

Online Training

Floating Solar PV Project and Data Communications Infrastructure

27 - 28 November 2020



Invited Key Speakers

- Prof. Chem Nayar, Director, Regen Power, Australia
- Mr. Hans Henning Judek, *President & CEO, JE Access Ltd., Japan*
- Mr. S.S. Mishra, GM, RE Engineering, NTPC Ltd.
- Mr. S.M. Murugan, GM, NTPC Ltd.
- Mr. Anil Kumar Bellary, Co-Director, IGEF
- Mr. Vivek Jha, Consultant
- Mr. K. Ayub, EE, Solar Project, KSEB

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INTRODUCTION

Government of India has set a target of producing 175 GW of Renewable Energy by December 2022 comprising 100 GW of solar. The country is progressing as per the policies declared. As on date around 35 GW solar PV (July 2020) has been commissioned in different parts of country. To reach the targets, the progress noted so far is not sufficient and requires intensive efforts by each state and state departments to achieve the desired targets..

Renewable energy is the vast source of potential for energy generation and has no negative impact on the environment. Solar Energy is one of the vital sources of renewable energy which is mainly utilized by photovoltaic effect, deliberated as an eco-friendly energy source because of its enormous potential and sustainability. Moreover, it reduces the dependency on conventional fuels. India, with huge energy demand and scarcity of land for solar photovoltaic plant, can harness solar energy through floating PV plant technology for sustainable energy production.

Floating solar PV plants are an emerging form of PV systems that float on the surface of irrigation canals, water reservoirs, quarry lakes, and tailing ponds. These systems reduce the need of valuable land area, save drinking water that would otherwise be lost through evaporation, and show a higher efficiency of solar energy conversion, as the panels are kept at a cooler temperature than they would be on land.

Floating solar power plant is an innovative approach of using photovoltaic modules on water infrastructures to conserve the land along with increase in efficiency of the module. Additionally, the water is also conserved due to reduction in evaporation of water from the water body. The modules in floating systems operate under much cooler environment and this would reduce thermal losses and also the long term heat induced degradation. Additionally the dust collection issues would be minimum leading to enhanced generation and reduced cleaning frequency. Besides the enhancement in generation, there is no cost of acquiring water for module cleaning.

To utilize the solar energy, typically require huge land for establishing the solar PV plant which is almost inaccessible for an over populated country like India. But there is a huge coastal area as well as many major rivers will be effective for establishing floating solar PV plant. This will open new possibilities for source of energy generation.

Solar radiation incident on the surface of earth is rather weak. Commercially available solar cells - convert typically between 16 and 20% of this incident energy, under Standard Condition into electrical energy. Converting fertile agricultural and other productive land to set up solar farms would not be wise. An attractive alternative to the land based solar generation is to utilize the surface of water bodies like lakes, ponds, reservoirs, dams which come at no cost.

Floating PV Systems also named as Floatovoltaics come with its own set of challenges. Module racking systems are to be designed for fixing on to pontoons / HDPE plastic floats. All metallic components have to be kept above water level with floats alone in contact with water to prevent corrosion. The float material should not inject any toxic material in the water they float. The floats are to be anchored properly to withstand high velocity winds and rapid flow of water during floods. Floating PV systems that can withstand wind speeds up to 190 kmph and waves of 2 meter height are now commercially available.

OBJECTIVES

- Provide the STUs and other stakeholders an opportunity to share their experiences / success stories and also learn from the experiences of other STUs
- Discuss the important issues faced by the EPC contractors of Floating solar PV projects grid operators at the working level
- Discuss the regulatory and financial mechanisms required to provide phillip to Floating Solar PV projects
- Discuss the challenges of data sharing by RE generators, Grid connectivity codes, implementation of forecasting and ancillary service regulations

WHO SHOULD ATTEND?

The training program is open to all relevant stakeholders, various utilities and industry organizations/ individuals in the field of power system.

COVID 19 SPECIAL REGISTRATION FEE

The duration for each on line training will be of 2 day (2 hrs on each day) out of which 1hr 30 minutes will be for technical session followed by 30 minutes for question/ answer session. The Registration fee for training will be Rs. 4,000/- per participant (for 2 days)

- 18% GST will be extra.

The program is limited to 200 participants. Which will be on First cum First serve basis.

TO REGISTER

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

Name : _____

Designation: _____

Organization: _____

Mailing address: _____

Phone and E-mail: _____

Note : After registration, the participants will be provided the **link 1 day prior to the session** to participate in the Technical session

(GST No. 07AAAJC0237F1ZU)

Payments of registration fee should be made by 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, Address : 209-214, Kailash Building, 26 Kasturba Gandhi, Marg, New Delhi 110001, Saving Bank Account No. : 00031110004411; Swift Code: HDFCINBBDEL; IFSC: HDFC 0000003 MICR Code: 110240001

Address for Correspondence

Dr. G.P. Patel, *Secretary*, CBIP

A.K. Bhatnagar, *Director*, CBIP

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