through website :

**[linktr.ee/cigreindonesia](http://linktr.ee/cigreindonesia)**

or email : **[cigre.idn@gmail.com](mailto:cigre.idn@gmail.com)**

Registration fee of Rp 5.500.000 is applicable for all delegates, except government officials and academics who are free of charge (paid by CIGRE Indonesia)

The registration fee will cover conference kit, lunches, coffee breaks, admission to all sessions, including HVDC Tutorial

Payment of the registration is payable to:

**Bank Syariah Indonesia,**

Branch: Rawamangun

Account Name: KNI Cigre

Account number : 0390051483

Swift Code : BSMDIDJA

## Post Conference *Tour*

The Organizing Committee is organizing a post conference tour for the delegates and their spouses to top destinations in Bali. Information can be found on the Conference Desk.

**Lampiran II**  
**TERM OF REFERENCE**  
**FOR**  
**TUTORIAL ON HVDC TRANSMISSION**

**1. Rationales for the need of Tutorial on HVDC Transmission**

- PLN [the national power utility] has committed to achieve carbon neutrality in 2060. In the scenario planning made by PLN, it is evident in all scenarios that PLN would rely on inter-island power interconnections related to the unprecedented development of renewable energy sources. It is believed that the inter-island interconnections would be HVDC links.
- In the past decade PLN endeavored to develop an HVDC interconnection project between Sumatra and Java. Substantial costs have been expended by PLN to develop the project. However, the project was postponed and now is under review.
- PLN has been undergoing a massive reorganization in earlier this year in which people have been transferred to different assignments, including a major change in engineering department. Those engineers who were involved in the HVDC project and/or participated in the training on HVDC have been largely assigned to different posts.
- There has been a change of regulation in the endorsement of PLN's Power Development Plan [known as RUPTL, or 10-year PDP document] by the government, which previously only endorsed by the Ministry of Energy & Mineral Resources [MEMR] as the Regulator for the Indonesia's electricity sector, but from this year it must also be consulted with the Ministry of State-Owned Enterprise [MSOE] and Ministry of Finance [MOF].

**2. Purpose of the Tutorial**

- To build the capacity of the government officials [MEMR, MSOE and MOF] and PLN's younger engineers in the field of HVDC transmission and power interconnections,
- To refresh and renew the knowledge of PLN's engineers and PLN's new management in HVDC transmission.

**3. Proposed Place and Time**

- Place: Bali, Indonesia
- Time: three sessions from 9:00 to 12:00 on Wednesday to Friday, 21 to 23 June 2023

**4. Participants**

- PLN Group [holding and subholdings],
- Government officials [MEMR, MSOE, MOF],
- Academics/universities,
- Participants from ASEAN region will also be invited.



## 5. Proposed Tutor

CIGRE Indonesia has invited Dr. Mohamed Rashwan, Former Chairman of CIGRE SC B4, and CIGRE Steering Committee 2022-2024.

## 6. Proposed Syllabus

The following four topics of HVDC are considered as the materials for the tutorial:

- i. Considerations of HVAC and HVDC transmission systems for interconnection and bulk power transmission,
- ii. Planning aspects: transmission costs, transmission benefits, risks [technical risk, economic risk, social & political risk],
- iii. Technology: HVDC topology in terms of monopolar, bipolar, point to point overland system, point to point submarine system, back-to-back HVDC link, parallel HVAC and HVDC transmission, multi-terminal, LCC converters, VSC converters, in all scenarios, overhead HVDC lines, HVDC cables, electrodes.
- iii. Operational aspects: monitoring & coordinated control, specific requirement for control centre.

Among other references, the tutor may consider use the materials in CIGRE Technical Brochures:

- TB 003 [1987]: Compendium of HVDC schemes throughout the world
- TB 186 [2001]: Economic Assessment of HVDC Links
- TB 684 [2017]: Recommended Voltages for HVDC Grids
- TB 492 [2012]: VSC for Power Transmission
- TB 215 [2002]: HVDC converter stations for voltages above +/- 600 kV

### Lampiran III

#### Agenda Acara Tutorial HVDC dan Regional Conference on Power Systems'

Tema : *Maintaining System Sustainability and Resilience with Increasing Share of Renewables*'.

Venue : Holiday Inn Baruna, Kuta, Bali

Dates : 21-23 June 2023

Day and Dates	AM [09.00 to 12.00]	PM [14.00 to 17.00]
Wednesday, 21 June 2023	HVDC Tutorial [Dr. M Rashwan]	14.00-14.10: Opening Speech President CIGRE Indonesia 14.10-14.30: <b>Keynote Speech Direktur Utama PT PLN [Persero]</b> 14.30-15.00: <b>Keynote Speech Direktur Jenderal Ketenagalistrikan</b> 15.00 – 15.45: Industry perspectives <b>Part 1</b> [3 invited speakers] 15.45-16.00: Break 16.00-17.00: Paper presentation [parallel sessions, 3 papers per session]
Thursday, 22 June 2023	HVDC Tutorial [Dr. M Rashwan]	14.00-15.00: Paper presentation [3 papers per session] 15.00-15.45: Industry perspectives <b>Part 2</b> [3 invited speakers] 15.45-16.00: Break 16.00-17.15: Short course on HV Overhead Lines <b>Part 1</b> [Prof. Konstantin O Papailiou]
Friday, 23 June 2023	HVDC Tutorial [Dr. M Rashwan]	14.00-15.00: Paper presentation [3 papers per session] 15.00 – 15.15: Break 15.15 – 17.00: Short course on HV Overhead Lines <b>Part 2</b> [Prof. Konstantin O Papailiou] 17.00: closing