

# HYDRO POWER 2012



**11-12 June 2012**

Sher-e-Kashmir International Convention Centre,  
Srinagar, Kashmir, India

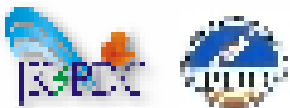
**7th National Hydro Power Convention :**  
**Harnessing Hydro Power in Northern Himalaya**  
**- Challenges & Opportunities**

special focus on : “Jammu & Kashmir State”

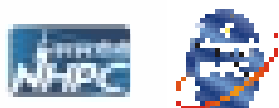


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## THE PROGRAMME

### Day - I : Monday, 11th June 2012

12.00 noon - 1.00pm : Registration & Tea/Coffee

1.00pm - 2.00 pm : Networking Lunch

#### 2.00pm - 4.30pm : Plenary Session & Panel Discussion

Chairman-cum-Moderator

**Shri Dhruv Vijai Singh**, Secretary-Water Resources, Govt. of India

Co-Chairman

**Shri Sudhanshu Pandey**, Principal Secretary-Power, Govt. of J&K

- Need for a unified policy between MoP and MoEF for expediting Environment & Forest clearances
- Review the terms for DPR submission to CEA for obtaining approvals
- The difficulties in awarding & management of Hydro Power Projects.
- Understanding the concerns of Pvt. Sector-risk & responsibility sharing by state govt.
- Need for a separate Tariff policy for purchase of Power from Hydro Power Projects and through tariff based competitive bidding process.
- Need for an IPP Charter for Policies and Regulations for accelerated development of Hydro Power.
- CSR Issues and solutions including responsibilities of the Local bodies (administration) over the implementation of the project.

(Panelists from the Government and the Industry)

4.30 pm - 5.00 pm : Tea/Coffee

#### 5.00 pm - 6.45 pm : Inaugural Session

The Chief Guest and other VIPs are welcomed with flowers and invited for Lighting of the Ceremonial lamp

Welcome Address

**Shri A.B.L. Srivastava**, Chairman & Managing Director, NHPC Ltd.

About the Event

**Shri Indra Mohan**, President, India-Tech Foundation

Keynote Address - I

**Shri Sudhanshu Pandey**, Principal Secretary-Power, Govt. of J&K

Keynote Address - II

**Shri Dhruv Vijai Singh**, Secretary-Water Resources, Govt. of India

Guest of Honour

**Hon'ble Shri Shabir Ahmed Khan**, Minister of Power, Govt. of J&K

Inaugural Address

**Hon'ble Shri Omar Abdullah**, Chief Minister, Jammu & Kashmir

**Presentation of the Mementos by the Chief Minister**

Vote of Thanks

**Shri Ashish Gupta**, Secretary General, India-Tech Foundation

(Followed by Cultural Program Sponsored by Dept. of Tourism,  
Govt. of Jammu & Kashmir and

Reception & Dinner - Hosted by the Chief Minister)

### Day - II : Tuesday, 12th June 2012

9.30 am - 10.00 am : Registration & Tea / Coffee

**10.00 am - 1.00 am : Keynote Session - I : Reform Initiatives for Speedier Hydro Power Development by the Governments of :-**

• Jammu & Kashmir • Himachal Pradesh • Uttarakhand

Chairman

**Hon'ble Shri Shabir Ahmed Khan**, Minister of Power, Govt. of J&K

Co-Chairman

**Shri M. Y. Khan**, Chairman, Chenab Valley Corporation, Govt. of J&K

- Implications for Hydro Power Projects in J&K in the light of Indus Water Treaty and Baglihar Dam Case Study  
**Shri Zahoor Ahmad Chat**, ED, J&K State Power Devpnt Corpn. Ltd
- Hydro Power Potential & its development in J&K  
**Shri Iftikhar Ahmed Kakroo**, Dy. GM, JKSPDC
- Reform Initiatives by Himachal Pradesh...  
**Shri R. D. Nazem**, Director - Hydro, Govt. of Himachal Pradesh
- Reform Initiatives by Uttarakhand...  
**Shri Sandeep Singhal**, Director (Project) I/C, UJVN Ltd.

