Adjustment of Price in Contracts

DINKER SHARMA
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<u>Abstract</u>:

This paper is presented with a focus on civil engineering contracts only.

Price Adjustment in a Contract is a concept that takes care of price volatility of commodities that are associated or used for Contract purposes. It gives a sense of security to both the contracting parties. Most contracts are equipped with Price Adjustment provisions. It is also defined under the Public Procurement Legislation of Nepal. The accuracy in determining Price Adjustment depends on how complicated the method of determining it is provisioned in the Contract. Application of Price Adjustment provisions in Contract is likely to result in a more reasonable and economic bids and tend to provide realistic bid submissions.

Price Adjustment should not be treated as a variation. It falls under an "Express Terms" in the Contract and should be treated accordingly. Price Adjustments are to be tied up with payment terms as per Work Plan submitted by the Contractor.

BACKGROUND

A construction contract is said to be based on three basic **ingredients**

- **Proposal**
- **Acceptance and**
- **Considerations**

Considerations are generally in cash or kinds. When a contract is realized, the Employer generally makes considerations to pay in cash and the Contractor offers to consider equivalent in kinds. The terms of such understanding is defined by the **Contract Price** against equivalent realized in kinds. **Contract Price**, which is defined by the **Payment Terms**, is stated in the **Letter of Acceptance**. **Price Adjustment** is one important element of Payment Terms.

It should be noted that price fluctuations in the market for commodities used for the Contract works are beyond the control of either the Employer or the Contractor. Price fluctuations are unforeseen circumstances leading to and affecting the Contract works. The uncertainties in the Price of commodities are an immense concern to the contracting parties. To address such concerns, Price Adjustment is provided in contract works.

The provisions of Price Adjustment on account of increase or decrease in costs of labors, materials and equipment in construction contracts are practiced world over to have more realistic competitive bids and execution of contracts on equitable, fair and just manner. Prices of goods, equipment and labor are highly variable due to fluctuations in the market. Construction experts, therefore, think it prudent to compute the cost of contracts on present price, keeping provisions of Price Adjustment for probable fluctuations.

The purpose of Price Adjustment provisions in contracts is to set forth procedures to minimize the cost effects of price uncertainty for materials, labor and equipment in construction works. Price volatility of construction materials and supplies can result in significant problems for Contractors or Employers to prepare realistic bids or estimates. It leads to price speculation and inflated bid prices to protect against possible price increases. Thus Price Adjustment provisions in Contract will provide contracting parties to respond to such price volatility by transferring a portion of the risk to the contracting agency, thus tempting lower bid prices.

CONCEPT

The inclusion of Price Adjustment provisions in the Contract shows that an additional coverage has been introduced in the Contract. The bidders are well assured that there is something extra added in the Contract. In doing so, a better balance of right and obligation is defined to which the parties are well aware of. This leads to a sense of security on both the parties. The parties are well assured that any rise or fall in the price of construction materials, labor or equipment will be taken care of and be compensated accordingly. Inclusion of Price Adjustment provisions in contract thus creates an environment for a competitive bidding and hence leads to an economic bid price.

LEGAL PROVISIONS

Most of the Contracts are equipped with provisions to deal with situations resulting in increase in costs of construction materials. FICIC MDB and FIDIC 1999 provide such, provisions under "Variations and Adjustment – Clause 13". Sub Clause 13.7 and 13.8 under the same Clause; provide price adjustment provision under the title "Adjustment in Changes in Legislations" and "Adjustment in Changes in Cost".

Similarly, the Procurement Act 2063 under clause 55 states:

"Price Adjustment in Procurement Contract:

(1) Unless otherwise provided in procurement contract, if price needs to be adjusted in the course of implementation of a procurement contract having duration exceeding fifteen months the competent authority may adjust price.

