

which does not exceed Rs. 5 crores, without seeking the clearance of the Central Electricity Authority. In order to provide an impetus to the programme, a sum of Rs. 10 crores has been allocated in the Central Sector in the Seventh Plan for the development of micro, mini and small hydroelectric projects.

Presently 111 micro/mini/small hydro stations with an aggregate capacity of 201 MW are in operation in the country. 82 Schemes with an aggregate capacity of 218 MW are under various stages of construction.

In addition, the Department of Non-conventional Energy Sources (DNES) has plans to develop hydel projects of 3 MW capacity to generate a total of 2,000 MW through mini hydel projects. There are three demonstration projects set up by the Alternate Hydro Energy Centre: Jubbal (1 x 100 and 2 x 25 KW), Manali (2 x 100 KW) - both in Himachal Pradesh - and Kakroi (3 x 100 KW) in Haryana. Two of these projects have used imported synchronous alternators from Austria and USA. Other Mini/Micro hydel projects under constructions include those in Punjab, Madhya Pradesh and Orissa. The DNES is encouraging foreign collaboration in the manufacture of latest technology equipments for improved PLF through better microprocessor controlled operation.

Canadian companies have expertise not only within Canada but also in other countries in setting up small, mini and micro-scale projects and their packaged power turbines could be a significant source for marketing in India, considering the present emphasis in this area for power generation. Canadian companies willing to set up joint ventures with Indian firms in this area can obtain further details on the opportunity through the Canadian High Commission.

### **c) Tidal Power Generation**

The Central Electricity Authority, with the help of other specialised agencies in the country and some consultancy support, had undertaken investigations and studies to assess the techno-economic feasibility of a Tidal Power Project in the Gulf of Kutch. The feasibility report has been prepared and it indicates that a 900 MW Tidal Power Project is feasible in the Gulf of Kutch and its cost would be comparable to that of the coal based or gas based thermal power stations in the country. Detailed studies for finalisation of designs and contract documents are now proposed to be carried out over the next 2 years before taking up the actual construction of the project.

### **d) Assessment of Geo-Thermal Energy Potential**

A project for assessment of geo-thermal potential for generation of power is under implementation by the Central Electricity Authority in Puga Valley, Ladakh (Jammu & Kashmir). The initial drilling of an exploratory bore hole done by the Geological Survey of India had indicated a continuous increase in temperature and a maximum temperature of 127°C was recorded at a depth of 385 meters. Now the drilling of two fresh bore holes upto a depth of 550 meters has been entrusted to M/s Mineral Exploration Corporation Limited in order to explore the potential further. A revised cost estimate amounting to Rs. 329.5 lakhs has been sanctioned for the project. The work is likely to be completed in 1991-92.

### **e) Solar Thermal Power**

India is one of the most active countries world-wide in the study, utilization and promotion of solar energy. As a result of intensive research and development and demonstration efforts of the Department of Non-Conventional Energy Sources several solar energy devices have been developed by R&D organizations. The focus of both the Department of Non-Conventional Energy and the Solar Energy Centre (established to help the GOI meet its objectives in solar energy) is on the following areas:

- 1) Testing and standardizing the solar energy equipment being produced in India.