1.00 pm - 2.00 pm : Networking Lunch

#### 2.00 pm - 5.00pm : Keynote Session - II : Recent advances in planning, design and Construction of Hydro Power Projects

Chairman

**Shri Sudhanshu Pandey**, Principal Secretary-Power, Govt. of J&K

Co-Chairman

**Shri Basharat Ahmad Dhar**, MD, J&K Power Devpt Corpn. Ltd.

- Hydro Power Potential & its Development in Northern Himalaya  
**Shri J. S. Bawa**, Director - Hydro, Central Electricity Authority
- PFC : Financing Strategies for Hydro Power  
**Shri C. Gangopadhyay**, ED, Power Finance Corpn. Ltd.
- Site Selection & Land Acquisition - including space for Muck Disposal  
**Shri Amit Gupta**, Dy. Chief Engineer, WAPCOS Ltd.
- Impact of Climate Change on Hydropower projects in the Himalaya  
**Shri Devendra K. Sharma**, Head, Project Development - Hydropower, L&T Power Development Ltd.
- Geological Challenges in Hydro Power Projects & Its Mitigation  
**Shri Manoj Basu**, General Manager - Geotech, NHPC Ltd.
- International Best Practices & Latest Technologies for Hydro Power  
**Dr. H. R. Sharma**, Chief Technical Principal, Tractebel Engg India
- Construction Aspects of Ratle Hydro Electric Project (850 MW) - J&K  
**Shri M M Madan**, Director (Hydro), GVK Technical & Consultancy Services Pvt. Ltd.
- Challenges of Evacuation of Power from Hydro Power Projects  
**Shri Pankaj Kumar**, ED-SEF & Planning, Power Grid Corpn. Ltd.



**Pankaj Kumar**  
Executive Director, Planning,  
Power Grid Corpn. Ltd  
There is a huge potential for  
future hydro generation  
projects. For Difficult Terrain  
– Hilly, Forest, River  
Crossing, development of high

capacity transmission corridor through Chicken Neck Area is one of the solutions. High cost of transmission system is involved due to High Capacity Transmission line through difficult corridor therefore; there should be phased development of the generation projects and Low PLF of hydro projects.

**C. Gangopadhyay**



Executive Director,  
Power Finance Corpn. Ltd.

The objectives of PFC is to provide finance to the power sector by mobilizing various types of resources from domestic and international markets at competitive rates, and thereby, encourage flow of investments to the power and associated sectors as well as to work as a catalyst to bring about institutional improvements. While grading State Power Utilities are classified into four categories based on pre-determined parameters including operational & financial performance.



**Iftikhar Ahmed Kakroo,**  
Dy. General Manager,  
JKSPDC

J & K State Hydroelectric  
Projects Development has  
set a policy under which  
there are projects upto 10

MW reserved for State Subjects. Secondly, state is committed to procure at least 30% power from the project. Entry tax Exemption has been offered for construction material and equipment & lastly, water usage charges are exempted for first 10 Years.

**Dr. H. R. Sharma**



Chief Technical Principal,  
Tractebel Engg India

To ensure energy security and to meet the ever increasing demand, an Integrated Energy Resources Management (IERM) needs to be adopted which involves i) Optimum and efficient utilization of the existing energy sources ii) Harnessing Renewable Energy sources, both conventional as well as non-conventional, which are ever lasting and free from emission of Green House Gases iii) To minimize dependence on Energy generated by fossil fuels



Inaugural Session in progress : NHPC, CMD, A.B.L. Srivastav delivers the welcome address

considered as renewable source of energy only then we will be able to focus on this sector more effectively.

All Hydro projects should be treated at par with Infrastructure projects and taken up under Renewable Energy Ministry. There are many issues and problems that can be tackled at government and entrepreneur level. Projects being started are stumbling midway due to environmental issues. Unfortunately we lack having robust law and order for handling such issues at central and state level.

First speaker in this session was Executive Director, J &K State Power Development Corporation, Zahoor Ahmad Chat who made a presentation on 'Implications for Hydro Power Projects in J&K in the light of Indus Water Treaty and Baglihar Dam Case Study'.

He said, "Due to unrestricted use of water from Eastern Rivers by India, all the major hydroelectric / river valley projects and storage schemes are located on those Rivers, which has given tremendous rapid economic uplift and developmental benefits to the beneficiary States but has, consequently, deprived J&K State from harnessing the benefits from these Eastern Rivers.

While water is the main potential source for economic development of J &K State, the restriction imposed under Indus Water Treaty on use of Western Rivers has drastically affected J&K State in harnessing this Water Potential for Hydro Power Generation, Agriculture, Flood Control Measures and other uses."

