

- Relation between bed forms and friction in alluvial channel flow in the context of sediment transport - *M. Bardhan*
- Hi-technology initiative quantifying the impact of climate change on water security and energy resources- *Dr. Viraj Loliyana*

13:00 – 14:00 hrs.

Lunch Break

14:00 – 15:30 hrs

Technical Session – V: Pumped storage development – Current trends and future challenges

Chairman: Mr. R.K. Vishnoi, CMD, THDC India Ltd

Co-Chairman: Mr. Jaideep Singh Bawa, Chief Engineer, CEA

Keynote presentation: Pumped storage development – current trends and future challenges-*Jaideep Singh Bawa and Arpita Upadhyay*

- Current trends and future challenges and policies to PSP Growth – *L.P. Joshi*
- PSP, Modern technologies and large scale RE integration – An overview- *S.R. Narasimhan*
- Pumped storage development emerging challenges & available options Case Studies-*Amitabh Tripathi and P. Sumana*
- Need of Paradigm Shift for Pump Storage Development-*Prof. Arun Kumar*
- Pump storage plants in Himalayan and non-Himalayan regions of India – Prospects and Challenges-*Vivek Dwivedi and Anuj Kumar Jha*
- Two ways to benefit from the use of mathematical optimization for revising reservoir operating rules – A Case Study of the Bargi and Tawa Reservoirs in Narmada River Basin - *Nesa Ilich and Ashoke Basistha*
- Sponsor's Presentation*

16:00 – 17:30 hrs

Technical Session – VI: Dam Safety Management

Chairman: Mr. J. Chandrasekhar Iyer, Member – D&R, CWC

Co-Chairman: Mr. Przemyslaw A Zielinski, Chairman, ICOLD Committee on Dam Safety

Keynote presentation: Overview of Dam safety Act 2021 – *Mr. Gulshan Raj*

- Dam owner's perspective in Dam Safety Act - *Dr. B.R.K. Pillai*
- Organizing and managing dam safety - *Mr. Przemyslaw A Zielinski*
- Engineering challenges and safety aspects of tailing dams - *Dr. Andy Small*
- Emergency and safety around dams – *Tony Bennett*
- Impact of climate change and time-dependent hazards on dam safety - *Dr. Martin Wieland*
- Initial Plan, Challenges and Design Solution for Cofferdam of Punatsangchhu-I H.E. Project Bhutan- *Vivek Tripathi, Amit Gautam, Ashutosh Anand & Ashok Jangid*
- Imaging of deep karst using the multi-electrode resistivity implant technique (merit) Case Study of a Dam in Florida - *David Harro PG and Dr. Sanjay Rana*
- Sponsor's Presentation*

Communication Papers

- Estimation of design flood and glacial lake outburst flood (GLOF) for planning and design of hydroelectric projects in the Himalayas - *Isly Issac*
- Implementation of sustainable dam safety management – A Case Study of twenty projects in Himalayan region - *Raghvendra Kumar Gupta, Thota Venugopal*
- Preparing evacuation plan for development of emergency action plan – A case study of Konar Dam - *Abhishek Shukla*
- Advanced geophysical techniques for dam and canal network safety assessment - *Ashutosh Kaushik*
- Dam safety management in india - *Nitin Kumar and Vivek Kumar Soni*

17:30 – 18:30 hrs

Valedictory Session

Welcome Address: Mr. D.K. Sharma, Vice President, ICOLD and President, INCOLD

Overview of the Conference: Mr. R.K. Vishnoi, Vice President, INCOLD and CMD, THDC India Ltd.

Address Mr. A.K. Singh, Vice President, INCOLD and CMD, NHPC Ltd.

Address: Mr. Michel de Vivo, Secretary General, ICOLD

Valedictory Address Dr. R.K. Gupta, Chairman, Central Water Commission

Vote of Thanks: Mr. A.K. Dinkar, Secretary General, INCOLD and Secretary, CBIP

9th April 2022 (Saturday)

08:00 – 17:00 hrs.

Field Visit to Tehri Dam Project

International Conference on Hydropower and Dams Development for Water and Energy Security – Under Changing Climate

7-9 April, 2022 at Rishikesh



Organised by



THDC India Ltd.



