Hydro Power 2009
4th International Hydropower Convention:
Hydropower for Progress of Nepal

-Compiled by Mr. Pradeep Gangol

The 4th International Hydropower Convention on "Hydro power for Progress of Nepal" was organized by the India tech Foundation of India, together with the Independent Power Producers' Association, Nepal (IPPAN) and the Federation of Nepal Chamber of Commerce and Industry (FNCCI). The two day convention was held in Kathmandu, from April 25-26th, 2009.

The convention was inaugurated by Hon'ble Mr. Bishnu Paudel, Minister for Water Resources, Government of Nepal. About 200 power companies, investors, experts, bankers from India, Nepal, Norway, Australia, Korea, Germany and China participated the two day summit.

The aim of this convention was to:

- Present Nepal's strategy and latest initiatives for harnessing hydropower resources – with a status update;
- Showcase Nepal as a lucrative investment destination for renewable power projects;
- Deliberate on Policies, Practices and Perceptions of Hydropower project Development;
- Perform a reality check on the hydropower development process, power market issues and governments' expectations in light of making these developments feasible, and sustainable, and make suitable recommendations; and
- Establish environmental and social management as an integral part of sustainable project development and for managing local expectations.

The papers presented in the summit were as follows:

Dr. Sandip Shah noted that time has come to take stock of the situation in the power sector of Nepal and do a reality check on policies, procedures, perceptions and practices. While hoping that the government officials and developers of both India and Nepal will benefit from the forum provided by the summit to resolve practicalities, and ensure stable legal and regulatory framework for project development. He further hoped that focused discussion between the government officials of both Nepal and India will help create enabling investment environment for power development in Nepal.

While adding that a hydropower developer has to deal with 32 types of Acts during projects development, he proposed that the legal provisions should be simplified to the extent possible and policy and legal stability is need for power projects, which have long gestation period, and are risky requiring high capital requirements.

He informed that hydropower projects, with a combined capacity of about 2800 MW capacity, are in active implementation stage in Nepal.

Mr. Gyanendra Lal Pradhan said that Bhutan is soon, going to have a combined installed capacity of 4000 MW. Its per capita income will then increase to 3000 $. Similarly, China is going to put 8,000 MW power annually in its system and the total power production from China will be 250,000 MW by 2020 AD.

He observed that PPA tariff rates were not suitable to enthuse power developers to invest in hydropower development, and informed that independent power producers have been demanding PPA tariff rate of NRs. 5.60 per unit.

He also noted that NEA should be serious in controlling

Hydro Power Potential, New Policy Initiatives	
New Initiatives in Nepal's Hydro Power Policies	Mr. Sudesh K Malla, DoED, GoN, Nepal
Cross Border Transmission and Marketing of Power-Policy & Initiatives	Mr. Uttar Kumar Shrestha, NEA
Hydro vision 2020 - 10,000 MW in 10 years	Er. Gyanendra Lal Pradhan, FNCCI, Nepal
Some Case Studies of Projects under Implementation	
Developing Power Projects in Nepal – Reality and Issues to be addressed	Dr. Sandip Shah, IPPAN, Nepal
Upper karnali Project	Mr. Harvinder Manocha, GMR, India
Basin Optimization : case Study of Kali Gandaki Basin	Mr. Kumar Pandey, NHA, Nepal
Social Responsibility & Environmental Management	
Managing Social Responsibility Expectations and Environmental issues	Mr. H.K.Sharma, SJVN
Middle Marsyangdi Project : Social Responsibility & Environmental issues	Mr. Sunil Dhungel, NEA, Nepal
Tamakoshi Project : Managing Local Expectations	Mr. Suman Basnet, S N Power, Nepal

the power pilferage. He said that if Maharastra can reduce the power loss from 36 % to 27 % within a couple of years, why Nepal can not show similar results here in Nepal.

He informed that FNCCI is planning to produce 5 MW of power from each mountain districts, which will amount to 225 MW. He said the local people, VDCs, DDCs and general public will also be involved in the financing of the projects in 45 mountain districts. He also informed that Norwegian government will help in this project, by technical input. He also informed that 10 small hydro projects will be constructed in the first phase and second phase each, and the remaining ones will be constructed in the last phase of the program.