The next presentation on 'Hydro Power Potential & its development in J&K' was presented by Iftikhar Ahmed Kakroo, Dy. General Manager, J&K State Power Development Corporation who informed about the J&K State Hydroelectric Projects Development Policy under which there are projects upto 10 MW reserved for State Subjects. Secondly, state is committed to

procure at least 30% power from the project. Entry tax Exemption has been offered for construction material and equipment & lastly, water usage charges are exempted for first 10 Years. Some of the Issues & Challenges are lack of speedier Clearance from CEA/CWC, Indus Water Clearance & Environmental Clearance from MoEF, Geological Challenges, Project Execution & Contract Management and need for skilled training.

R. D. Nazeem, Director - Hydro, Govt. of Himachal Pradesh made a presentation on 'Reform Initiatives by Himachal Pradesh...' wherein he stated that Himachal Pradesh Power Corporation Ltd. has been allotted with 20 projects with aggregate capacity of 3025 MW. Free Power aggregating to 775 MW is being traded by DoE during summer & monsoon months while the same is being made available to HPSEBL (Himachal Pradesh State Electricity Board Ltd.) during winter months. He further informed about granting of Renewable energy certificates for REC benefits, which are made available to Hydro Projects up to 25 MW."

"Reform Initiatives by Uttarakhand..." was presented by Sandeep Singhal, Director (Project) I/C, UJVN Ltd. who said, "The untapped potential of Uttarakhand state is more than 27,000 MW. After formation of the state, 2502 MW hydro-power potential has been harnessed. Renovation, Modernization & Upgradation (RMU) of 12 Old Hydro Power projects is in the process which shall yield additional 974 Million Units by the end of 2018. Some of the opportunities yet to be tapped in Uttarakhand are: Abundant hydro potential & less than 20% being harnessed, Affordable & cost effective energy productions and fostering energy security."

Session – II: "Recent advances in Planning, Design and Construction" was chaired by J&K's Principal Secretary- Power Sudhanshu Pandey, while J &K Power Devpt Corpn., MD , Basharat Ahmad Dhar was the co-chairman.



A view of the audience in rapt attention



**Hon'ble Omar Abdullah**

*Chief Minister  
Jammu & Kashmir*

God has been very generous with J&K in offering natural beauty and water resources the vital resources for turning around the finances of J & K.

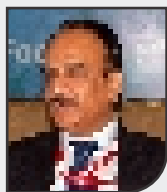
We can offer to the country renewable energy, which will turn cheaper with time. It is very important to find healthy mix of projects that could be implemented by central govt. agencies, state agencies, JVs and those in private sector. Government policies have to be framed with greater transparency, accountability and with a need for swift decision making.

**Dhruv Vijai Singh**

*Secretary-Water Resources,  
Govt. of India*



Hydro power will be contributing upto 40% of the total power generation in the next few years. We have to ensure whatever are the geological deficiencies, the design of the dam has to be modified or structured accordingly to compensate for the weakness. Data availability in respect of Hydrology and Environment is also a critical component. State governments need to provide greater hand holding to the Hydro Electric Projects and the role of state government is paramount, unique and essential



**Basharat Ahmad Dhar**

*MD, JKPDC Ltd.*

Despite the fact that hydro power generation is a clean source of energy with assured and sustainable returns, the share of hydro power in the country is on a decline.

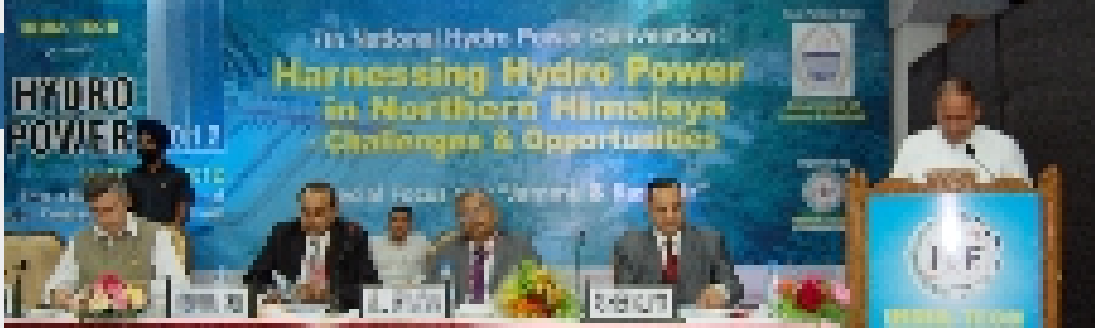
Delays in environmental clearances by MOEF are a major obstacle. There should be single Window System in order to get timely clearances from MOEF.

