

THESIS

APPLICATION OF HPC MODEL FOR THE OPTIMUM
LAYOUT OF BUNJI DAM HYDROPOWER PROJECT



By

Muhammad. Kaleem Sarwar
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University of Engineering and Technology, Lahore, Pakistan.

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ABSTRACT

Bunji hydropower project is runoff river hydropower project on Indus river near Gilgit. The study aimed at the optimum layout of the Bunji dam hydropower project. A number of layouts of this project were possible but three most promising layouts were selected for this study. For each layout costs and benefits (power and energy) were computed. The cost was computed with computer model "HPC" and benefits were computed with specially designed spreadsheet model. Marginal cost analysis of the project was also carried out with specially designed spreadsheets.

From the detailed results, a summary of the marginal cost analysis for each layout was prepared. From these summaries, all the three layouts were compared and the optimum one was selected based on maximum net present value and maximum B-C (benefit-cost). Finally optimum layout for Bunji dam hydropower project was alternative D_2P_2 as defined in this study.