

Satluj basin

Satluj basin has a capacity of around 7000 MW and of which Nathpa Jhakri (1500MW), Baspa (300MW) and Bhava (120MW) have been developed. With Nathpa Jhakri, 400kV D/C line with triple conductor towards Nalagarh and 400kV D/C with triple conductor towards Abdullapur - Bawana has been constructed. With Baspa 400kV D/C Baspa - Nathpa Jhakri 400kV D/C line with triple conductor has been constructed. The next project under construction is in the downstream of Nathpa Jhakri at Rampur HEP 432 MW, for which Nathpa Jhakri - Nalagarh would be Looped in looped at Rampur.

With Karcham Wangtoo (1000 MW) the 400kV line between Baspa and Nathpa Jhakri would be looped in looped out at Karcham Wangtoo and a 400kV D/C line with quad conductor has also been planned from Karcham Wangtoo to Abdullapur.

The evacuation system for Jangi Thopan Powari (980MW) would be through:

- Establishment of 400kV Pooling station at Sherpa Colony near Karcham Wangtoo by LILO of Baspa-Nathpa Jhakri 400kV D/C line and re-LILO of Karcham Wangtoo LILO line
- Injection of Powari power to Sherpa Colony by providing
 - Powari – Sherpa Colony 400kV D/C with triple snow-bird conductor; and
 - Powari – Baspa 400kV D/C with triple snow-bird conductor LILOed in to one circuit of Baspa-Sherpa Colony 400kV D/C line.

The evacuation system for Shongtong Karcham (402MW) would be through:

- Injection of Shongtong Karcham power into Baspa - Sherpa Colony line by providing
 - LILO (400kV D/C tripe snow- bird) of Powari-Sherpa colony circuit of Powari-Baspa line at Shongtong Karcham.

HPSEB are extending their 220kV line from Bhava to upstream for establishing a 220kV substation at Bogtu and have planned to extend this line up to Kasang to evacuate power from their Kasang-I, II & III HEPs (243 MW). The line would need to be extended downstream upto Kotla and thereon to Kunihar.

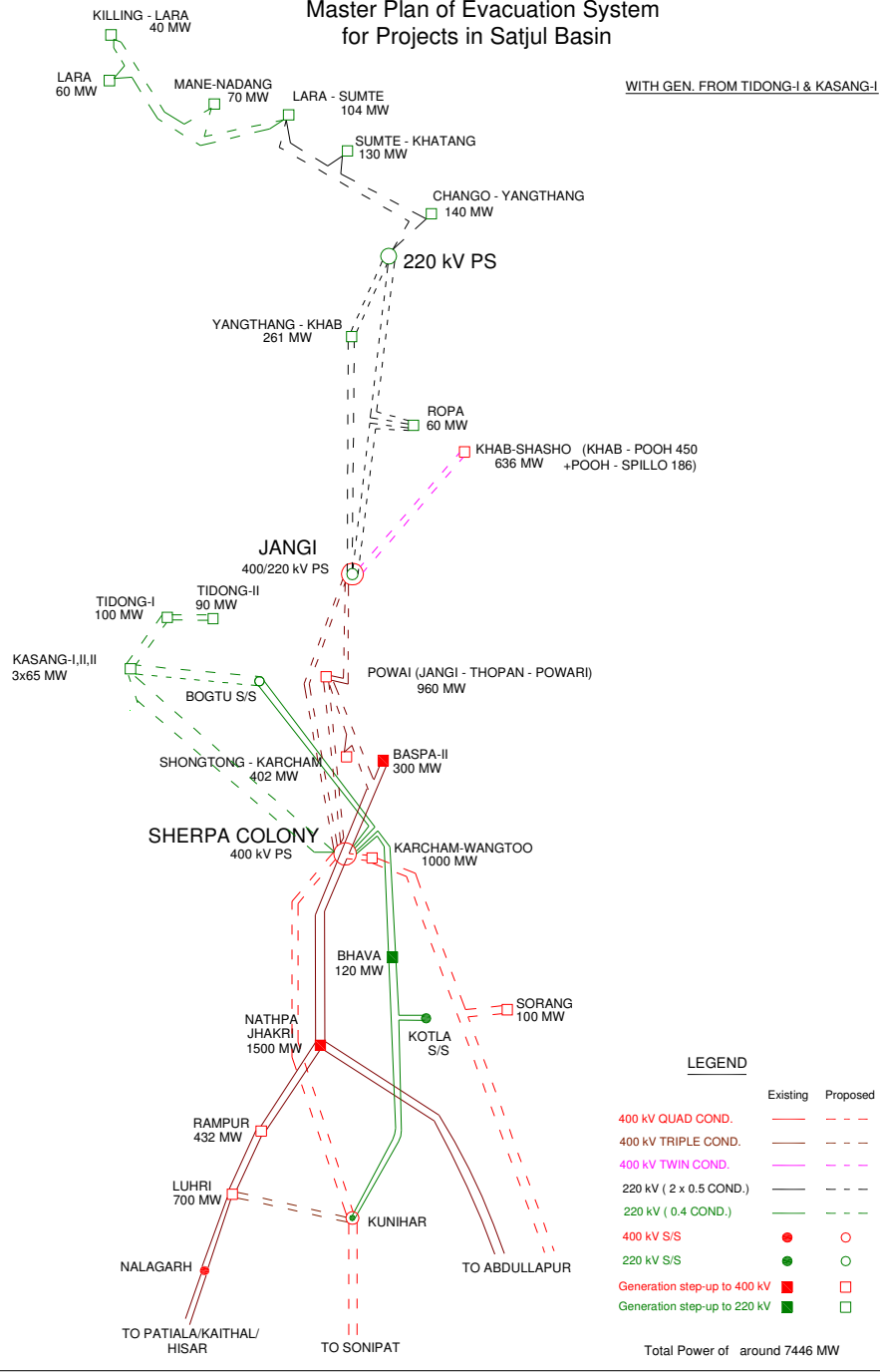
For evacuation of further upstream generation, 400/220kV pooling station at Jangi which is upstream of Powari, and 220kV pooling station at a suitable place at some distance from Yangthang has been proposed. For evacuation of full power from Satluj basin, there would be three 400kV triple D/C lines between Jangi and Sherpa Colony and one more 400kV quad D/C line from Sherpa Colony downwards. Additional corridors, feasibility of which has been identified by PGCIL, would be utilized for this.