**Sandeep Singhal**

*Director (Project) I/C,  
UJVNL*



The myth in the minds of people about Hydro Electric Projects being hazardous for major rivers and streams should be tackled properly & cautiously. For this, we are in the process of updating our website for removing such myths about hydro power projects and projecting logical solutions. Developers also need to apply their innovative ideas and thoughts to tackle such myths amongst the people.



*Inaugural Session in progress : Guest of Honour J&K Power Minister, Shabir Ahmed Khan presents his address*

Development Corporation Ltd. said, "Despite the fact that hydro power generation is a clean source of energy with assured and sustainable returns, the share of hydro power in the country is on a decline. Delays in environmental clearances by MOEF are a major obstacle.

He suggested that the state governments should have options to download the Terms of Reference, get a detailed study and then submit the report to ministry for clearances. There should be Single Window System in order to get timely clearances from MOEF."

UJVNL's Director (Project) I/C, Sandeep Singhal pointed out the misconceptions in the minds of people about Hydro Electric Projects being hazardous for major rivers and streams. He opined that this myth should be tackled properly & cautiously.

For this, we are in the process of updating our website for removing such myths about hydro power projects and projecting logical solutions. Developers also need to apply their innovative ideas and thoughts to tackle such myths amongst the people.

**Inaugural Session**

At the inaugural session of this convention J & K Chief Minister, Hon'ble Omar Abdullah and other dignitaries on the dias were presented with flowers and invited to light up the traditional lamp as a mark of the inaugural ceremony.

NHPC's CMD A.B.L. Srivastava presented the welcome address wherein he said, "The installed capacity acts an important catalyst for country's economical growth. NHPC's contribution to J&K power generation is significant and counts roughly upto 70%." He further stated that the untapped hydro potential in Northern Himalaya is more than 30,000 MW i.e over 10, 000 MW in J&K, 13, 000 MW in Uttarakhand & nearly 8,000 MW

in Himachal Pradesh. This provides a vast opportunity to tap the perennial source of electricity.

Hydro Power development schemes provide benefits to the various stakeholders, local inhabitants and the state governments by improving, substantially, the infrastructure such as, roads and urban amenities, such as, schools, colleges, hospitals etc.

While introducing about the event India-Tech, President Indra Mohan also added his word of welcome for the J & K CM Hon'ble Omar Abdullah, J&K's Minister of Power Hon'ble Shabir Ahmed Khan, India's Secretary-Water Resources Dhruv Vijai Singh and also the members of the press media and other dignitaries and the delegates on behalf of ITF.

He further stated that the threat of global warming seems to be turning into reality. The objective of holding hydro power conventions is to focus on the various opportunities and challenges that accrue while harnessing hydro power in Himalayan regions. Secondly to highlight reform initiatives of the states where the Hydro power conventions are held and last but not the least to showcase some of the latest techniques, expertise and management practices for accelerating a sustainable harnessing of HP."

J&K's Principal Secretary - Power Sudhanshu Pandey in his keynote address pointed out that during the last two plan periods addition of installed capacity of Hydro sector has been diminishing in terms of percentage share of the total power capacity addition. He further stated that the objective of this convention is to look at the problem of hydro power generation in a wholistic manner, since J& K is targeting almost 3,200 MW during the 12th plan period. Huge investment would also be required for setting up transmission lines to evacuate power generated and distributed. "For this we need to plan and attract



*ITF President, Indra Mohan presents a Memento to J&K CM, Omar Abdullah*



*J&K CM, Omar Abdullah presents a Memento to J&K Power Minister, Shabir Ahmad Khan*





**Inaugural Session in progress : J&K Principal Power Secretary, Sudhanshu Pandey delivers Keynote Address-**

investment, create pooling stations for power evacuation, and feed accordingly into the grids for further distribution.”

The next keynote speech was by Dhruv Vijai Singh who informed that the states were opening up for private sector and therefore, such a convention is really appropriate for discussing the future of Hydro Power generation. State governments need to provide greater hand holding to the Hydro Electric Projects, particularly, of independent power producers because in hydro power projects a number of additional activities are involved, such as, going to panchayats for certain approvals, forest clearances, DPR clearances etc. In these, the role of state government is paramount, unique and essential.”

