

SUMMARY NOTE – RALANG HEP

GENERAL PROJECT FEATURES

Rangit River is a major tributary to Teesta River in Sikkim. It takes its origin in the peaks of Himalayas near Kudremukh, at an elevation of about 4250 and flows in south direction before joining Teesta River. The proposed Ralang hydroelectric project contemplates diversion of waters from this river by constructing a 54 M high dam across Rangit River near Samdong village. The waters from the dam will be lead through a water conductor system consisting of an HRT, Surge Tank, Pressure shaft and a surface powerhouse. The water after power generation will be lead back to the Rangit River near Tashidang. There is an existing NHPC hydro power project across Rangit River on the downstream of the proposed power house at a distance of around two kilometers.

STUDIES UNDER TAKEN

Following studies have been done in formulating this project:

- i) Topographical studies for assessing the likely head available for power generation,
- ii) Assessment of catchment area at the proposed dam site from Topo sheets and Astragen software,
- iii) Hydrological Studies to assess yield and the approximate power draft available,
- iv) Power potential studies to assess the power available from the project. Topographical and Geological and submersion area studies to finalize locations of various components,
- v) Rough assessment of energy potential from the project,
- vi) Studies for different FRL's for of dam to minimize cost, submersion and maximum generation with economic viability,
- vii) Financial Analysis to estimate the cost of generation etc.

COST & FINANCIAL ASPECTS

The total cost of the project at HT bus is 73000 lakhs. This comprises of Rs 33000 lakhs of civil engineering works & Rs 38400 lakhs towards Hydraulic and Electrical engineering works. The balance is for other works like establishment, consultancy and contingencies. The proposed installed capacity is 126 MW and the estimated annual average energy potential is 622 MU and.

CONCLUSION

The project envisages power generation to the tune of 620 MU by utilizing the head and discharge available in the Rangit River for the proposed scheme. The energy can be generated at an economical rate. The project is an attractive one which can be completed in about four years.