Provided that where a procurement contract has been concluded to procure a public construction work following the invitation of national level bidding and the price of any construction materials is increased or decreased unexpectedly by more than ten percent of the previous price, price shall be adjusted as prescribed by deducting ten percent in the amount so increased or decreased.

(2) Notwithstanding anything contained in Sub-section (1), price adjustment cannot be made where the work under the contract is not completed within the period prescribed in such contract and has taken more time due to the delay by the person who has obtained procurement contract or if procurement contract is concluded on the basis of lump sum contract or fixed budget."

The Act specifies that for a Contract that has a contract period of more than 15 months price adjustment may be applied. The Act however, does not make this provision mandatory and leaves it to the authorized Entity, at its discretion, to apply Price Adjustment provisions. However, the Conditions of Contract drafted by the PPMO office does have provision to deal with adjustment situations.

It should be noted that the Act also emphasizes that at National bidding level provisions need to be made in the Contract for any increase or decrease in the price of construction materials. In applying so, 10 % of the risks need to be borne by either party as per increase or decrease in price of construction materials.

The second provision under the Act came into being after the Federation of Contractors Association of Nepal (FCAN) protested that the price escalation in context of Nepal was an unprecedented affair and could not be determined as per standard norms. The reason FCAN cited was the increase in construction materials during 2060/2061 when the price of cement and steel doubled over a short span of time and that for Contractors, who's Contracts had no price adjustment provisions were in a state of absconding because of suffering heavy financial losses then.

The Public Procurement Entity is to note and make budgetary provision as per rule no 119 (3) of the Procurement Regulation 2064 of Nepal which and states:

"(3) The maximum amount of price adjustment to be made pursuant to this Rule shall not generally exceed twenty five percent of the original contract prices. The procurement contract may also provide

that if the value of price adjustment exceeds that price, the public entity may terminate the procurement contract, negotiate with the construction entrepreneur, supplier, service provider or consultant in order to keep the contract price within the approved budget or adopt other measures to minimize costs or arrange for additional budget."

This limitation on Price Adjustment provision is not reasonable as none of the contracting parties have any control over price fluctuations of commodities in the market. Since the market controls the prices of commodities there should be no such limitations.

PRICE ADJUSTMENT METHODS

To arrive at basic approach to determine Price Adjustment, it is necessary to understand some of the elementary features as mentioned below:

1 Base rate/indices:

Base rates are the price figures applicable from the day as specified in the Contract (e.g. 28 or 30 days prior to the latest date for submission of bids).

Current rate/indices:
Current rates are the price figure applicable on the day as specified in the Contract (e.g. 28 or 30 days prior to the last day of the period to which a particular payment certificate is related).

Base rate does not change while current rate varies. Current rates are adjusted on the basis of change in cost of labor/material that affects the cost of execution of work. Current rates are also adjusted based on changes to any National or State Statute, Ordinance, Decree or other Law/ Regulation/ By-Law that affect the contract. In absence of availability of current rates Provisional or Proxy Rates are fixed. Provisional or Proxy Rates are finalized before the completion of the Contract.

The fact that 28 or 30 days are provided in the contract is for the purpose of preparation and data collection of the rates/indices that are to be submitted for the purpose of calculation of escalation or adjustment.

2 Use of Adjustment Formula

It is to be understood that Price Adjustment is a concept wherein the parties are assured that the market fluctuations of construction commodities will be taken care of. No matter which formula is used, Price adjustment provision signifies that adjustment will be made according to the provisions provided in the contract. It is left to the Bidder to decide how he should bid as per the provisions provided.

The simplest formula can look like:

Price to be adjusted = $P_1 = P_0 (P_c - 1)$

and

$$P_c = A_c + B_c \frac{Imc}{Ioc}$$

Where,
P_c = Price Adjustment factor,
Ac = co-efficient (non-adjustable) specified in the Contract Data (taken as 15%)
Bc = Adjustable portion specified in the Contract Data (taken as 85%)
Ioc = Base rate/indices submitted as specified in the Contract
Imc = Current rate/ indices submitted as specified in the Contract
P1 = Price to be adjusted, Po = Payment during the period under consideration

The Index may be taken as: National Wholesale Price Index for Construction material published by Nepal Rastra Bank for the period under consideration.

