

# JAMMU & KASHMIR STATE POWER DEVELOPMENT CORPORATION



## HYDRO POWER OPPORTUNITIES in LADAKH



Confluence of Zaskar and Indus Rivers

## **Mystique of Ladakh**

Unique, exotic, mysterious- a never ending stream of words expressing extreme emotions is matched only by the extremes of climate - from cold deserts to deep blue waters and from primeval glaciers to pristine landscape. Ladakh never ceases to surprise and compels a one-off tourist to come again and yet again. Within it lies living testimony to the supremely powerful natural forces that shaped the Himalayas. Sparsely populated by intensely spiritual people who embrace one and all with their warmth, Ladakh spans the Himalayan & Karakoram ranges. The mighty Indus brings icy calm to the environs while its tributary Suru offers no less.

Ladakh is rich not only in culture but also in hydel potential. Downstream of Nimo-Bazgo HEP, five projects have been identified with an estimated capacity of 760 MW, substantial enhancement over the earlier assessed potential of 180 MWs.

### **Hydel Power Potential on the Indus**

<b>Name of Project</b>	<b>Location of Dam</b>	<b>Ht. of Dam *</b>	<b>Length of Tunnel</b>	<b>Location of Power House</b>	<b>Gross Head</b>	<b>Power potential</b>
Ulitopo HEP	4 km d/s of Ulitopo	40 m	4 Km	2 Km u/s of Nurla	60 m	85 MW
Khaltsi HEP	6 km u/s of Khaltsi	20 m	8 Km	Harichhedo	60 m	90 MW
Dumkhar HEP	2.5 km u/s of Dumkar	20 m	8 Km	6 Km d/s of Dumkar	45 m	70 MW
Achinathang – Sanjak HEP	7 km d/s of Skrubachan	40 m	18 Km	Sanjak	160 m	220 MW
Sunit HEP	Sunit	20 m	18 Km	Grugardo	148 m	295 MW

\* from river bed level to the FRL

Likewise, Suru and Drass too have immense hydel potential. Moreover, the difference in elevation of these two rivers offers an ideal opportunity. After examining various options, sites for the dam (on the river Drass) and powerhouse (in the Suru Valley) have been chosen. It is proposed to harness the energy in two stage, as follows:-

### **Drass Suru HEPs**

<b>Name of Project</b>	<b>Location of Dam</b>	<b>Ht. of Dam</b>	<b>Length of Tunnel</b>	<b>Location of Power House</b>	<b>Gross Head</b>	<b>Power potential in MW</b>
Drass – Suru HEP Stage –I	Near Drass town	25 M	6.5 Km	Dongchik	80 M	35
Drass – Suru Link HEP Stage – II	U/S of Middle School, Dandal	20 M	13 Km	Pharuna in Suru Valley	140 M	60

\* from river bed level to the FRL

In addition, two projects on these rivers appear very promising, namely:-

**Parkachik-Panikher HEP on the river Suru:** This project's attractiveness stems from the use of a U-turn in the course of the river - it would entail a tunnel of 6 Kms and has power potential of 100 MWs. This is an improvement over the detailed feasibility report prepared in early 90s. With the change in position of the Parkachik glacier, the present proposal envisages shifting the Dam site further upstream.

**Kirkit on the river Drass:** Preliminary survey carried out by the JKSPDC/CWC indicates power potential in the range of 100 MWs or higher. The Dam site is located about 20 Kms from Kargil while the power house is about 4 Kms away. Height of Dam up to FRL from the bed level is assessed to be 30 m, with a 11 km long tunnel.

### **Projects in operation in Ladakh:-**

A new project has been commissioned by the JKSPDC in October 2011 viz 1.26 MW Sanjak, taking the total number of operational power projects in Ladakh to 9. As in case with other power houses, this too shall cater to a very large area, bringing cheer to the life of people living in very tough climatic conditions. The clean power generated from this project will replace fossil fuel based power, thus preserving the pristine environment of the region.

### **PROJECTS IN OPERATION IN LADAKH**

S. No	Name of Project	Located in	Capacity in MWs	M/c Config. (No. X MW)
1	Stakna	Leh	4.00	2 x 2.00
2	Iqbal	Kargil	3.75	3 x 1.25
3	Igo- Mercellong	Leh	3.00	2 x 1.50
4	Sanjak	Kargil	1.26	3 x 0.42
5	Haftal	Zanskar (Kargil)	1.00	2 x 0.50
6	Marpachoo	Drass (Kargil)	0.75	3 x 0.25
7	Hunder	Nobra (Leh)	0.40	2 x 0.20
8	Bazgo	Leh	0.30	2 x 0.15
9	Sumoor	Nobra (Leh)	0.10	2 x 0.05

### **Projects under execution/planned for execution:-**

Located in remotest corners of this mountainous State, the projects mentioned below will transform the lives of the people, ushering in fast paced development & opening many employment avenues, all powered by sustainable & green power.

