Variation Orders and It's Procedure for Hydropower Construction

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Abstract: There is lots of construction going in Nepal, of which hydropower construction is also moving in significant pace. As the design and drawings prepared during development of the hydropower project may not fully reflect the construction situation, due to the different circumstances led by the Employer, Engineer or Contractor working for the Project. It has been observed globally that the design during project preparation in hydropower projects needs revision during implementation; hence the basic understanding of Variation Orders is very important to the hydropower professionals.

Keywords: Hydropower, Variation Orders, Nepal

What is Variation order?

While carrying out any works under contract, addition, omission or alteration of original contracts are inevitable. The reasons being vague Employers requirements, faults and omissions in design and specification, changed work circumstances and many more. These types of orders are sometimes also referred as Change orders, since they change the original scope of the contract.

Legal Provisions Prevalent in Nepal

Public Procurement Regulations, 2007 (Rule: 118) and its amendments thereof have provided some basic guidelines for preparation of Variation Orders for the projects administered by Public entities. There are basically two types of variation orders taken into consideration, first being unchanging of the Contractual drawings, specification and design, which are not dealt so much seriously, however if there is change in the above mentioned parameters, the evaluation and assessment of Variation Orders are stringent. Nevertheless, the variation orders in development projects in Nepal are taken very seriously and some of the projects are not moving smoothly due to unavailability of timely decision to such Variation Orders.

During the construction, especially in Re-measurement type contract, all the items listed in the Bill of Quantities are not appropriate to be used, instead some of new construction items need to be introduced which may lead to another type of Variation Order. However, the same rule has barred the project management to provide new rates other than stipulated in the Original Contract.

FIDIC Provisions for Variation Order

The major construction projects in Nepal, either funded by Multinational banks or having great degree of scope in Nepal are generally administered using FIDIC Conditions. FIDIC in its clause 13 (Variations and Adjustments) has clearly depicted the standard set of procedure for providing variation orders to the Contractors. There are 3 standard approaches described under its sub-clauses 13.1, 13.2 and 13.3 as below:

i. Instruction from the Engineer (Employer)
ii. Requesting the Quotations from Contractor
iii. Value Engineering exercise by the Contractor

The procedure (i) shall generally be provided in emergency situations only, since collaborative work practices in the Construction industry is most for smooth site operation. The formal way of providing variation order complying with procedure (ii) will be elaborated in next heading. The contractor either re-measurement or Lump sum Turnkey may have specific right to provide Value Engineering Proposals to the Employer, contractually. However, it will be fruitful only if the benefits are shared using the proper modality.

Why are they practiced?

According to the independent study conducted by Journal of Civil Engineering, top ten most important factors that include; lack of materials and equipment spare parts due to closure, change in design by consultant, lack of consultant's knowledge of available materials, errors and omission in design, conflicts between contract documents, owner's financial problems, lack of coordination among project parties, using inadequate specification for local markets by international consultant, internal politics, and change in specification by owners.

In Nepal, apart from the above-mentioned reasons sometimes debatable variation order proposals like Scope variation of Upper Trishuli-3A have also been tried in past but was not materialized. Tunnel Squeezing repair works is another big variation order being practiced for Chameliya Hydropower project, which may have been generated by providing inappropriate concern to the gravity of Sub-surface explorations prior to the construction.

Method of Providing New Rates

Nevertheless, providing a new rate to the contractor is always risky and debatable, a standard procedure for evaluating the new rates is advisable for Nepalese Practice. The Contract Manager shall always try to

use the price for same rates, despite that is used for other circumstances. If that is not practical enough, the necessary adjustment can be made to that rate by adding or deducting for difficulty factors associated with the particular item of work. The frequent use and interpretation of regression analysis of similar natured rates also provides meaningful answers in some cases. If the above mentioned pricing strategies are not paying well, a rate analysis for the item using accepted Norms and price quotation of Materials, Equipment and Labours from at least 3 independent sources will help reaching the conclusion.

Variation Order Procedures

Variation Order assessment is not merely a science; it is an art with high degree of precision. Each Variation Order is different to its predecessor, hence different strategies and round of negotiations may be necessary to come up with solutions. However, in generalization the following approach may be suitable for the engineer to come up with practical solution:

Need identification and Authorization

Although the Variation Order may be needed during the normal contractual operation, it shall never be initiated without proper scoping, estimating and getting necessary authorization from the funding sources (ie. Employer). The Employer may have differing opinion to the particular problem or may want to carry in the alternative way, hence the good communication between the Employer and the Engineer is must to initiate any Variation Orders.

Variation Order Requests

After the Employer providing the required authorization to carry particular variation order, it is the responsibility of the Engineer to ask for the proposal from the Contractor to carry out the Variation order, in the specific format. The preliminary assessment from the Engineer, with the basis can also be provided to the Contractor for its needful assessment to the problem.

Quotation from the Contractor

As soon as the Contractor receives the Engineers' request, the Contractor need to assess the Variation Order and provide their formal opinion to the Engineer.

Assessment of the Contractor's Proposal

Application to the Employer

After necessary assessment of the application and negotiation to the practically possible condition, the Engineer shall request for approval of the Variation Order to the Employer. In the meantime, the Engineer shall provide as much facilitation needed by the Employer to assess and approve the particular Variation Order.

Approval from the Employer

Provide the Formal Variation Order

As discussed earlier, the Variation Order Procedure seems to be lengthy process, hence careful documentation of the pertaining documents, careful understanding of the Contractual process and protocols is very necessary to assess each particular cases. Furthermore, the Contract Manager shall give due attention to provide his knowledge, experience and training bases to his engineers particularly in Management of Contracts, Negotiation, Facilitation, contemporary record keeping and coordination skills.

Problems and Malpractices in Nepal

The Variation Order terminology is understood in negative sense in Nepal. But, it is universal that any Contract cannot be implemented the same way that it is perceived at the beginning. Hence, every Project Managers and Employers shall expect some form of Variations in their work.

Not with standing the above fact, Variation Orders are also used against its purpose by some crucial projects of Nepal. Unnecessary Variation Orders are provided only to extend the Contract duration, by providing Extension of Time to the Contractor which leads to unnecessary prolongation costs to the project. Furthermore, Variation Orders to costly items and buried items are also provided in order to have mutual financial gains.

Hence, it is recommended that the Project Managers clearly revise their project sub surface investigations, designs, selection of experienced Engineers and Contractors, and right interface management between the stakeholders in the project management to avoid time consuming and expensive procedures of Variation Orders.

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