

National Conference on  
***Energy Storage including Pumped Storage -  
Opportunities and Challenges***

Date: 4<sup>th</sup> – 5<sup>th</sup> November 2022

Venue: National Skill Development Forum, The Institution of Engineers (India), Shimla



*Organised by*



**Central Board of  
Irrigation and  
Power**



**Society of  
Power Engineers  
India**

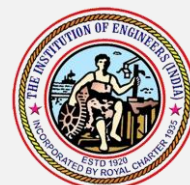


**AARO  
Afro – Asian  
Region**



**National Skill Development Forum (NSDF)  
An Autonomous Fora of  
The Institution of Engineers (India)**

*In Association With*



**The Institution of Engineers India  
HP State Centre  
Shimla**



## Announcement

The Central Board of Irrigation and Power jointly with SPE & AARO are organizing a National Conference on “Energy Storage including Pumped Storage - Opportunities and Challenges” in association with National Skill Development Forum (NSDF), Shimla and The Institution of Engineers (India), HP State Centre, Shimla on 4–5 November 2022.

## Introduction

In India generation of electricity from renewable energy sources is growing at a very high rate. This increasing dependency on renewable generation in turn is posing challenges to utilities and system operators. One of the key issues with renewable generation like PV solar, wind, is that their generation is of intermittent nature. Energy Storage System (ESS) can provide support in balancing the variable generation of renewable energy. When ESS is properly deployed it can help to improve the grid reliability and asset utilization. ESS is classified on the basis of the form of energy stored such as Pumped Storage, Batteries (Lithium-ion, Flow Batteries, Sodium Batteries, Nickel based Batteries etc.), Fly wheel, Compressed air, Super capacitors, etc. When there is a sudden change in wind speed or passing cloud, it causes a rapid change in the output of wind generation or a PV array leading to significant drop in MW output (by 70 to 80 per cent) in about a minute's time. Battery can discharge quickly to ensure that the net facility output is smoothed.

Renewable energy sources, when coupled with energy storage, can immensely benefit the grid by smoothing renewable generation output, improving power quality and making the renewable grid more reliable. When power system disturbances occur, synchronous generators are generally not always able to respond rapidly enough to keep the system stable. If high-speed real or reactive power control is available which is possible through the use of Flexible AC Transmission Systems (FACTS) devices, load shedding or generator dropping may be avoided during the disturbance. However, a better solution would be to have the ability to rapidly vary real power without impacting the system through power circulation. This is where energy storage technology can play a very important role in maintaining system reliability and power quality. **The aim of the Conference is to provide a forum for open discussions and exchange of information and to acquaint the concerned professionals/engineers about the latest innovations in this field.**

## About CBIP

The Central Board of Irrigation and Power (CBIP), a premier institution, was constituted in 1927 by the GoI. It is serving the Nation in the disciplines of Water Resources, Power, Renewable and Allied Sectors for more than 95 years.

The main objective of CBIP is dissemination of technical knowledge through various modes, such as :

- Organizing National and Intl. Conferences, Symposiums, Seminars, Workshops and Training Programs etc.
- Publication of technical documents e.g., manuals, technical reports, guidelines and journals etc.
- To provide information about technological developments to the engineers/professionals & other stake holders.

## About National Skill Development Forum (NSDF) - Latest Autonomous Fora of IEI

National Skill Development Forum (NSDF) was established on May 1, 2019 by 'The Institution of Engineers India' as an up gradation of the Centre for Skill Development and Engineering Consultancy (CSDEC) which was functional since 2013 with HQ at Shimla. NSDF is formed as an independent Fora of 'the Institution of Engineers India' which is the largest multi-disciplinary professional body of engineers encompassing 15 engineering disciplines with Corporate Membership of more than 2.0 lac & serving the nation for the last hundred years with National presence through 125 State/ Local Centers and several overseas Chapters, Foras and Organs. NSDF is playing a very active role for up skilling, reskilling, skill enhancement, capacity building, enhancing functional competence and quality training in emerging, evolving & cutting edge technologies and where much has not been published and practiced for professional engineers, manager, scientist, young graduates, supervisors and workmen besides undertaking consultancy services in technology management domains pan India.

## Topics

The topics to be discussed in the Conference are as follows:

- Energy Storage – Need; Urgency; Time Frame; Quantum
- Technologies & Its Application – Quality; Reliability; Flexibility; Safety & Protection
- Capacity Building including Training - O&M Aspects
- Policy & Regulations for Grid Scale Energy Storage
- Investment and Markets
- Issues & Challenges
- Pump Storage : Potential; Clearances Involved; Site Selection; Its Life; Case Studies

**Experts who desire to present paper/case studies on above topics are welcome to submit their papers by 20<sup>th</sup> October 2022.**



## Dates and Venue

The National Conference on “Energy Storage including Pumped Storage - Opportunities and Challenges”, 4th – 5th November 2022 at National Skill Development Forum (NSDF), The Institution of Engineers (India), Engineers Bhawan, Nigam Vihar, Shimla. The Conference timings will be 10.00 AM to 5.30 PM. The registration will start at 9.00 AM on 4th November 2022.