**In the Central Sector:-** 45 MW Nimo Bazgo HEP on the river Indus and 44 MW Chutak HEP on the river Suru are at an advanced stage of completion.

### **In the State Sector:-**

- i) **6 MW Dah SHP:-** Originally estimated at 3 MW, the revised project report envisages harnessing potential of 6 MW by utilizing gross head of 279 meters. Work on this project is being commenced, with completion in 3-4 years time.

- ii) **5 MW Hanu SHP:-** Hanu SHP has a revised capacity of 5 MWs, utilizing head of 234 meters. Work on this project is planned to start during the current year. It is expected to be commissioned in 4 years.
- iii) **0.500 MW Dumkhar MHP:-** Work on this project had remained suspended since 90s owing to change in hydrology. This project is being completed for a reduced capacity of 0.500 MW, making use of the already constructed structures.
- iv) **Rangdo SHP:-** Prefeasibility report for 15 MW Rangdo SHP has been prepared. This project will meet the energy needs of the Nobra valley.
- v) **Tamasha Nallah SHP:** Prefeasibility report of Tamasha Nallah SHP has been prepared for a capacity 8 MW. The project is located in Zanaskar Sub-Division of Kargil District.
- vi) **Bairaas SHP:** Prefeasibility report of Bairaas SHP has been prepared for a capacity of 11.5 MW. The project is located in Drass Sub-Division of Kargil District.
- vii) **Pugah Geothermal:**  
Technology Demonstration Project (TDP) cum resource assessment project of 2-5 MW capacity is proposed to be set up in consultation with MNRE before steps for tapping the main reservoir are taken