Indian National Committee
on Large Dams



Central Board of
Irrigation & Power

Knowledge Partner



CWC



CEA



ICOLD



ICID

Sponsors

Platinum Sponsors



A Maharatna Company

Gold Sponsors



Silver Sponsors



7th April 2022 (Thursday)

09:00 – 10:00 hrs. Registration
 10:00 – 11:00 hrs Inaugural Session
 11:00 – 11:30 hrs Tea/Coffee Break

11:30 – 13:00 hrs Plenary Session

Chairman: Mr. A.B. Pandya, Secretary General, ICID
Co-Chairman: Mr. Michel de Vivo, Secretary General, ICOLD
Keynote Presentation: Climate change adaptation and IWRM – *A.B. Pandya, Secretary General, ICID*

1. Sustainable development through dam and hydropower - *Mr. Michel F. Roger, President, ICOLD*
2. Role of dams in mitigating the impacts of climate change – Indian Case Study– *D.K. Sharma, President, INCOLD & Vice President, ICOLD*
3. Role of dams for meeting the water and energy security issues – *Dr. R.K. Gupta, Chairman, CWC*
4. Reservoir storage critical infrastructure for water supply and food security - *Dr. George W. Annandale, President, George W. Annandale, Inc., Peoria, Arizona*

13:00 – 14:00 hrs. Lunch Break**14:00 – 15:30 hrs Technical Session I – Sustainable development of dam and hydropower**

Chairman: Dr. R.K. Gupta, Chairman, CWC
Co-Chairman: Mr. Sanjay Srivastava, Chairman, BBMB
Keynote Presentation: Need for storage dams for water security – *J Chandrashekhra Iyer*

1. Dams, do we need them? Their Pros, Cons, Safety, and Impact-An Introduction to the Main Issues-*Prof. Dr. Ragab Ragab, President, ICID*
2. Sustainable Sediment Management in Reservoirs– *Dr. Marty J. Teal*
3. Climate Risk Adaptation and Mitigation in India: Role of Reservoirs and Hydropower - *Nitin Bassi (CEEW)*
4. Water-Energy-Food Nexus: The Importance of Water– *Felix Reinders, Hon. ICID President*
5. Response of hydroelectric projects under the influence of climate Change- *Maharjan S., Pandit, H. P. and Acharya M*
6. Evaluation of sediment management techniques of Dokan dam accomplished with climate change scenarios using RESCON 2.2 beta model - *Mazin Jameel*
7. *Sponsor's Presentation*

Communication Papers

1. Model study for determination of efficiency of a typical Silt Ejector - *M. Bardhan*
2. Need of an hour - policy for renovation, modernisation, uprating and life extension (RMU&LE) of hydroelectric projects in the state through private sector participation on lease, renovate, operate and transfer basis (LROT) - *S. R Tirmanwar*
3. River linking for hydro-power with particular reference to Brahmaputra-Ganga Link - *S.K. Mazumder*
4. Climate change and water management of Sindh Catchment- *Shakeel Ahmad Rather*
5. Sedimentation management – A Case Study of Chamera Stage-II & Chamera Stage-III Hydropower Stations - *Manjusha Mishra, and Praveen Kumar Jain*
6. Sediment management for reservoir based hydropower projects - *Vinay Kumar and A. K. SINGH*
7. Effect on sediment trapping & flushing efficiency due to size variation of orifices in flushing duct slab (Hydraulic Model Study of Rammam-III HEP)- *Naveen Kumar Jain and Satish Upadhyay*

15:30 – 16:00 hrs Tea/Coffee Break**16:00 – 17:30 hrs Technical Session – II: Dams and Hydropower Development for Water and Energy Security – Govt. Policies**

Chairman: Mr. A.K. Singh, CMD, NHPC
Co-Chairman: Mr. Nand Lal Sharma, CMD, SJVN Limited
Keynote Presentation: Hydro policy for boosting hydropower development – *Jaideep Singh Bawa, Amit Roy Singal and Vikram Awasthi*

