

Justification of the Project

India's hydropower potential is estimated at around 1,50,000 MW, out of which only 42783.42 MW (28.52%) has been tapped so far. On the other hand, the gap between demand and supply of power has been increasing at a much faster rate as the country's economic growth rate picked up in the last decade. The total power demand by 2030 is expected to cross 8,28,000 MW. Development of hydropower potential can significantly help bridge the gap between power demand and supply. In addition to meeting the power demand of the country, development of hydropower also helps in the development of water resources in general.

Uttarakhand's hydropower potential is estimated at around 20,000 MW, out of which only 3164.75 MW (about 15.82%) has been developed. There are some major projects in various stages of implementation. These are Bharon Ghati (I,II) 350 MW, Garba Tawaghat (530 MW), Tehri Stage - II (1000 MW), Kotli Bhel (850 MW). Various major and minor sites have been identified in the state with an aggregate estimated capacity of 15,000 MW.


The Jakhol Sankri Hydroelectric Project (JSHEP) forms a part of the cascade development planned along river Supin and river Tons (after its confluence with the river Tons) in Uttarkashi district of Uttarakhand State. There are several hydropower projects under different stages of development on river Tons. These are mainly 60 MW Naitwar Mori HEP, Mori Hanol HEP and Hanol Tuini HEP. In addition, Tons has about 500 MW of identified hydropower projects under development.


The JSHEP envisages a run-of-the-river scheme on the river Supin. The project shall harness the hydropower potential between Jakhol and Sankri villages by utilizing a maximum gross head of 445.80 m.

Location of the Project:-

The JSHEP is located about 450 Kms North East (NE) of Delhi and 225 Kms North (N) of state capital Dehradun and on the Supin River in Uttarkashi district in the state of Uttarakhand. The potential barrage site is located some 942 m downstream (d/s) of the confluence of Supin and Devkyar (Obra Gad) rivers at E.L. 1955.00 m. The potential powerhouse locations are all in the left bank of river Supin near its confluence with river Tons.

The Supin River is a tributary to river Tons which is one of the main tributary of the river Yamuna and located in the north Indian State of Uttarakhand (formerly Uttaranchal). This Supin River originates from the peaks of Kimlog glacier at an altitude of approximately 5000 m and after flowing a distance of 27.60 km in the south direction joins river Devkyar/ Obra Gad. River Devkyar originates from Devkyar glacier at an altitude of 4800 m. After the confluence river Supin flows south western direction, meeting the Tons River near Sankri Village.


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Justification for locating Jakhol Sankri HEP in Civil Soyam Land/ Forest Land:-

Hydro Power Projects are site specific as they require water (discharge) and head (difference in elevation) in stream flow. Location of the powerhouse of this project was selected to utilize required head and minimum submergence for optimal utilization of hydro power potential.


Since, the required head is available only in the river body located in hilly region under forest area, it will not be possible to construct the various components of the project such as Penstock, Powerhouse, Transformer yard, switch yard, Tailrace tunnel and other bare minimum infrastructure facilities without involving forest land.


The Jakhol Sankri HEP also envisages the requirement of the land for roads, working area, dumping sites, Penstock, Powerhouse, Transformer yard, switch yard, Tailrace tunnel etc. Most components of the project are underground and also located only in Civil Soyam Land /Govt. Land.

However, only the unavoidable minimum Forestland, like the river born material (construction material) i.e. quarry area have been envisaged on the river bed.

The development of Jakhol Sankri HEP will be a big boon in the overall power scenario of the Uttarakhand. The project has got specific advantage like very good Geological condition, minimum submergence and high head etc.

It is obvious from the above discussion that the proposed Jakhol Sankri HEP is needed to fulfill the power demand and supply gap scenario and is the most appropriate option when compared with thermal alternative.


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