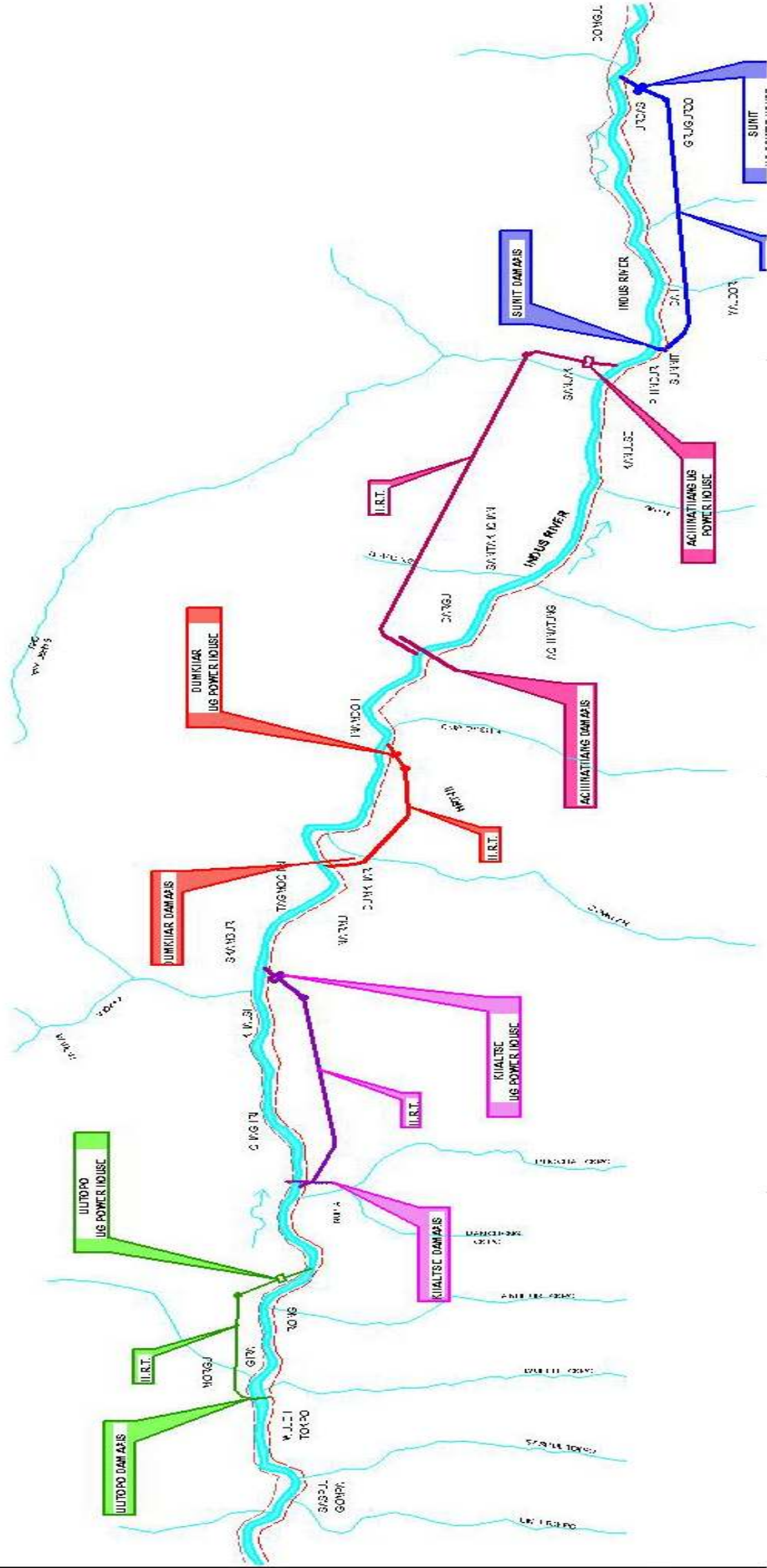


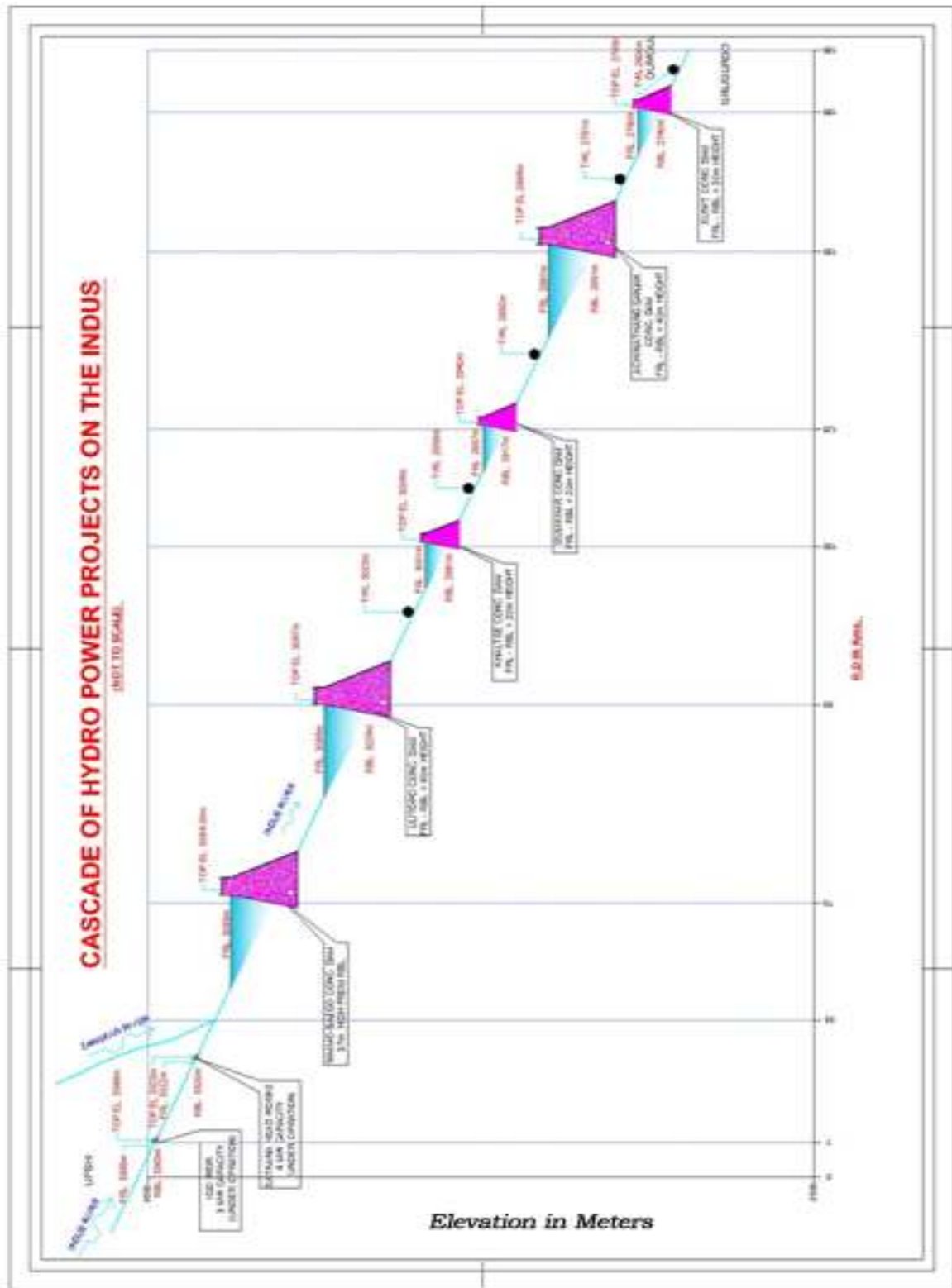
**Pugah Geothermal Fields**

### **J&K hydroelectric projects development policy 2011:**

A new hydel policy for expeditious development of hydro potential in the state and to bring in investment and associated efficiency of the private sector has been notified in July 2011. Identification of Projects to be bid out under the said policy is underway

# LAYOUT PLAN OF POWER PROJECTS ON INDUS





For further details, please contact:-

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