1. Policy level changes initiated by Government of India for development of Hydro Power Sector in India - *Sharvan Kumar*
2. The role of hydro in the coal storage region - Post-COVID recovery –*Dr. Eddie Rich*

3. Identify and harness hydropower potential in North East Region - *Jaideep Singh Bawa, Amit Roy Singal, & Vikram Awasthi*
4. Alternative dispute resolution (ADR) mechanisms for hydropower projects - *Surinder Pal Bansal, S. Marasamy, and Raghubir Singh*
5. Reservoir triggered seismicity scenario with special emphasis to the Himalayas - *S.L. Kapil and Pallavi Khanna*
6. *Sponsor's Presentation*

Communication Papers

1. Financial and pricing strategies for next leap of growth of hydropower in India - *V.V.P. Narasimham*

19:30 – 22:00 hrs Cultural Program

8th April 2022 (Friday)

09:30 – 11:00 hrs

Technical Session – III: Environmental and Socio Economic aspects

Chairman: Mr. Shri Vilas Rajput, Secretary (CAD) WRD Govt. of Maharashtra

Co-Chairman: Mr. S.P. Bansal, Director-Civil, SJVN Ltd.

Keynote Presentation: Glacier retreat and new opportunities for multipurpose dams and reservoirs – *Prof. Dr. Anton J. Schleiss, Hon. President ICOLD*

1. Dams – saviour of ecology and mankind – A case study of Sardar Sarovar Dam – *Vivek Kapadia*
2. Ecological and Cumulative Environmental Considerations in Hydro Sector during current energy transitions scenarios – *Pyush Dogra*
3. Role of Tehri dam in absorbing the flood during the Uttarakhand disaster in 2013 – *A.K. Singh*
4. Monetization of Hydropower Dam Projects - *Shashank Dwivedi and Prof. Arun Kumar*
5. Environmental and socio economic aspects – A case study of Tehri Dam – *R.K. Vishnoi and Pramod Kumar Maithani*
6. Environmental and socio economic aspects – A case study of Itaipu Dam Brazil- *José Bernardino Botelho*
7. Bhakra Nangal Project – Harbinger of prosperity in Northern India -*Sanjay Srivastava and Charanpreet Singh*
8. *Sponsor's Presentation*

Communication Papers

1. Dam, Environment and Development” on Subansiri Lower HE Project - *Vipin Gupta, and Ramesh Ojha*
2. Optimization of fillet size in a rectangular duct and a rectangular open channel- *N.K. Jain, and Vasu Sachdeva*
3. Non-structural measures for flood mitigation and sustainable development of a country - *M. Bardhan*

11:00 – 11:30 hrs.

11:30 – 13:00 hrs

Tea/Coffee Break**Technical Session – IV: Dealing with natural hazards and risks**

Chairman: Prof. Ajit K. Chaturvedi, Director, IIT Roorkee

Co-Chairman: Shri Vivek Kapadia, Director-Civil, SSNNL

Keynote presentation: Adapting management to address challenge of a pandemic due to water- *Dr. Olcay Unver, Arizona State University*

1. Extreme precipitation events and hydrological impacts over the Himalayan region in a changing climate - *Dr. R. Krishnan*
 2. A Comparative Modeling Study of Glacial Lake and Associated Glacial Lake Outburst Floods at Dugar Hydro-Electric Project in Chenab River Basin- *Ankit Kumar, Samir Kumar Shukla and Yogesh Kumar Gupta*
 3. Environmental flow assessment for River Valley projects- *Nitya Nand Rai*
 4. Recent advances in flash flood forecasting of South Asia- *A. Brahm Parkash Yadav, B. Rahul Saxena, C. Asok Raja S K, Hemlata*
 5. Decision support system: early flood warning system, mapping & risk assessment - *Dr. Viraj Loliyana*
 6. *Sponsor's Presentation*
- Communication Papers**
7. UAV-based multi-layered data collection methods and defect detection algorithms for Predictive Analytics-*Harsh Rathod and Dr. Sanjay Rana*
 8. Impact of soft water attack on dam concrete of hydro power structures in the Himalayan region – Case Studies -*Dr. Sameer Vyas*