## Who Should Attend

Senior officers of Power Utilities, PSUs, State Govt./SEB's Nodal agencies, Energy Planners, Private Entrepreneurs, Manufacturers, Development Consultants, Research/ Academic Institutions, Construction Companies and Financial Institutions etc.

## Registration Fee

Registration fee for the delegates is as follows:

- (i) Rs. 12,000/- per participant.
- (ii) Rs. 10,000/- per participant for members of CBIP, SPE and AARO.

### **GST 18% extra. (GST No. 07AAAJC0237F1ZU)**

The Registration fee covers the registration kit, tea/coffee/lunch during the Conference. The Conference is non-residential. Participants will have to make their own arrangement for travel, boarding and lodging, etc. All payments be made through DD/ cheque at par in favour of ‘Central Board of Irrigation & Power’, payable at Delhi or amount deposited/ transferred to CBIP A/c no. 00031110004411, MICR Code. 110240001, HDFC Bank, Swift Code : HDFCINBBDEL, IFSC: HDFC 0000003, Address: 209-214, Kailash Building, 26 Kasturba Gandhi Marg, New Delhi 110001

Please arrange to furnish the details like UTR, Organization name, etc. to CBIP Sectt. after making the online payment at the earliest possible.

## Sponsorship Opportunity

Sponsors are assured of full visibility with printing of their names on proceedings and banners of the Conference and will have the privilege of distribution of their product's pamphlets/catalogues during the Conference. Sponsors will also have the privilege of sending delegates exempted from payment of registration fee as indicated hereunder:

<b>Platinum Sponsor : Rs. 5,00,000/-</b>	<b>Gold Sponsor : Rs. 3,00,000/-</b>	<b>Silver sponsor : Rs. 2,00,000/-</b>
<ul style="list-style-type: none"><li>• 10 delegate passes for participation in the Conference</li><li>• Company logo on main backdrop and other banners</li><li>• Company logo on Cover page of Proceedings Volume/ Base Paper</li><li>• Advertisement (Prominent Position) in the Proceedings Volume</li><li>• Circulation of Company Literature during the event</li><li>• Announcement -Thanking sponsor</li><li>• Speaking Opportunity</li><li>• Invitation to the key person of the organization as special invitee during Inaugural session</li><li>• Complimentary Advertisement in the Key Journal Published immediately after the event covering report of the event.</li></ul>	<ul style="list-style-type: none"><li>• 05 delegate passes for participation in the Conference</li><li>• Company logo on main backdrop and other banners</li><li>• Company logo on Cover page of Proceedings Volume/ Base Paper</li><li>• Advertisement in the Proceedings Volume</li><li>• Circulation of Company Literature during the event</li><li>• Announcement -Thanking sponsor</li><li>• Complimentary Advertisement in the Key Journal Published immediately after the event covering report of the event.</li></ul>	<ul style="list-style-type: none"><li>• 03 delegate passes for participation in the Conference</li><li>• Company logo on main Backdrop</li><li>• Company logo on Cover page of Proceedings Volume/ Base Paper</li><li>• Announcement – Thanking sponsor</li></ul>

## Address for Correspondence

**Shri A.K. Dinkar, Secretary, CBIP**

**Shri Sanjeev Singh, Director, CBIP**

**Contact Person: Shri Vishan Dutt, Chief Manager (Tech.), CBIP**

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Phone: 011-26115984/ 26116567 Fax: 011 2611 6347; E-mail: cbip@cbip.org



# National Conference on Energy Storage including Pumped Storage - Opportunities & Challenges

4-5 November 2022, National Skill Development Forum  
The Institution of Engineers (India), Shimla

## REGISTRATION FORM

(To be filled in block letters preferably)

Delegate \_\_\_\_\_  
(Surname) (First Name)

Designation \_\_\_\_\_

Name of Organisation \_\_\_\_\_

Mailing Address \_\_\_\_\_  
\_\_\_\_\_

City \_\_\_\_\_

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

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

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

Dated \_\_\_\_\_ Signature \_\_\_\_\_

### Conference Secretariat

**Shri A.K. Dinkar**

*Secretary*

Central Board of Irrigation and Power

Malcha Marg, Chanakyapuri, New Delhi 110 021, India

Tel : 91-11-26115984/26116567 Fax: 91-11-26116347

Registration Form, duly filled in, is to be mailed to the following address:

**Contact Person** : Shri Vishan Dutt, Chief Manager (Tech.), M: 9811431554

Email : vishandutt@cbip.org; vishan.dutt.cbip@gmail.com Web-site: <http://www.cbip.org>

Please arrange to furnish the details like UTR, Organization name, etc. to CBIP Sectt. after making the online payment at the earliest possible.

#### Note:

- Photocopies of the registration form can be used for additional requirements, if any.
- Spot registration facilities will also be available, provided the prior information is received.

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