The Guest of Honour J&K’s Minister of Power, Hon’ble Shabir Ahmed Khan said, “It is indeed a great privilege to invite you all to this Hydro Power Convention. Recognizing that power is the major utility of our day-to-day life, we would like to assure of the commitment of J&K to play its role in not only meeting its own energy requirements but also make substantial contribution to the national grid by harnessing its hydro and other renewable sources of energy.

It is imperative that availability of affordable and continuous supply of power is maintained to keep pace with the constantly increasing demand. Development of Hydro Electric Projects requires substantial investments, which not only needs state funding but also alternate investment solutions like Projects investment by central PSU’s, private sector investments and public-private partnerships.” While addressing the inaugural speech Hon’ble Omar Abdullah, Chief Minister, Jammu & Kashmir said, “J&K has a long history of hydro electricity (HE) generation. In spite of being one of the first states with hydro electricity generation, so far we have harnessed only 12% of Hydro Power potential

and in this the contribution of state power utilities like NHPC is about 68%. This presents a rather dismal picture.

God has been very generous with J&K in offering natural beauty and water resources. It is our duty now to harness these resources in the best possible manner. These are vital resources for turning around the finances of J&K. We can offer to the country renewable energy, which will turn cheaper with time.

It is very important to find healthy mix of projects that could be implemented by central govt. agencies, state agencies, JVs and those in private sector. We need to ensure the stakeholders are made part of the entire process. Government policies have to be framed with greater transparency, accountability and with a need for swift decision making.”

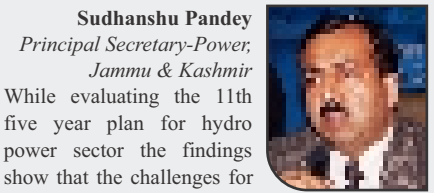
India-Tech Secretary General, Ashish Gupta proposed a Vote of Thanks, wherein, he thanked the Honorable Chief Minister, Omar Abdullah for hosting the convention and taking his valuable time from his busy schedule for inaugurating it. He also thanked J&K’s Minister for Power Hon’ble Shabir Ahmed Khan, who had a vision – while attending the 6th Hydro Power Convention at Shimla - to invite India Tech to organize the 7th Hydro Power Convention in Jammu & Kashmir.”

Day2 of this Interactive convention began with Session-I: ‘Reform Initiatives by the Host State: Jammu & Kashmir, Himachal Pradesh and Uttarakhand for Speedier Hydro Power Development’

The session was chaired by Hon’ble Shabir Ahmed Khan, Minister of Power, Govt. of J&K and co-chaired by J&K’s Chenab Valley Corporation, Chairman M. Y. Khan who said, “The future now stands with hydro and other renewable source of energy such as solar power projects. As was suggested by the J&K Chief Minister, Hydro power sector should be

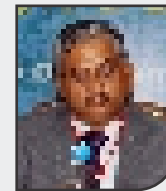


**Shabir Ahmed Khan**  
*Minister of Power, J&K*  
We would like to assure of the commitment of J & K to play its role in not only meeting its own energy requirements but also make substantial contribution to the national grid by harnessing its hydro and other renewable sources of energy. Development of Hydro Electric Projects requires substantial investments, which not only needs state funding but also alternate investment solutions like Projects investment by central PSU’s, private sector investments and public-private partnerships

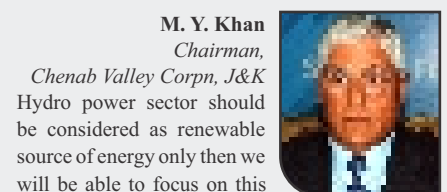


**Sudhanshu Pandey**  
*Principal Secretary-Power, Jammu & Kashmir*

While evaluating the 11th five year plan for hydro power sector the findings show that the challenges for the sector differ from time to time. Environmental issues and clearances are supposed to be the major bottle necks. There needs to be rapid and efficient clearance facilities generated by regulatory bodies. Hydro Power projects are complex; they should be facilitated with proper accountability and management skills.