Inaugural Address :

Mr. Bishnu Paudel, minister for Water Resources, while inaugurating the convention, said that it is a matter of great satisfaction that the political parties of Nepal, despite differences in other issues, have unanimous agreement in the importance of hydropower in the economic development of Nepal. GoN has placed hydropower development as its no one priority. And it is in this line that Nepal government set the national agenda of generating 10,000 MW in ten years. The present government has the policy of attracting private sector investment, promoting private public sector partnership, and enhancing public sector financing in hydropower development. The government has the policy of welcoming foreign direct investment in mega projects, since private sector involvement of Nepalese investors would not be sufficient to finance such projects.

The proposed Nepal Electricity Regulatory Commission, to be established as, autonomous, sub-judicial institution, would help ensure level playing fields both for public and private sector to participate in hydropower development of Nepal through competitive bidding. It would also protect the consumers' interests.The government will give continuity to the policy of awarding financially feasible hydropower projects to the private sector through competitive bidding. The trans-border high capacity transmission lines will help to import power in time of need, and also help implement export oriented hydropower projects.

Nepal Government has allocated 50 billion Rupees for the construction of interconnecting transmission lines along certain corridors and also along the river basins. The government will encourage power developers to build interconnecting transmission lines under Build and transfer (BT) policy.Finally, the government is determined to extend every possible help and support for the successful implementation of hydropower projects like Upper Karnali, Arun III and West Seti.

Shanker Koirala
Secretary, Ministry of Water Resources, Nepal

Mr. Koirala informed that the Government of Nepal has already taken initiative for a study on "Integrated Water Resources Development Plan" with support from the World Bank.

The proposed Electricity Bill and Nepal Electricity Regulatory Commission Bill, tabled in the parliament, would be instrumental in further development of the sector.He informed that there will be no VAT in power projects during construction, and the investors will enjoy tax holiday for ten years. Investors in transmission and distribution line will enjoy tax holiday for seven years.

While informing that the 750 MW West Seti storage hydropower project is being developed in public-private-partnership (PPP) mode, with the financial involvement of GoN, ADB, SMEC and Indian and Chinese company, he noted that the success of this project is crucial in the development of other projects in future in PPP mode. He also remarked that the success of Upper Karnali and Arun III hydropower projects would boost up the confidence of other potential investors to invest in Nepal's hydropower development. He also expressed government's support for the successful implementation of hydropower projects like Upper Tamakoshi (309 MW), Tamakoshi III(600 MW), Budhi Gandaki (600 MW), Andhi Khola etc.

He observed that proposed mega projects like Pancheswor, Karnali Chisapani, and Saptakoshi would help revolutionize Nepal's economy, change a situation of deficit balance of payment in Nepal's favour.

While appealing to the concerned authorities of Nepal and India to expedite the construction of trans-border transmission lines, he hoped that Nepal would be considered a lucrative investment destination for hydropower developers.

Kush Kumar Joshi
FNCCI President, Nepal

The total productivity loss to Nepal due to crippling load shedding is estimated to be 70 billion rupees, with industries, being the worst affected. We have no option, but to import power from India to meet our industrial power demands. Therefore, the internal transmission lines inside Nepal needs to be strengthened and the high capacity trans-border transmission lines need to be built at the earliest time possible.

Nepal and India are both members of the South Asian Free Trade Area Agreement (SAFTA) and the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC). We need to build on the competitive and comparative strengths of each country and ensure that people of this region prosper through our joint endeavour.

FNCCI is planning to implement micro hydro projects, 5 MW capacity in the districts, identified by DoED, with the involvement of local people, VDCs, and DDCs. It is hoped that it will help empower the district and local bodies to develop economically by the use of local resources.

Mr. A.K. Bajaj, Chairman
Central Water Commission (CWC), India

Nepal, with a geographical area of 14.7 million hectares and with dense network of river systems contributes around 200 billion cubic metres as surface run-off annually to the Ganga river basin system. India looks forward for working

jointly with Nepal for harnessing the hydropower potential in Nepal and is ready to import surplus hydropower from Nepal to meet its power demand.

