Managing Geological Problems During ~~Construction ,~~Construction, A Case Study

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Abstract~~:~~

Uri H.E.P stage II of NHPC ltd located near Salamabad, downstream of 480MW Uri H.E.P in Baramullah district of Jammu & Kashmir envisages to harness water from river Jhelum through a run-of-river scheme to generate 1123.76 million units in a 90% dependable year. The main project feature contains a 52m high concrete dam, an underground power complex (4x60 MW) and approximately 8km long water conductor system through mountainous and intricately folded young sedimentaries of Muree formation. This Project which has assumed great importance in view of its strategic location is now progressing towards commissioning by June 2013

Well planned and detailed geological investigation and subsequent assessment was made after extensive exploration through conventional and modern surface and subsurface investigative tools braving extreme climatic conditions/law and order and warlike situation at the Indo-Pak border

Notwithstanding such huge investigating effort number of issues involving Dam, Intake, Tailrace tunnel and tailrace outfall cropped up during construction phase when prompt innovative solutions keeping in view the site specific geological conditions and giving due cognizance to design requirements and construction difficulties had to be provided which otherwise would have further delayed the project at additional cost if treated with conventional way. Geological surprise has remained always a handy tool to explain all unexplainable, but in this project, seldom such requirement was felt to use this term for explaining delays..

In this paper, while underscoring the importance of excellent professional understanding and coordination between Geologist, Designers and Construction Engineers, author briefly deals various aspects of construction stage re-orientation of the

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Dam, evaluation of instability of intake structure and its unique solution for remediation, tunneling through fluvio-glacial material and its syn construction investigation for TRT and relocation of Tailrace outfall portal to fulfill strategic requirement