

THESIS

STUDY OF HYDROPOWER POTENTIAL AT LEHRI DAM



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ABSTRACT

The study aimed at a low head station at the canal, which exists from the right abutment of Lehri Dam at RD 0+50. Beside technical aspects, the economic aspects have also been considered. After collecting the monthly releases of Lehri dam into canal, energy was calculated for estimation of benefits and pattern of available power. For design discharge of 0.476 cusec ($0.0135 \text{ m}^3/\text{sec}$) and net head of 41 ft (14.14 m), 1.360 KW power was proposed. One unit of cross flow turbine with low setting was found out to be the most suitable mechanical equipment to generate electricity.

The cost of project, which was Rs. 8,17,032/- had involved the cost of planning, design, implementation and operation. The proposed project has no significant environmental impacts so there is no need to study the environmental impacts. The flow duration curve and hydrograph was used to work out the reliable discharge value available most of the time throughout the year. On the basis of results obtained from flow duration curve the type and size of the turbine was selected.

Output of energy from proposed project is very low which will not be able to run some bigger commercial/industrial set up like stone crusher etc. As this business is already running in that area. Therefore, there is no opportunity expected to develop some relatively bigger commercial/industrial unit to make the project feasible.