Evacuation from Kasang and Sorang is proposed through 220kV line of HPSEB and evacuation from Tidong is proposed at 220kV through 400/220kV pooling station at Jangi.

Master Plan is

Master Plan of Evacuation System for Projects in Satjul Basin

WITH GEN. FROM TIDONG-I & KASANG-I



LEGEND

	Existing	Proposed
400 kV QUAD COND.	—	- - -
400 kV TRIPLE COND.	—	- - -
400 kV TWIN COND.	—	- - -
220 kV (2 x 0.5 COND.)	—	- - -
220 kV (0.4 COND.)	—	- - -
400 kV S/S	●	○
220 kV S/S	●	○
Generation step-up to 400 kV	■	□
Generation step-up to 220 kV	■	□

Total Power of around 7446 MW

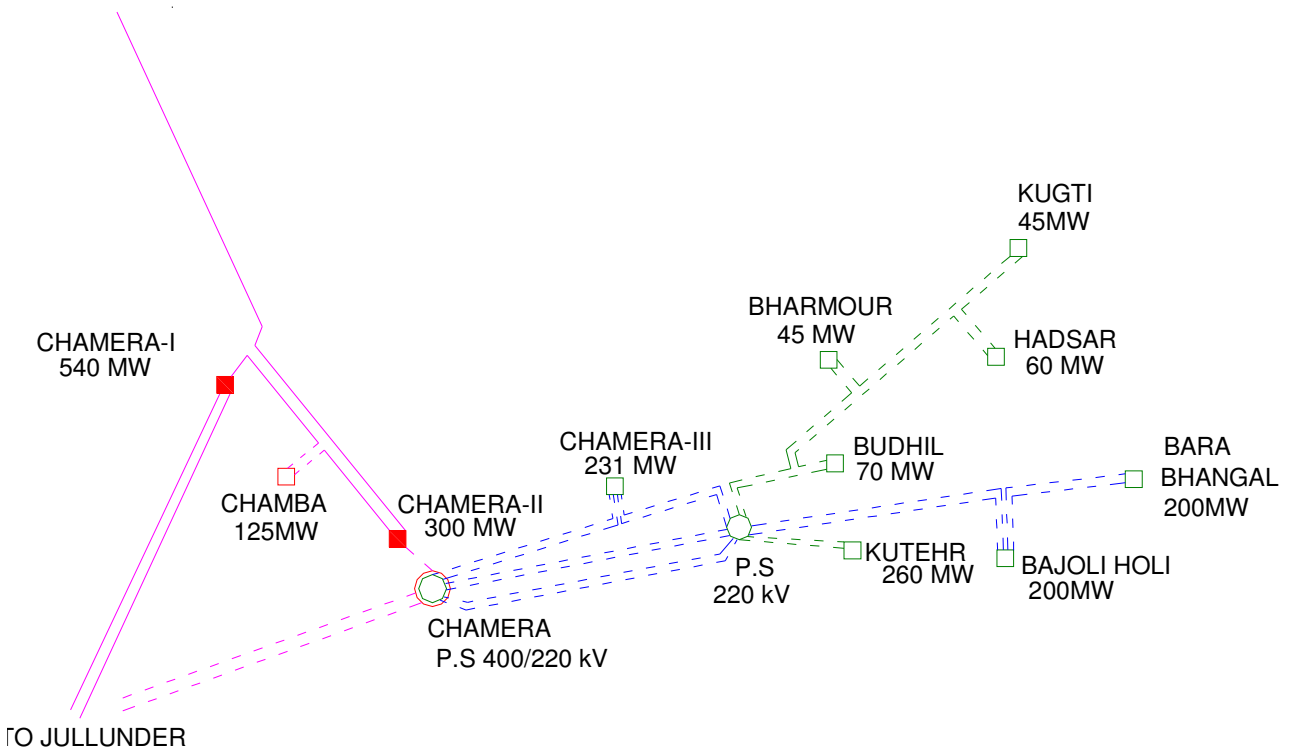
Rabi basin

Major projects existing in Rabi Basin are Chamera-I (540MW) and Chamera-II (300MW). For evacuation of power 400 kV D/C line from Chamera-I to Jullendher and 400kV S/C from Chamera-I to Kishenpur LILOed to Chamera-II are existing. Chamera-III (231MW) and Budhil (70MW) are under construction and Kuther(260 MW), Bijoli holi (200 MW), Bara Bengal (200 MW), Burmur (45 MW), Hudsar (60 MW) and Kugti (45 MW) are planned.

For evacuation of power from the projects upstream of Chamera-II, a 400/220kV pooling station is planned near Chamera-II which is required matching with Budhil HEP with would be the next project in the valley. This pooling station would be connected to Chamer-II through a 400kV S/C line and to Jullundhar through 400kV D/C line. The line to Jullundhar would be needed with the next generation project which is Chamera-III.

A 220kV pooling station at a suitable location upstream of Chamera III is also proposed where power is proposed to be pooled and transmitted to Chamera-II 400/220kV pooling station through three numbers of 220kV D/C lines with 1xMoose conductors. These would be optimum solution for phased development. However, if there are physical constraints in constructing three of 220 kV D/C lines through the valley, it may be required to built two nos. of 220 D.C lines with 2x Moose conductors.

