

National Conference

**Revival of Hydro Power Sector
including Pumped Storage
– A Way Forward**

29 November 2019

Vishwa Yuvak Kendra, Chanakyapuri, New Delhi-110021



Salal Power Station (J&K)

Organised by



AARO
International Association on
Electricity Generation,
Transmission and Distribution



**New Delhi
CBIP**



**Society of Power Engineers
(India)**

Central Board of Irrigation & Power

ABOUT CBIP

The Central Board of Irrigation & Power (CBIP), set up by Government of India has been inter-alia organizing various conferences relating to Power, Renewable and Water Resources Sectors of National interest and present day challenges, as one of its principal activities with a view to enable dissemination and exchange of knowledge about new technologies and best practices.

AIM & OBJECTIVE OF THE CONFERENCE

The total installed capacity of Power Generation in India as on 30th September 2019 is 363370 MW and share of Hydro Power is less than 13% - down from about 40% few decades ago. Hydro power has many advantages as given below:

BENEFITS

- Hydro power is clean, green, sustainable and also a cheap source of power in the long run.
- The Green House Gas Emissions from Hydro Power is 4 Gram CO₂/kWh against 38 Gram CO₂/kWh from Solar Power
- It could be used as Balancing Power for RE integration.
- Black start facility
- It is an excellent source of Peaking Power
- Flexible operation which is well suited for integration with Renewable Generation.
- Voltage support by supplying reactive power
- It can provide Spinning reserves
- Some of the plants could be converted to PHP mode of operation
- Low O&M expenses
- Life of Hydro Power Plant can be extended through RMU as the stipulated life of civil structures is 100 years.
- Stipulated life of hydro plants is 40 years against 25 years of solar and 35 years thermal.
- Multi-purpose HEPs provide storage, irrigation, Drinking water, Fisheries, Flood Moderation etc.
- Infrastructure and local area development
- Fast ramp up rate
- Improvement in Environment
- Employment generation to local people
- Storage projects improve ground water recharge
- No-fuel escalation

Fortunately, the country is endowed with huge potential of 1,45,000 MW for hydro power and 93,000 MW of pumped storage in the country but due to a variety of reasons only a fraction of this capacity (about 30%) has been harnessed so far.

Considering the various advantages of hydro power over other sources of generation, there is urgent need to give fillip to hydro power generation. Moreover, due to extensive addition of renewables in the power system, pumped storage schemes of hydro power are urgently required for balancing the grid.

However, there are a number of issues which have hampered the growth of hydro capacity in the country as are listed below:

ISSUES

- Land Acquisition
- Environment and Forest issues
- Rehabilitation & Resettlement
- Law & order problems & Local issues
- Cultural / Religious/ Political Issues
- Geological surprises

- Difficult Terrain & Poor Accessibility- lack of basic infrastructure at potential sites.
- Inter-state Issues
- Cumulative Basin Studies
- High initial Tariff of Hydro Projects
- Financing issues
- Free Power : Some states demand more than 12% free power
- Charging high premium for allotment of HEP to private developers
- Non signing of PPA
- Levying of water cess, local taxes during construction etc.
- Delayed clearances from multiple agencies.
- Re-assessment of Hydro Power Potential
- Balancing of grid due to addition of Renewable – need for pumped storage schemes.

Recently during March 2019, Government of India on its part has approved several measures to promote Hydro Power Sector.

SALIENT FEATURES OF THESE MEASURES APPROVED BY GOVERNMENT OF INDIA

- Declaring Large Hydro Projects (>25 MW projects) as Renewable Energy Source
- Hydro Purchase Obligation (HPO) as a separate entity within Non-Solar Renewable Purchase Obligation (RPO)
- Tariff rationalization measures for bringing down hydropower tariff
- Budgetary support for flood moderation in storage hydroelectric projects.
- Budgetary support to cost enabling infrastructure, i.e. roads/bridges.

CBIP has recognized the need for initiating discussions with all stake holders with a view to clearly identify the constraints and come out with measures which need to be further taken by policy makers and regulators for accelerating the Hydro Power development. In this context, CBIP is organizing a National Conference on '**Revival of Hydro Power Sector including Pumped Storage**' on 29 November 2019 at New Delhi.

Meanwhile, discussions with the experts have led to identification of following topics which needs to be further deliberated in the Conference.

POINTS FOR DELIBERATIONS

1. Benefits of Measures approved by Government of India to promote Hydro Power Sector.
2. Issues hampering growth of Hydro Power.
3. Accounting for additional benefits from Hydro Power attributes like flexible operation, providing Peaking Power etc.
4. Tariff rationalization measures for bringing down hydropower tariff
5. Sustainability of hydro power development considering environmental, social, religious & cultural aspects.
6. Desirability of constructing storage based hydroelectric projects.
7. Accelerated development of Pumped Storage Projects.

PRESENTATIONS BY EXPERTS

The presentations will be made by the eminent experts on the above topics during the conference.

DATE AND VENUE

The Conference will be held on 29 November 2019 (Friday) at Vishwa Yuvak Kendra, Teen Murthi Marg, Opp. Police Station, Chanakyapuri, New Delhi 110021. The Conference timings will be 10.00 AM to 5.30 PM. The registration will start at 9.00 AM on 28th November 2019.

WHO SHOULD ATTEND?

The Conference will be of special interest to the Professionals and Stakeholders from Central Govt. / State Govt. / SEBs, Power Utilities/Corporations, Regulators, Researchers/Academicians, Manufacturers, Planners, Operators, Consultants, Electrical Contractors, etc.

REGISTRATION

There will be no Registration Fee for participation in the National Conference. However, registration will be through invitation and on first come first served basis. Spot registration facilities to a limited extent will be available. The participants desirous of attending the Conference are required to send the following details to CBIP:

Delegate _____
(Surname) (First Name)

Designation _____

Name of Organisation _____

Mailing Address _____

City _____

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