Engineering Staff College of India

Autonomous Organ of The Institution of Engineers (India)
Old Bombay Road, Gachi Bowli, Hyderabad – 500 032. Telangana, India

POWER & ENERGY DIVISION

CONTINUING PROFESSIONAL DEVELOPMENT PROGRAMME

Renewable Energy Systems - Wind & Solar - Grid Integration

(On-Line Course)

23 - 26 April, 2024

From 11:30 to 17:15 hrs (4 Hours 30 Minutes per day)
Online Interactive Sessions | Digital Learning | Experts Online Support

Introduction

India is one of the countries with large production of energy from renewable sources. As of 27 November 2020, 38% of India's installed electricity generation capacity is from renewable sources (136 GW out of 373 GW).
In order to achieve the above target, Government of India has launched various schemes to encourage generation of solar power in the country like Solar Park Scheme, Viability Gap Funding (VGF) Schemes, Central Public Sector Undertaking (CPSU) Scheme, Defence Scheme, Canal bank & Canal top Scheme, Bundling Scheme, Grid Connected Solar Rooftop Scheme etc.
Rooftop solar power amounts to 2.1 GW, of which 70% is industrial or commercial. In addition to its large-scale grid-connected solar photovoltaic (PV) initiative, India is developing off-grid solar power for local energy needs.
The International Solar Alliance (ISA), proposed by India as a founder member, is headquartered in India. India has also put forward the concept of "One Sun One World one Grid" and "World Solar Bank" to harness abundant solar power on global scale. In 2015 the target was raised to 100 GW of solar capacity (including 40 GW from rooftop solar) by 2022. India has established nearly 42 solar parks to make land available to the promoters of solar plants.
In addition to solar power, Wind energy is assuming significance in Indian grid. Wind power technology is maturing for providing efficient power generation. Hydro Power generation plays vital role for meeting the peaking load requirements. In this course, Solar, Wind and Hydro power technologies are discussed thoroughly.

Objectives

The objectives of this skill development program is to provide skilled manpower and groom the professionals and technocrats for:

- Understanding of Basic concepts of Grid-connected rooftop solar plant, Wind power and Hydro power plant.
- Efficient working at every stage of safety, designing, installation, pre- and post-commissioning, O&M, and
- Understanding the National policies on SPV plants, Wind and Hydro Power generation..

Course Coverage

- Solar photovoltaic modules, its characteristic curves and power generation.
- Inverter and its operation and suitability for grid connected power systems
- Module Mounting Structure, Protection, Safety & Earthing of systems
- Solar battery and its characteristics
- Standards of solar panel and battery, Introduction to Solar Thermal Systems
- 1 MW Power Plant Design and Solar Resources availability
- Net metering guidelines (Net metering and Gross metering)
- Introduction to PV Syst Software
- Wind Energy Technology-Wind Power Forecasting Techniques, Site and equipment selection, evacution, , Operation &Maintenance, Performance aspects of wind farms along with Govt policies.
- Introduction to small, Mini & Micro Hydro power generation.
- Hydrology & Estimation of water potential.
- Basic features of Hydro turbines.
- Feasibility economic evaluation of floating solar system & wind farms in hydro generation.
- Existing substation/infrastructure,its up- gradation & Integration for floating solar & wind energy systems
- Evoving Energy Storage Technologies-Pumped Stoarge, Battery Strage Technologies & Thermal Storage.
- Hybrid Generation fundamentals & Challenges, Concepts of Grid Interface Technologies

Methodology

Methodology of the programme includes Digital Learning through LMS Platfom, Interactive sessions with audio visual aids, discussions, sharing of Experience etc. Online sessions will be conducted through Cisco WebexApp.

Target Participants

Target audience: Engineers working in Public Sector Undertakings of Hydro Power development with basic knowledge of Electrical Concepts; Solar Entrepreneurs; College / University Professors; Public Sector Undertaking Officials; EPC contractors; MNRE channel partners; Senior Energy Department Officials of Govt. of India.

Benefits to the participants

- Capacity building with Knowledge sharing from well experienced domain specialist.
- Reading material will be emailed to all participants who have registered.
- A Certificate of participation will be awarded to each participant on conclusion of the programme.

Dates & Timings

Dates: 23 – 26 April, 2024 (4 Hours 30 Minutes per day)

Online Session timings will be from 1130 to 1715 hrs with breaks in between for tea and lunch.

Programme Director

Er. Vidya Sagar Ubba, FIE
(Former CGM, TSSPDCL)
Head & Sr. Faculty – Power & Energy Division
(Mob:8179559990)

Course Fee

Rs. 12,000/- Plus 18% GST= Rs.14,160/- per participant.

Group Discount: 10% discount for three (3) or more participants if sponsored by the same organization.

(All discounts are applicable only if fee is received at ESCI a week before the commencement of the programme)

ESCI`s **GST No:** 36AAATT3439Q1ZV **PAN No.** AAATT3439Q

The payment may be made by Electronic Fund Transfer (EFT) to ESCI – SB A/c No. 33705165550 with The SBI, Manikonda Branch, GachiBowli, Hyderabad – 500 032 by NEFT / RTGS / IFSC Code No: SBIN0011076 – MICR No: 500002107. **While using EFT method of payment, please ensure to communicate us your company name and programme title.**

Registration:

Online registration shall be available on ESCI **web portal**: **www.escihyd.org**

To register manually please send your nominations giving details of name, designation, contact address, email id, mobile no. number of the participant along with the details of mode of payment of fee, addressed to: **pe.esci@gmail.com / pe@escihyd.org**

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