Master plan is
TO KISHENPUR



Beas Basin

The existing major projects in Beas basin are Malana-I (87MW) and Larji (126 MW). Power from both these projects is being evacuated through 132 kV HPSEB system. The other major projects in Beas/Parbati basin are Allain Duhangan (192 MW), Malana-II(100 MW), Koldam (800MW) Parbati-II (800 MW), Parbati III (501 MW) and Sainj (100 MW). Evacuation from Koldam, Parbati-II and Parbati-III is planned through 400kV system. The transmission lines are:

Koldam-Nalagarh 400kV D/C Quad conductor

Parbati-II-Koldam 400kV 2xS/C Quad conductor

Koldam-Ludhiana 400kV D/C Triple conductor

With Parbati-III, a pooling station at Panarsa is proposed and Panarsa-Amritsar 400kV D/C twin Moose line has been planned.

The Panarsa 400/220kV pooling station was required in the time frame of Allain Duhangan and Malana-II. However, as the time schedule did not match, a direct 220kV D/C line from Allain Duhangan to Nalagarh has been taken-up for construction by ADHPL. This line with 1xZebra conductor has a capacity of 400 MW through which Malana-II power can also be evacuated.

Power from Sainj is proposed to be evacuated through 400kV via Parbati-III. For this, either Sainj may adopt direct step-up to 400kV or have its own 400/132kV substation.

The 400/220kV pooling station at Panarsa would still be needed to pool the power to be received from Tandi 220kV pooling station proposed in Chenab basin. As the line from Tandi would be at high altitude, and there may also be need of cables in some portion, 220kV line would be a better option rather than 400kV. The 220kV lines would have to be with higher conductor specification say 220kV D/C line with quad Moose conductors.

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