

## Executive Summary: Hydro Power Development through Private Sector Participation

### Background

Power is a critical infrastructural requirement for the socio-economic development of the State and the country as a whole. The basic challenge for the power sector is to provide adequate power at economical cost, while ensuring reliability and quality of supply. Himachal Pradesh is extremely rich in hydropower resources. The State has about 25 % of the national potential in this respect. It has been estimated that about 23,000 MW of hydel power can be generated in the State by construction of various hydel projects on the five perennial river basins.

Recognising the importance of Hydro Power Sector as a key to the prosperity of the State, the State Government formulated its Hydro Power Policy in December, 2006 in order to promote efficient, ecological and environment friendly hydro power generation. The policy stipulated 4 pronged strategy through participation of State Sector, Central Sector, Joint Sector and Private sector in the development of hydro power in the State. As per National Electricity Policy of 2005 (NEP), Government of India (GOI) had laid maximum emphasis for full development of the feasible hydro power potential in the country and launched 50,000 Mega Watt (MW) hydro initiatives to be pursued vigorously. The State Government identified power potential of 23,000 MW through the hydro power sector. Against this, hydro power generation projects having capacity of 10131 MW were sanctioned for execution through Private Sector during 1991-92 to 2011-12.

### Reasons for selection of the topic

One of the strategy of the NEP was development of hydro power in the State through participation of Private Sector. The purpose of choosing this for audit was to check the implementation of hydro power projects through Private Sector participation covering the aspects of allotment, implementation, environmental issues and monitoring of the projects.

### Audit Objectives and Criteria

The audit objectives were to ascertain whether:

- planning, identification of project sites; estimation of potential capacity; selection of Individual Power Producers (IPPs) and allotment procedures was efficient and effective;
- the implementation of IPP projects was efficient and effective;
- Effective monitoring mechanism at all levels

**Audit criteria** were drawn from procedures and impact parameters prescribed in the guidelines issued by the Union Ministry of Power, Union Ministry of Environment and Forests, Central Electricity Authority and the Central Water Commission from time to time relating to development of hydro power projects. Further, the criteria were determined in accordance with the system of allotment of projects as outlined in State's Hydro Power Policy of 2006 and monitoring mechanism prevailing for IPP projects.

## Major Audit findings

- Out of total 559 projects of 10131 Mega Watt (MW) capacity allotted during November 1991 to 2011-12, only 10 % projects with 1805.45 MW were completed and made operational during 1992 to 2011-12.
- Execution of 40 projects having total capacity of 315.35 MW could not progress well and suffered due to the reasons such as non-conduct of feasibility studies, non-approval of Detailed Project Reports by the department and Implementation Agreements (IA) by IPPs not signed within the prescribed time frame.
- IAs' of 27 small projects with aggregated capacity of 95.80 MW were signed between May 2000 and October 2008 but these remained incomplete.
- IPPs of 12 projects had deposited the necessary funds for compensatory afforestation but negligible afforestation was done.
- Plantation activity was highly deficient as in 58 % projects no plantation had been done, posing severe hazards both for natural ecology and stabilization of hill slopes.
- As against the target of generation of 10131 MW power through 559 projects allotted to IPPs, the achievement 1805.45 MW only.
- In one out of 16 operational projects sampled, it was observed that river beds had completely dried up and adequate flow of water for sustenance of ecology and nearby groundwater aquifers was not available. In three out of 16 operational projects sampled, real time online continuous flow measurement and data logging device was not installed.
- No authority for management of Hydro Power Projects was established. Resultantly, the required checks over quality of construction and design of projects, safety and management system, release of water downstream etc. remained to be ensured.
- Though there was a provision to provide minimum 70 % employment to bonafide Himachalis in the projects to be set up by IPPs, yet no efficient monitoring system existed to ensure compliance of the said provision.
- Multi-disciplinary committee under the chairmanship of the Chief Minister was to be constituted to monitor issues arising during the implementation of the projects such as employment related monitoring, relief and rehabilitation, implementation of Catchment Area Treatment Plan, Environmental Management Plan, restoration of facilities which got damaged because of implementation of the projects, quality control mechanism of the project, etc. but it was observed that such committee was not constituted in the State. The lackadaisical approach in this respect resulted in raising a number of local issues which halted the progress of projects.

## Recommendations

Major audit recommendations are as under:-

- Studies may be conducted with due diligence so that reliable data can be obtained for computation of power potential of projects.

- A high power Committee may be constituted at the State level to monitor the issues arising during the implementation of the projects, review the progress of local area development schemes and implementation of environment management plans for overall efficient execution of projects.
- The Department of Power/ Directorate of Energy of the State Government may be strengthened through creation of in-house expertise and capacity building in basic and core areas of functioning and reduce engagement of consultants.

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