

Full Title of the Project: Thaltukhod Stage-I Hydro Electric Project 5.00 MW

File No.: _____

Date of Proposal: _____

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DETAILED NOTE ON THE PROJECT

The Thaltukhorh-I Hydro Electric Project is located on Thaltukhorh stream near village Garaman situated at an approximate distance of 60 km from nearest town Mandi and 108 km from district headquarters of Kangra District i.e. Dharmashala in Himachal Pradesh. The project area is covered in Survey of India Toposheet No: 52 D/16 and 53 A/13.

About the stream :- Thaltukhorh Stream is a tributary of River Uhl and joins the Uhl at an elevation of ± 1600 m. The total length of stream is about 9.0 Km from its origin to the diversion site at Thaltukhorh-I HEP. The main stream which contributes the runoff is falling in the temporary snow zone which ranges from El. 2800 m to El. 3800 m. Diversion site of Thaltukhorh-I HEP is proposed at longitude $76^{\circ}55'46''$ E and latitude $31^{\circ}59'54''$ N with elevation at ± 1972 m. The total catchment area of Thaltukhorh stream upto diversion site is 22 sq km. The Thaltukhorh stream has an average gradient of 1 in 9.6 in its length of 9kms.

Project:- HIMURJA, a Government of Himachal Pradesh entity has consented to provide exclusive right for preparation of Detailed project Report of Thaltukhorh-I HEP (5 MW) and for subsequent implementation of Small Hydro Project (SHP) in H.P under self identified project scheme to M/s Cliff Finvest Private Limited (CFPL), Faridabad, India. Accordingly, HIMURJA has issued a consent letter: HIMURJA/SHP/Thaltukhorh-I/243-07/CFPL/2015-14091 date 15-09-2015 in favour of M/s CFPL.

Location and access to the project site :- Thaltukhorh-I is located on Thaltukhorh Stream near village Garaman, Mandi district, Himachal Pradesh. The diversion structure is proposed at El. ± 1972.0 m. The project components sizing is carried out corresponding to optimised project capacity of 5 MW. The surface power house is proposed near village Thaltukhorh. Garaman village is situated at an approximate distance of 60 km from the nearest town Mandi in Himachal Pradesh. Mandi is well connected by an all weather road from nearest railhead at Chandigarh by 200 km & 59 km from nearest Bhuntar Airport, Kullu. The power house site at Thaltukhorh village is approachable by 57 km long national highway No. 154 from Mandi. Subsequently 3 km long motarable road is available to reach diversion site near Garaman village from power house site. The surface power house site is proposed at Elevation ± 1768 m.

Thaltukhorh-I Hydro electric project has been conceived as run-of-river development for generation of hydropower on Thaltukhorh stream a tributary of Uhl River. The project consists of construction of a trench weir across Thaltukhorh Stream near village Garaman, Mandi district, Himachal Pradesh. The water so diverted shall pass through the Intake to feeder pipe, one surface desilting basin having dimensions of 6.0 m (wide) x 5.20 m (depth) x 35 m (long),

For Cliff Finvest Pvt. Ltd.


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collection pool, connecting pipe between collection pool & Head Race Tunnel, free flow headrace tunnel finished size of 1.80 m (wide) x 2.25 m (high), 2471 m long, arch-Shaped terminating at forebay tank and leading to 1.2 m diameter surface penstock. A surface penstock of 1.2 m diameter is provided for a length of 418 m and bifurcated at El. 1768.55 m. From bifurcation two penstocks of length 10 m each shall convey water to each Turbine-Generator unit of 2.5 MW rated capacity housing in surface powerhouse to generate 5 MW of power. Net water head of 196.00 m is utilised to generate 5 MW (2 X 2.5 MW) of power. After power generation, the water from the Thaltukhorh-I powerhouse will be discharged back into Thaltukhorh Stream through tailrace channel. An escape pipe running parallel to penstock between Escape tank (adjacent to Forebay tank) and Energy Dissipation Tank located near powerhouse has been planned to dispose off surplus water safely.

Coordinates at Powerhouse Location Longitude : 76° 54' 41" E Latitude : 31° 58' 55" N State : Himachal Pradesh, District : Mandi. Stream : Thaltukhorh Stream, a tributary of Uhl river.

Vicinity : Weir is located near Village Garaman & Power house is near Village Thaltukhorh.

Capacity of the project:- it is observed that Incremental energy Vs Incremental capacity curve is steep after 5 MW and the incremental energy is below 1.5 MU. Therefore, the installed capacity of the project has been fixed at 5 MW and the plant has been design for the 10% over load on rated discharge i.e. for 5.5 MW.

Project roads :- A network of new roads is required to facilitate completion of the project as per anticipated time schedule. An approach road of approximate length 245 m & one no. of Road Bridge is proposed after taking loop from existing HPPWD road connecting to inlet portal & diversion works. Apart from the above road, about 180 m length of road will be required to reach the other project components (viz. Power house, switch yard, energy dissipation tank etc.) and a foot track of length 960 m is proposed to reach the inlet portal of an Adit-1, and 500 m of road has been proposed for muck dumping yards. Apart from roads, Ropeway is also planned for the transportation of equipments and materials to various project components, if found necessary.

Forest and private land:- 4.9069 Hectares of forest land and 0.8673 Hectares of private land is proposed to be acquired for the construction of the project.

Benefit from the project:-

As many as six villages namely Garaman, Kharyan, Dhamchyan, Cheling, Tegar and Thaltukhorh will be benefitted from project. The approximate population involved will be to the tune of 1200 which will be directly/ indirectly benefitted from the project. The overall economic condition of the adjoining villages will also improve.

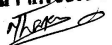
Employment Generation:- The time period for completion of the project will be 24 months and the employment generation will be as follows. :-

1st year:- Technical 2, clerical 2, Skilled 16, unskilled 50 = 70 persons.

2nd year:- Technical 4, clerical 2, skilled 16, unskilled 65 = 87 persons.

After completion of the project 15-20 % of the above figure will be retained on the O&M of the project.

For **CLM Finvest Pvt. Ltd.**


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