

BUSINESS GUIDELINE 4 GB

ADJUSTMENT IN SELLING PRICES OF PUMPS

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1. Introduction

Delivery lead times can vary considerably ranging from ex-stock to periods of a year or more depending upon the construction of the pump, or its method of manufacture and its application. Products from a standard range are normally sold at a list price but for extended deliveries, some form of price adjustment is necessary.

There can be a considerable time lapse between quotation, acceptance of tender and commencement of production. If the manufacturer is committed to a fixed price at tender date then all subsequent increases in cost during the order cycle and throughout the manufacturing period, must be borne by the manufacturer unless taken into consideration in the quotation price make-up.

If there is cost escalation on a fixed price contract a shortfall will occur to the manufacturer particularly where there is a significant period between tender and delivery unless a provision is made in the quotation to cover the cost increases.

In order to ensure an equitable distribution of risk and reimbursement for work done between manufacturer and buyer of pumps, under fluctuating conditions, there is a need for cost variation adjustment related to published material and labour indices, the basis of which can be stated in the contract and simply authenticated from time to time. Such cost variation adjustments allow for both increases and decreases of material and labour cost.

In the past, the pump industry has tended to quote on a fixed price basis for the greater part of its turn over. Today, however, with worldwide cost variations, there is a growing tendency for vendors to ask for a contract price adjustment clause to be included and for buyers to accept its inclusion.

2. Mathematical formula for contract price adjustment clause

2.1 Composition of the formula

The typical form of such a mathematical price adjustment formula (in accordance with the general E.U. conditions) is:

$$P_1 = \frac{P_0}{100} [a + b * \frac{M_1}{M_0} + c * \frac{S_1}{S_0}]$$

In which:

P_1 = Delivery price

P_0 = Agreed initial price

a = Agreed fixed part of the initial price, in %

b = Agreed part of the initial price relating to material, in %

c = Agreed part of the initial price relating to wages, in %

M_1 = Price of the agreed reference material in the delivery price

M_0 = Price of the agreed reference material in the initial price

S_1 = Level of the agreed reference wages in the delivery price

S_0 = Level of the agreed reference wages in the initial price

$$a + b + c = 100\%$$

2.2 Arrangement of details

2.2.1. *General aspects*

- In mathematical formula for contract price adjustment the following are relevant:

The assessment of the percentage of total cost which is fixed. The choice and assessment of main cost factors (wages and material). The determination of key dates (e.g. quotation date – delivery date).

The notes which follow related to the above three factors are given as an example only from general experience and each offer or contract will require to be examined to provide appropriate factors.

- It is important that the cost adjustment factors are readily available from published official statistics to ensure that the computation of price adjustment can be verified by the customer.

2.2.2. *Fixed part*

- All costs are subject to variation over long contract periods due to price fluctuation. There is, therefore, actually no „fixed part“ of initial price. Profit (which is a function of turnover) also cannot be regarded as fixed. It is considered, therefore, that any agreement to consider part of the initial price as „fixed“ is a concession on the part of the manufacturer.
- The agreed fixed part should vary between 0 and 10%.

2.2.3. *Materials (a main cost factor)*

- When considering this factor the cost variation of main materials comprising the pump must be considered. The basic materials in pump construction which become reference materials for cost variation are likely, most commonly to be cast iron, cast steel and more recently, materials with high nickel content.
- The share of materials in the costs (in the case of pumps) varies usually between 30 and 60% depending upon the construction of the pump and the main materials used.
- In fixed key-dates for calculation of the material cost variation, it is suggested that these be:
Initial Date of tender.
- The beginning of the last third of the Final – agreed delivery period.

2.2.4. *Labour (a main cost factor)*

- This factor should reflect the level of the labour wages.
- The share of labour in the costs of pumps is, on average, usually between 30 and 60%.
- it is suggested that the key-dates for labour are as follows:
Initial Date of tender.
- Date of delivery (as in contract)
Final -

In the event of extended manufacture/delivery times then it is suggested that the reference „delivery“ labour costs be the arithmetic mean of the labour costs at the

beginning of the last third of the agreed delivery period and those ruling at the time of actual delivery.

- It is advisable to take secondary labour costs into consideration apart from the regular rates of pay, as far as they are covered by law or by regulations, as the increase of these secondary costs may be different from the increase of the actual rates of payment. The secondary labour costs can include, among other things, such items as: paid statutory days and holidays: holiday and christmas bonuses: employer's contribution to retirement pensions and superannuation funds: sickness and unemployment insurance costs.

In this case the formula in paragraph 2.1 must be modified as follows:

$$P_1 = \frac{P_0}{100} [a + b * \frac{M_1}{M_0} + c * \frac{S_1 (100 + L_{ni})}{S_0 (100 + L_{no})}]$$

In which:

L_{ni} = ratio of the secondary labour costs to reference labour costs in the delivery period in %.

L_{no} = ratio of the secondary labour costs to the reference labour costs in the initial price in %.

2.3 Application

Any contract must clearly state the implications of interim payments relative to the application of cost price adjustment formula.

3. **Formula for price adjustment in the case of lump-sum quotations for erection or assembly**

In the case of lump-sum contracts for erection or assembly a simplified formula can be used, since the main factor for material does not come into it.

The labour percentage is usually taken as 90% or more and the fixed part as the remaining percentage. The date of setting the pump in operation is usually taken as the end of the time period.

4. **Generally accepted provisions**

Occasionally contracts are entered into where the price is fixed based on a predetermined point. The following situation fall into this category:

- The contract price is that related to the current list price on the date of delivery.
- The price will be subject to review in the event of fluctuation of the main cost elements.

It is suggested that all such agreements should be replaced by the cost price adjustment clauses previously indicated.

5. **Addition to fixed price quotations**

If delivery contracts are made on a fixed price basis, the manufacturer often indicates price variation (increment) relative to time as part of conditions of contract to compute a delivery price.

The inherent risk related to the inability to foresee accurately price changes and therefore the proposed increments are likely to be excessive in order to diminish the risk. This may result in excessive and uncompetitive pricing at the tender stage.

6. Provision concerning special materials

The following provisions are made as a rule with respect to certain materials (e.g. copper, nickel, chrome, molybdenum)

- that the quoted delivery of the pump is conditional upon the acquisition of these materials on the world market by the required time.
- that the price fluctuations for these materials are allowed for in the price of the pump.

7. Application at mathematical formula for contract price adjustment clauses

The clause may be worded thus:

„In the case of change, during the period of the contract, in the price of the agreed reference material and/or the level of the agreed reference labour, or respectively in the ratio of the secondary labour costs to the agreed reference labour, then the final price will be adjusted in accordance with the following formula ...“.

In order to avoid unnecessary administration costs, it is suggested that a price revision is applied only if the formula produces a + or variation of an agreed percentage.

The mathematical formula for contract price adjustment which are used in European industry are contained in the publication „ORGALIME, Working Group on Foreign Trade, Contract Price Adjustment Clauses“.

