

Concept Paper

Webinar on “High Voltage Direct Current Transmission Systems”

Background:

An aggressive, integrated approach is required to make energy accessible, affordable and reliable in South Asia. SAARC Energy Centre (SEC) has launched a number of initiatives within its mandate, essentially aiming at materializing the SAARC Energy Ring comprising of various links among the Member States. Without exception, the electrical power links, bilateral or regional require extension in existing power transmission lines with smart solutions for large scale deployment. It is imperative to keep the technical workforce, comprising of planners and engineers in this case, update and informed of the modern international practices with respect to bulk power transmission.

South Asian countries has a gigantic task of overhauling the fragile grid network, alleviating the demand supply gap and improving the electricity access. A sound transmission planning at this stage can enable countries to capitalize the indigenous resources better, attract strong public/private energy cooperation, build strong institutional structures and facilitate the national energy policies effectively.

Introduction:

SEC, under its thematic area of “Program on Successfully Implement Technology Transfer (POSIT)”, is organising a webinar on “High Voltage Direct Current Transmission Systems”. The webinar aims to facilitate learning with respect to the bulk power transmission through HVDC options with pertaining to its usage and application i.e., back-to-back interconnections and point-to-point connections. This webinar will cater the much-needed knowledge and understanding of HVDC options in the region. Experts on HVDC will share their experiences with the professional and take them through the technical, financial, environmental aspects of the HVDC projects and share the experience with such projects. Presenters will also highlight the importance, advantages and disadvantages of HVDC in comparison with HVAC.

Objectives:

The overall objective of this webinar is to spread the awareness in the critical domain of High Voltage Transmission System among the professionals of SAARC Member States. SEC has especially envisaged this webinar for professionals from SAARC Member States with the following major objectives:

1. Capacity building for expansion and modernization of SAARC’s electricity sector.
2. Highlight the new developments, trends and challenges with respect to the bulk power transmission.
3. Sharing knowledge in opting the HVDC or HVAC for future power transmission projects particularly regional power inter-connections.
4. Get overview of the existing HVDC transmission lines and update on the ongoing HVDC

projects in the region.

Major Aspects /Topics to be Covered:

The webinar would focus on strengths, weaknesses, opportunities and threats for HVDC technological developments in comparison to the HVAC Power Transmission in view of the regional and international experiences. HVDC applications would be discussed with focus on HVDC modelling (Harmonics, System integration), HVDC network integration, Risk assessment, Security & reliability of HVDC grid, procurements etc.

The webinar will cover, but not limited to the following broad contents:

1. Licensing mechanisms and roles of Central or Distributed Generation, Transmission, Distribution and Retail companies.
2. Procurement procedures of HVDC projects.
3. Advantage and disadvantages of HVDC.
4. Transmission/Distribution tariff mechanisms and regulatory tools to improve efficiency.
5. Performance standards, grid codes and evaluation.
6. Policy requirements.
7. Regulatory facilitation for public-private partnership.
8. Use of modern ICT based technologies.
9. Modern asset management systems for Transmission companies.
10. SWOT analyses of HVDC.

Venue of the Webinar:

The webinar shall be broadcasted from the office of SAARC Energy Centre on 31st May 2021.