

A _ all 4 criteria for SC12.3 (a) must be met

B _ Principle **increased** re-measured Quantities, **decrease** the unit rate or vice versa.

C _ The procedure is described in understandable way (FiDiC Guidelines) with the relation of
 (a) "incurred COST per re-measured Quantities (**CqM**) and billed Quantities (**CqB**), and
 (b) re-Measured Quantities (**QM**) & Billed / BoQ-items / Quantities (**QB**).

Practical application:

QM = 1100 Units ./. **QB** = 1000 Units >>> actual Quantity increase >>> Unit Rate decrease.

Cost per measured Quantity **CqM** = 107 T€ (to prove)

Cost all inclusive per billed QTY, **CqB**=100 T€ (known)

Unit rate UR derived 100 000 / 1000 = 100 Euro selling rate >>>

If the Bill does not show Preliminary & General Provisions for Mobilization, time- and value-related costs and De-Mobilization the UNIT RATES they cover the 25% indirect Site costs.

In this case the “real” Direct Costs of the Unit Rates 75% of 100 Euro/unit = 75 Euro Direct cost inclusive 5% default-profit charge. (Note: P&G Provisions are set on ZERO – to incorporate in the permanent works –UR,

means any Quantity increase overpays 25% of the entitled payment)

The UR Direct cost proportion: **+/-1% of 75 Euro direct Costs => +/- 0,75 Euro per UR**

CqB / QB > 100.000 €/1000 Units (QB) =100,00 Euro UR (direct and indirect costs)

CqM / QM Measured > 107.000 € increase of Resource cost div by 1100 Units increased re-measured Quantities (QM) 107.000/1100 = 97,27 € /Unit > 75% direct cost = **72,95 Euro/ Unit**

Proportion / Ratio: 72,95 €/unit div. by 75 €/unit > 97,27% (100% - 97,27 = 2,73%)

> consecutively **|-2,73%| greater than |>1%| requirement.**

The Parties are allowed adapt the Unit rate (upward or downward). In the presented case:

The **Unit Rate shall be reduced by minus 2,73 Euro per Unit Rate** due to Quantity increase.

The employer is entitled to claim the difference in the Unit Rate.

Supplement Information:

The COSTS per measured changed Quantities are mostly based on “present values” and hence not eligible for Adjustment for Changes in Cost (SC13.8) .

In order to make them comparable, it is advisable to

“Discount the values to the initial value points (Base Date)”

and then it is easy to apply the price fluctuation/price escalation formula subject to SC 13.8, esp if the price escalation lasts more as one IPC-period (mostly one month).

Discount rate (i) - abzinsen	Present Value (Barwert)	compound interest (i) aufzinsen
Initial value point / start value (0)	Present value (x)	Final value point
$W(o) = W(x) * 1 / (1+i)^{exp x}$	Reference W(x)	$W(n) = W(0) * (1+i)^{exp n}$
$W(o) = W(n) * 1 / (1+i)^{exp n}$	Reference start – end	$W(n) = W(0) * (1+i)^{exp n}$

The discounting method to Base Date might even prevent changes in the Unit rate in compliance with the Contract Law.

12.3 Evaluation

Except as otherwise stated in the Contract, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine the Contract Price by evaluating each item of work, **applying the measurement agreed or determined** in accordance with the above Sub-Clauses 12.1 and 12.2 and the appropriate rate or price for the item.

For each item of work, the **appropriate rate or price** for the item shall be the rate or price specified for such item in the Contract or, if there is no such item, specified for similar work.

Any item of work **included in the Bill of Quantities** for which no rate or price was specified shall be considered as included in other rates and prices in the Bill of Quantities and **will not be paid for separately**.

However, a new rate or price shall be **appropriate** for an item of work if:

- (a) *(i) the measured quantity of the item is changed by more than 25% from the quantity of this item in the Bill of Quantities or other Schedule,*
*(ii) this change in quantity multiplied by such specified rate for this item exceeds **0.25% of the Accepted Contract Amount**,*
*(iii) this change in quantity directly changes the **Cost per unit quantity** of this item by more than 1% ^{***}, **and (!)***
(iv) this item is not specified in the Contract as a “fixed rate item”;
OR
- (b) *(i) the work is instructed under Clause 13 [Variations and Adjustments],*
*(ii) no rate or price **is specified** in the Contract for this item, **and (!)***
*(iii) no specified rate or price is appropriate because the **item of work** is not of **similar character**, or is not executed **under similar conditions**, as any item in the Contract.*

Each new rate or price shall be **derived** from any relevant rates or prices in the Contract, with **reasonable adjustments** to take account of the matters described in sub-paragraph (a) and/or (b), as applicable. If no rates or prices are relevant for the derivation of a new rate or price, it shall be derived from the **reasonable Cost of executing the work**, together with **profit**, taking account of any other relevant matters.

Until such time as an appropriate rate or price is agreed or determined, the Engineer shall *determine a provisional rate or price for the purposes of Interim Payment Certificates* as soon as the concerned work commences.

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*** The SC12.3 (a) (iii) {cost per unit quantity} causes disputes.

If the >1% cannot be “proven”, the Parties will not be able to **revise the initial**

Unit Rate: Explanation how to derive > www.gub21.de/12.3+NewRateNewPrice.pdf

File name : www.ppe61.de/12.3+EvaluationApproach.pdf