The highlighted formula is a simple one where there is a possibility of payment being made for activities that are not carried out at the time of payment. To avoid such, proper determination of Price escalation depends on the accuracy of the formula used. But for more accurate determination of price adjustment, the more is the complexity of the formula. Price adjustment formula can be extended as and also further:

$$P1 = Po\left\{\left(X + a\frac{ELn}{ELo} + b\frac{LLn}{LLo} + c\frac{PLn}{PLo} + d\frac{FUn}{FUo} + e\frac{BIn}{BIo} + f\frac{CEn}{CEo} + g\frac{RSn}{RSo} + h\frac{STn}{STo} + i\frac{GWn}{GWo} + j\frac{MIn}{MIo}\right) - 1\right.$$

Where,

X = fixed co-efficient (non-adjustable) representing profits and overheads included in the contract (5%~15%) estimated
a,b..i = portion of different component. Sum of all coefficients should be equal to 1
ELo..Mio = base rate/indices submitted 28 days prior to submission of bid
P1 = Price to be adjusted
Po = Payment during the period under consideration
ELn..Min = current rate/indices included with payment certificate
EL = Expatriate Labor, LL = Local Labor, PL = Construction Plant (Provision and Maintenance), FU = Fuel, BI = Bitumen, CE = Cement, Rs = Reinforcing Steel
ST = Stone, GW = Gabion, MI = Miscellaneous

The intention of detailed formula is to obtain an accurate adjustment of price. In applying and doing so it is necessary to formulate the Bill of Quantities (BOQ) in such a way that the same kinds of BOQ activities are grouped together. In doing so, the price adjustment determined will reflect the type of activity being carried out in the field so that payment is made accordingly. Absence to do so will result in payment adjustment for works that are not carried out. It is thus necessary to group the BOQ items e.g. like in the following category:

Classification of BOQ Items

1 General Works
2 Drainage
3 Gabions
4 Masonry
5 Earthworks
6 Sub-base Course Works
7 Base Course Works
8 DBST / Asphalt Concrete Works

Once the grouping of activities under similar kinds of works is done, it is then essential to determine the factors accordingly. The factors should be so determined so that for a particular kind of activity, the factor is determined by the weightage it occupies in terms of material, manpower or equipment that is assigned to that particular activity. It should be noted that the weighted total of all the factors together should be one (e.g. a+b+c …..+m = 1). The reason is that if the base and the current prices during the time of certain payment remains the same, no adjustment need to be made for that period.

The factors may then look like as prescribed in the table below for an International Contract Bidding (ICB):

Descriptions	Coefficient X	Weighting Factors for Each Cost Element										Total
		a	b	c	d	e	f	g	h	i	j	
General Works	0.1	0.05	0.15	0.35	0.25	-	-	-	-	-	0.10	1.00
Drainage	0.1	0.05	0.20	0.15	0.05	-	0.30	0.05	0.05	-	0.05	1.00
Gabions	0.1	0.05	0.20	0.05	0.05	-	-	-	0.10	0.40	0.05	1.00
Masonry	0.1	0.05	0.50	0.05	0.05	-	0.10	-	0.10	-	0.05	1.00
Earthworks	0.1	0.05	0.35	0.30	0.15	-	-	-	-	-	0.05	1.00
Sub-base	0.1	0.05	0.30	0.40	0.10	-	-	-	-	-	0.05	1.00
Base (W.B.M.)	0.1	0.05	0.15	0.50	0.10	-	-	-	0.05	-	0.05	1.00
DBST	0.1	0.05	0.10	0.15	0.05	0.45	-	-	0.05	-	0.05	1.00

By determining the factors as provided in the above particular table, adjustment can be made for a particular activity when such activity is carried out and be paid accordingly.