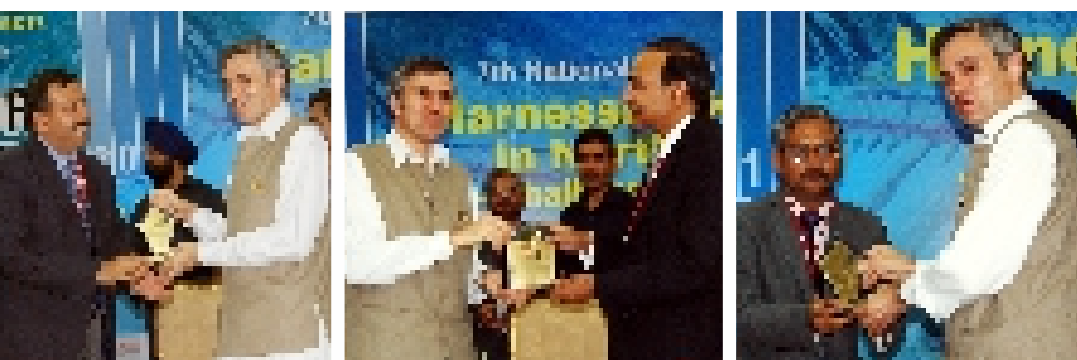


**A.B.L. Srivastava**  
*CMD, NHPC*  
The installed capacity acts an important catalyst for country’s economical growth. NHPC’s contribution to J & K power generation is significant and counts roughly upto 70%. Hydro Power development schemes provide benefits to the various stakeholders, local inhabitants and the state governments by improving, substantially, the infrastructure such as, roads and urban amenities, such as, schools, colleges, hospitals etc.



**M. Y. Khan**  
*Chairman, Chenab Valley Corpn, J&K*

Hydro power sector should be considered as renewable source of energy only then we will be able to focus on this sector more effectively. All Hydro projects should be treated at par with Infrastructure projects and taken up under Renewable Energy Ministry. There are many issues and problems that can be tackled at government and entrepreneur level. Projects being started are stumbling midway due to environmental issues.



**J&K CM, Omar Abdullah presents Memento to : (L to R) Sudhanshu Pandey, Dhruv Vijai Singh and A.B.L. Srivastava**



Inaugural Session in progress : J&K CM, Omar Abdullah declares open 7th National Hydro Power Convention

**INDIA-TECH**  
presents

# HYDRO POWER 2012

7th National Hydro Power Convention :  
**“Harnessing of Hydro power in Northern Himalaya”**  
**- Challenges & Opportunities**  
 special focus on : **“J&K State”**

**11 - 12 June 2012**  
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J&K-Chief Minister Omar Abdullah inaugurating the Convention by lighting the traditional lamp, J&K's Minister of Power Shabir Ahmed Khan & NHPC's CMD, A. B. L. Srivastava look-on.

A Report on the recently concluded 7th National Hydropower Convention

The 7th International Hydro Power Convention with a theme: 'Harnessing Hydro Power in Northern Himalaya - Challenges and Opportunities' commenced on 11th June 2012, in summer capital of the State of Jammu & Kashmir, Srinagar. The two day conference held on 11-12th June, 2012 marked the presence of various dignitaries, delegates and experts from Hydro power sector across the nation. The conference flagged off with a Plenary

Session & Panel Discussion which was chaired by Govt. of India's Secretary-Water Resources Dhruv Vijai Singh and co-chaired by Govt. of J&K's Principal Secretary-Power Sudhanshu Pandey.

In his opening remarks Dhruv Vijai Singh said, "Hydro power will be contributing upto 40% of the total power generation in the next few years. Some of the major challenges holding back successful execution of hydro electricity projects are: rather sluggish Environment & Forest clearances, Time consuming DPR approvals, Tariff Policies and lack of streamlined policies & regulations. We have to ensure whatever are the geological deficiencies, the design of the dam has to be modified or structured accordingly

to compensate for the weakness. Data availability in respect of Hydrology and Environment is also a critical component that needs to be taken into consideration."

J&K's Principal Secretary-Power, Sudhanshu Pandey mentioned that the entire plank of challenges & issues has been shifted from the other end of power generation to hydro power sector. While evaluating the 11th five year plan for hydro power sector the findings show that the challenges for the sector differ from time to time. Environmental issues and clearances are supposed to be the major bottle necks. There needs to be rapid and efficient clearance facilities generated by regulatory bodies.

Basharat Ahmad Dhar, MD, J&K Power



Plenary Session & Panel Discussion in progress : chaired by the Secretary-Water Resources, Govt. of India, Dhruv Vijai Singh (centre)



Keynote Session - I in progress : J&K Minister of Power Shabir Ahmed Khan chairs this session

The first presentation in this session was on 'Hydro Power Potential & its Development in Northern Himalaya' by CEA's Director-Hydro J. S. Bawa who said, "The reason for slow development of Hydro Power potential are: Land acquisition problems, Paucity of Funds, Geological surprises and Resettlement & Rehabilitation problems. Some Difficulties of Developers (IPPs) during the preparation of DPR are as follows: Obtaining authenticated Hydrological Data, Obtaining Topographical data, Lack of Infrastructural Facilities like Roads and Communication etc. due to remoteness and inaccessibility of the site, security restrictions in border areas etc."