The "Hydropower Development Policy – 2001" emphasizes private sector participation in the development of hydropower taking into account internal consumption and export possibility. It also has the provision of promoting bilateral regional co-operation in the hydropower sector, taking into considerations Nepal's hydropower potential and the demands of electrical energy in neighboring countries, with due considerations for sharing non-power incidental benefits, such as irrigation, flood control etc.

It is important to add here that hydropower development is a multi disciplinary field requiring expertise from various fields such as hydrology, geology, environmental impact assessment, structural engineering, electro-mechanics, electronics, financing besides maintenance of a large infrastructures considering remoteness of project sites. Apart from power generation, it also requires a large transmission network for evacuating and trading the power, after identifying customers on long term basis.

All these factors make the process of financial closure of any hydropower project a time consuming activity, and thus not very encouraging for participation by the private developers in large projects. Further, many financial institutions are not too confident about investing in hydropower due to very long gestation period and return period of capital investment.

Due to unprecedented power crisis in Nepal, Nepal should move forward to accelerate hydropower development by undertaking:

- Smaller projects that can be set up quickly by IPPs for internal consumption,
- Purely commercial projects for export of energy by IPPs, and
- Multi purpose projects to be developed through bilateral co-operation.

It is imperative that general public and political leadership should be made aware through mass awareness programmes that the early completion of hydropower projects are in the national interests of Nepal, which can change the economic and social landscape within ten to fifteen years.

It is important to mention that without having storages, it would be difficult to meet the firm power demands in lean seasons. The storages will also address the adverse effects of climate change on water resources. Government of India is committed for full co-operation in major multi purpose projects, viz. Pancheswor, Saptakoshi and Karnali Projects etc, which could provide benefits of hydro-power, irrigation, flood control, navigation, etc for mutual benefits of people of India and Nepal.

The Pancheswor project entails construction of a 315 m high dam at a point, where the river forms a border between Nepal and India and a re-regulating dam downstream. The India-Nepal Joint Commiittee on Water Resources (JCWR) has decided to set up the Pancheswor Development Authority (PDA) for the development, execution and operation of Pancheswor Multi purpose project and draft terms of reference of PDA are being finalized soon.

Field Investigations of Saptakoshi High dam multipurpose project and Sunkoshi storage cum Diversion Scheme in Nepal territory are being carried out and is expected to be completed by June 2010. The construction of such a large multi purpose projects is not possible in IPP mode, and calls for bilateral co-operation.

Mr. A.V. Giri
CEO, Moser Baer Company

There is a huge gap between demand and supply of electricity in India. This is such a challenge, which can be postponed for the future. Nepal , also needs to expedite the implementation of hydropower projects for its domestic needs. It can export surplus energy to India by developing hydropower projects

The total installed capacity of hydropower plants all over the world is just 20 % of the global potential. And most of the yet-to -be developed potential are in Asia. And surprisingly, the hydropower potential is concentrated in the Himalayan regions.

There is not yet political stability in Nepal. Investors of hydropower developers are worried due to peace and security problems, arising out of political problems. Nepal has hydropower policies, common to all : micro, small and medium hydropower projects. However, mega hydropower projects have its own problems, and it should be reflected in a separate and special hydropower policy. The land acquisition process should be made simple.

The generation license period , both for domestic supply and export should be thirty years, effective from the date of commercial operation. Keeping in view the power crisis of Nepal, Nepal government should reserve the rights to purchase 10 % of the power at prevailing tariff rates from a plant, which has been built solely for export of power.

The tax holiday for both (domestic supply and export) projects should be, like in India for 10 years. If a power developer gets at least three generation licenses in a single river basin, it will help make the project cheap.The VAT on construction materials like cement, steel etc should be completely waived, to make the Nepal's energy competitive in Indian power market.The responsibility of inter ministry coordination and implementation of more than 30 laws related to hydropower should be given to Department of Electricity Development (DoED).

The Environmental Impact Assessment (EIA) process is lengthy and complicated. It takes 12 to 18 months to go through the EIA process. It should be made shorter, and simple.

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