3 Sources of Rates/ Indices

The sources of indices should be asked to be submitted at the time of bid submission or at least before the award of the contract. The sources of indices can also be presaged out by the Employer at the time of tendering; it can also be left to the bidder for submission. Either way the Employer should note the following in determination of sources of indices;

a) Indices should be determined on the basis of availability of materials.

b) For import materials indices should be derived from the country of origin with source taken from official publication. Avoid using indices or sources from an agent. In many countries indices on expatriate labor, constructional plants, and materials are available officially in the website. It is necessary to utilize indices of materials at ex-factory prices because the detailed formula of price adjustment already considers fixed overheads and miscellaneous expenditures.

c) For local materials try as much as possible to use ex-factory prices published by the manufacturers or prices listed and published by the Government of Nepal or Nepal Rastra Bank. Avoid prices from private parties or agents. If no such prices are available, use District Rates provided the Districts.

d) For payment resulting in different currency other than the currency of the source of index, make a habit of applying currency corrections factor. Currency correction factor can be applied by:

Correction factor = Zo/Z

where, Zo = no of units of currency payment on the date of base index

Z = no of such corresponding units on the date of current index

Generally the correct procedure is to use index of the country and make payment in the same currency. Use of correction factor avoids distortion due to differential rate of price variation and also avoids distortions due to periodic exchange rate changes. To use correction factor, it is necessary to address it in the Contract document.

PROBLEMS AND ISSUES

1 If the contractor fails to complete the Works within the time of completion, it is then necessary to analyse the reason behind the delay in completion of the work. If the delay is attributed to the Employer, the Contractor is to be paid Price Adjustment as per the provisions of Contract. However, if the delay is attributed due to the reason of the Contractor, then the Employer has the option to pay Price Adjustment using indices or prices that exist at the time of prescribed completion date or use current indices or prices whichever is less after calculation.

2 During the Work Period the Contractor may have tendency to initially complete only those items that fetch him high returns but does not follow the Work Plan, in such case, the Entity should be vigilant enough to restrict the Contractor from doing so. Attempt should be made to tie up Price Adjustment payment with the Work Plan.

3 In exceptional cases, some Entities have a notion to treat payment on Price Adjustment in the form of a “Variation Order” and seek approval from higher authority accordingly for payment. This is a wrong concept. Price Adjustment is accommodated in the Contract under a separate provision other than Variation. Price Adjustments falls under an “Express

Terms” in the Contract and in carrying out such provisions no separate approval is necessary. It is paid as expressed by the Contract and in doing so the procuring Entity has a full authority to do so.

POSSIBILITY OF MISUSE:

To avoid possibilities of any misuse of Price Adjustment concept following facts are to be noted by the Entity.

- For period of delay in which the contractor is responsible, the Employer is entitled to provide adjustment on a lower side (either at the time of completion as prescribed in the contract or as per actual completion of contract).
- No price adjustment shall be payable on the portion of the Contract Price paid as advance payment.
- Use correction factor when payment is made in different currency
- Avoid distortions due to periodic exchange rates
- Avoid risk for countries where there is high increasing fluctuation in prices
- Selection of fixed and variable portion in Adjustment Formula
- Availability and application of current indices
- Use of correction factor when payment is made in different currencies.

CONCLUSION:

The provision of Price Adjustment in the Contract is provided with an intention to take care of fluctuations of prices of materials, equipment and labor in the market. The bid price of any Contract depends on how the adjustment provisions are applied in it. If the adjustment price applies from the day the Contract is signed, the bid price is expected to be reasonably low and more economical to carry out the works. If the adjustment is provisioned to apply after a certain period, the Bidder is expected to consider future escalations and to bid accordingly, thus resulting in an inflated bid price. It is generally recommended to apply adjustment provisions the day after the Contract is signed in order to get economical bid.