The next presentation was on 'PFC Financing Strategies for Hydro Power' presented by Executive Director, Power Finance Corporation Ltd., C. Gangopadhyay who informed that PFC is dedicated to Power Sector Financing with a net worth of Rs.195 bn. as on 31st March, 2012. The objectives of PFC are to provide finance to the power sector by mobilizing various types of resources from domestic and international markets at competitive rates, and thereby, encourage flow of investments to the power and associated sectors as well as to work as a catalyst to bring about institutional improvements. "While grading State Power Utilities are classified into four categories based on pre-determined parameters including operational & financial performance," he added.

The session geared up with an interesting presentation on 'Construction Aspects of Ratle Hydro Electric Project (850 MW) in J&K' by M M Madan, Director (Hydro), GVK Technical & Consultancy Services Pvt. Ltd. He informed that Ratle Hydro Electric project located on River Chenab in J&K is planned to be developed as Run-of-the-River scheme. Construction planning for the dam has been planned to be completed in a tight schedule of 4 years from award of the EPC work. Ratle Dam Methodology is based on maximizing use of RCC to minimize time of Construction, simplify RCC process to maximize production and balance materials, design and construction requirements. With the positive support of State Govt, local administration & local population, the project is moving ahead as per the schedule.

Impact of Climate Change on Hydropower Generation in Himalayan Region' was presented by the Head Project Development of L&T Power Development Devendra K.

Sharma who said that the Hydrological discharges tend to increase with rainfall and decrease with temperature. An adverse effect of climate change on hydropower is general apprehension. Energy generation will increase in most of the projects in Himachal Pradesh & J&K where snow melt is significant and would decrease in most of the projects in Arunachal Pradesh. There is a need for focused and detailed study on the impact of climate change on hydropower projects of the Himalayan region."

NHPC's General Manager – Geotech Manoj Basu gave an interesting presentation on 'Geological Challenges in Hydro Power Projects & Its Mitigation'. He said, "Construction of hydroelectric projects in Himalayas has always been a challenging task due to uncertain, difficult, extremely variable and complex geological conditions emerging out of organic processes. The major challenges in geological surveys and investigation stages include remoteness, extreme conditions such as snow & dense forest, heterogeneous rocks, paucity of outcrops and so on. A comprehensive geological investigation is a pre-requisite for realistic prognosis. An excellent professional understanding between site geologist, construction engineers, designers & contractors is the recipe for finding quick solution."

Tractebel Engg India's, Chief Technical Principal Dr. H. R. Sharma shared 'International Best Practices & Latest Technologies for Hydro Power'. He said, "To ensure energy security and to meet the ever increasing demand, an Integrated Energy Resources Management (IERM) needs to be adopted which involves i) Optimum and efficient utilization of the existing energy sources ii) Harnessing Renewable Energy sources, both conventional as well as non-conventional, which are ever lasting and free from emission of Green House Gases iii) To minimize dependence on Energy generated by fossil fuels. Hydro power is the most advanced and flexible of all the renewable sources of energy. It can significantly improve the performance of thermal power plants and system load carrying capacity leading to optimum utilization of the power system."

Pankaj Kumar, ED-SEF & Planning, Power Grid Corpn. Ltd. presented on 'Challenges of Evacuation of Power from Hydro Power Projects' who said, "There is a huge potential for future hydro generation projects. We need to transfer power over to load centre over long

distance. For Difficult Terrain – Hilly, Forest, River Crossing, development of high capacity transmission corridor through Chicken Neck Area is one of the solutions. High cost of transmission system is involved due to High Capacity Transmission line through difficult corridor therefore; there should be phased development of the generation projects and Low PLF of hydro projects."

The last presentation of this convention was on 'Site Selection & Land Acquisition - including space for Muck Disposal for hydro power project' of Amit Gupta, Dy. Chief Engineer, WAPCOS ltd which was presented by P. Sumana, Dy Chief Engineer, WAPCOS on his behalf. She said, "The key parameters for selection of environmentally good hydro power project sites should be relatively small reservoir surface area, little loss of natural habitats and wildlife, rivers with little aquatic bio-diversity at risk, a deep reservoir which silts up very slowly, Many downriver tributaries and little or no flooding of forests. "Environment degradation due to muck dumping is considered to be one of the main reason for which a HEP is blamed". Excavation of muck has several environmental consequences on land, air, and water."

