

*National Workshop on*  
**Developing Comprehensive and Scientific  
Mechanism/Model for Forecasting of Hydrology  
for Hydro Electric Project**

**25 April 2019**  
**Gulmohar Hall, India Habitat Centre**  
**Lodi Road, New Delhi**

*Organised by*



**SJVN LIMITED**

**(A Joint Venture of Govt. of India and Govt. of HP)**

*in coordination with*



**ISO 9001 : 2008**

**Central Board of Irrigation and Power**

## **OBJECTIVE**

Hydropower is the second largest contributor of energy consumed in the Indian power sector. The most significant hydropower potential in India exists in the three major trans boundary river basins (Ganges, Indus, and the Brahmaputra). However, all these basins have experienced substantial changes in precipitation and air temperature that affected water availability for hydropower generation.

Since hydropower production and its potential depends on stream flow, it is sensitive to climate change. The impacts of climate change on hydropower potential have been studied globally. For instance, Liu *et al.* reported that Gross Hydropower Potential (GHP), which is total hydropower generation from all natural runoff at the outlet of a specific region, of China is projected to change by -1.7 to 2% in the near future (2020–2050) and 3 to 6% by the late 21<sup>st</sup> century (2070–2099). Moreover, they found that annual Developed Hydropower Potential (DHP), which is the maximum possible production of hydropower at the existing hydroelectric facilities, is projected to decline by 2.2 to 5.4% from 2020 to 2050 and 1.3 to 4% from 2070 to 2099. Turner *et al.* showed approximately  $\pm 5\%$  change in mean global hydropower production by 2080s. There are uncertainties in the projections of annual hydropower production. For instance, global theoretical hydropower potential (THP), the maximum hydropower production under the ideal condition without any losses, is projected to increase moderately due to climate change. However, Van Vliet *et al.* reported reductions in global annual hydropower capacities of 0.4 to 6.1% by 2080s.

India has experienced significant warming over the past few decades, which is likely to continue along with the changes in precipitation in the 21<sup>st</sup> century. Despite the profound implications of climate change on stream flow, the linkage between climate change and hydropower production in India remains unexplored.

The aim of workshop is to provide a forum for open discussion and exchange of information on hydrology prediction in river basins through short term and medium term weather forecasting along with quantum of flood, rain fall, snow fall, glaciers size in the catchment area combined with temperatures etc. These issues are of great importance for correct use of forecasts to make it possible to optimise and predict the Hydroelectric Power output over short term and medium term and to decide annual generation target for our Hydro Electric Power Plants on a more scientific basis.

## **ABOUT THE ORGANISER**

**SJVN Limited**, a Mini Ratna, Category-I and Schedule –‘A’ CPSE under administrative control of Ministry of Power, Government of India, was incorporated on May 24, 1988 as a joint venture of the Government of India (GoI) and the Government of Himachal Pradesh (GoHP). SJVN is now a listed Company having shareholders pattern of 62.68 % with Government of India, 26.85% with Government of Himachal Pradesh and rest of 10.47 % with Public. The present paid up capital and authorized capital of SJVN are Rs. 3,929.80 Crore and Rs. 7,000 Crore respectively. The present Net Worth as on 31 March 2018 is Rs.10,694.71 Crore.

Beginning with a single Project and single State operation (i.e. India's largest 1500 MW Nathpa Jhakri Hydro Power Station in Himachal Pradesh) the Company has commissioned four projects totalling 2003.2 MW of installed capacity. SJVN is presently implementing Hydro/Thermal/Solar/Wind Power Projects in Himachal Pradesh, Uttarakhand, Bihar, Maharashtra and Gujarat in India besides neighbouring countries viz. Nepal and Bhutan totalling 4018 MW.

## **ABOUT THE COORDINATOR**

**The Central Board of Irrigation and Power (CBIP)**, since its inception in 1927, is engaged in the dissemination of information regarding recent technological advancements in the disciplines of water resources, dam engineering, tunnels and underground works, rock mechanics, geosynthetics, power and renewable energy. Besides, it provides a forum for exchange of experiences, facilitating flow of technology by organisation of symposia, seminars, workshops, training courses, both at national as well international levels, in liaison with international organisations.

The CBIP acts as Secretariat of the Indian Chapter of many international organisations like International Commission on Large Dams (ICOLD), International Society for Rock Mechanics and Rock Engineering (ISRM), International Geosynthetics Society (IGS), International Tunneling and Underground Space Association (ITA), International Water Resources Association (IWRA), World Water Council, etc.

## **TOPICS**

Key workshop sessions will include:

- Hydrologic, Climate and Discharge Forecasting on Short Term and Medium Term basis in River Basin of Himalayan Region
- Operational Forecasting System to Process Real Time Hydro Meteorological Data
- Orographic Precipitation Analysis and Precipitation Forecasting
- Trends Analysis of Flow due to Global Warming/Climate Change-Impact on Hydrology
- Extended Stream Flow Prediction

## **DISCUSSION FORMAT**

It is proposed to hold workshop in the format comprising of lectures followed by a panel discussion / Q&A for convergence and collection of ideas.

## **OFFICIAL LANGUAGE**

English will be the official language of the Workshop.

## **DATES & VENUE**

The Workshop will be held on 25 April 2019 at Gulmohar Hall (Gate No. 3), India Habitat Centre, Lodhi Road, New Delhi 110 003

## **REGISTRATION FEE**

There is no registration fee for participating in the Workshop and is by invitation only. All interested are requested to contact the Workshop Secretariat. The participants will have to make their own arrangements for travel and stay. The last date for receipt of the registration form is **20 April 2019**.

## **CONTACT PERSONS**

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### **Central Board of Irrigation and Power**

All correspondence relating to the Workshop shall be addressed to:

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*Secretary*

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**REGISTRATION FORM**

(To be filled in block letters, preferably typed)

1. Name of Participant \_\_\_\_\_

(Surname) (First Name) (Prefix Prof./Dr./Mr./Mrs./Ms.)

2. Designation: \_\_\_\_\_

3. Name of Organisation: \_\_\_\_\_

4. Mailing Address: \_\_\_\_\_

\_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_ PIN \_\_\_\_\_

Phone \_\_\_\_\_ Fax \_\_\_\_\_

E-mail \_\_\_\_\_

Dated \_\_\_\_\_

Signature \_\_\_\_\_