In his concluding remarks J&K's Principal Secretary-Power Sudhanshu Pandey said, "There are many issues ranging from project designing to financing. The recommendations should be pursued seriously. It was clearly mentioned that Central Water Commission fixed timelines are set for clearances. Share of hydro power has been declining over the period and on financing side some special steps have to be taken as was mentioned by Mr. Gangopadhyay. Hydro Power projects are complex; they should be facilitated with proper accountability and management skills. We need to take note of our building capacities and to manage them itself is a challenge."

In his vote of thanks, Indra Mohan, President, India-Tech thanked the audience, press media, delegates and respected dignitaries at the Dias. He said, "We are happy to come to Srinagar for organizing the 7th International Hydro Power Convention with a theme: 'Harnessing Hydro Power in Northern Himalaya - Challenges and Opportunities'. We take a note about two strong points of J&K i.e Development of tourism and a Lot of water resource available to generate hydro power that can be utilized across the nation."



Keynote Session - II in progress : J&K Principal Secretary Power Sudhanshu Pandey chairs this session

## 7th Hydro Power Conventions Some Recommendations

### The Plenary Session & the proceedings of 7th Hydro Power Conventions evolved following recommendations :-

- 1) State government should get all the clearances, DPR approvals and then co-ordinate with the developers to work on any projects. DPR should be prepared clearly.
  - 2) Hydro data should be made available and has to be streamlined. Once the project is allotted to particular developer they should be entitled to access the data. Survey Sheets should be made available to the developers.
  - 3) The return of equity parameters are set low for the developers. DPR clearances are time consuming whether for project ranging from ½ MW to 250 MW.
  - 4) State government should assist developers for clearances and developers & State govt. should proactively come forward to resolve the issues pertaining to the execution of projects.
  - 5) DPRs prepared by hydrology experts are taking months to get cleared. Solutions should be put across for time consuming clearance.
  - 6) Water usage charge should be quoted according to the per unit of generation
  - 7) central & State governments should take responsibility to come together and developers should be asked to share the cost of project depending upon the capacity.
  - 8) A Misconceptions :  
One of the major misconceptions about the Hydro Electric Projects (HEP) is that Hydro Electric Projects tend to dry up the river stretches downstream.
- Suggestions for Hydro Power Developers**  
A balance in pool downstream should be maintained, so that there is a continuous environmental flow and people are convinced that the river is filled with water and the projects are not hampering the natural resources.
- Suggestions for Central & State Governments**
- 9) States should have their own laws on water Usage.
  - 10) The investigation wings of the country need strengthening in order to have Maximum and updated data of all proposed power projects should be available for execution.
  - 11) For early clearances of power projects there is need for flexibility at higher Level.
  - 12) An effective rapport needs to be developed between the project authorities (Owner), developer, and the local population to avoid complications arising later on, as many projects have been shelved due to this reason.
  - 13) The development of remote areas in respect of Infrastructure needs should be taken up by the State Governments and to ensure a coherent policy for viability of the projects
  - 14) There should be a risk sharing in Tendering of power projects to avoid discrepancies with the contractors. It is also suggested that such a clause should be inherent in all the Tender Notices.
  - 15) Governments should immediately apply for getting CARBON CREDITS as the deadline for submission of applications would expire on 31.12.2012. One such case is BAGLIHAR HEP. The application of Carbon Credits is yet to be moved to the concerned Quarters. This was agreed to by MD JKSPDC, in principal.
  - 16) The projects need to be rigorously followed up with CWC and CEA for their early clearances.
  - 17) The projected capacities of the Plan projects should be made on realistic basis.
  - 18) The EIA Studies should be started well in advance before submission to the MOEF to avoid delays.
  - 19) A new approach towards Indus Water Treaty is required by centre as J&K state has suffered a lot in respect of harnessing its water potential since its inception. He also suggested of having a balanced approach in Development of power projects by the Governments and the Developers.
  - 20) There should be a risk sharing in tendering of power projects to avoid discrepancies with the contractors. He also suggested that such clause should be inherent in all the Tender Notices as inspite of FEDDIC Conditions, such Problem exists.



A view of the audience