



JBCC CONTRACT PRICE ADJUSTMENT PROVISIONS (CPAP)

CPAP Indices Application Manual

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Background and Objective

In 1995 the Joint Building Contracts Committee (JBCC) accepted responsibility for the administration of CPAP as published by Stats SA with the signing of a Copyright Licence Agreement between the Government of South Africa and JBCC. In 1998 the provision of the indices to the building industry changed to an annual subscription which is designed to cover Stats SA's fee and JBCC's administration costs

The purpose of a formula adjustment provision is to provide for the needs of contractors who require a clear-cut, agreed escalation recovery formula method to avoid dissension and disputes with employers and subcontractors and to provide reasonable reimbursement of price fluctuations. A workable formula method of contract price adjustment simplifies accounting procedures and generally provides for acceptable reimbursement

JBCC has designed the CPAP to reflect price changes as closely as possible within the philosophy of an index-based system. Users must bear in mind that a formula cannot precisely reflect actual cost fluctuations on a contract or any particular element of work. The CPAP is designed to simplify adjustment procedures while providing a level of recompense accepted as fair to employer, contractor and subcontractor

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CPAP APPLICATION MANUAL

1.0 DEFINITIONS AND INTERPRETATION

- 1.1 The words and phrases highlighted in the text of this document shall bear the meaning assigned to them and where such words and phrases are not highlighted they shall bear the meaning consistent with the text

“**ADJUSTMENT AMOUNT**” means the amount calculated in terms of the applicable adjustment formula using the tax exclusive method

“**AGREEMENT**” means the Principal Building Agreement

“**BASE MONTH**” means the calendar month during which tenders closed

“**CONTRACTOR**” means the party contracting with the employer in terms of the **agreement** between the parties

“**CONTRACT VALUE**” means a monetary value that initially is equal to the accepted contract sum that is subject to adjustment

“**CPAP**” means these Contract Price Adjustment Provisions used for the adjustment of fluctuations in the cost of labour, plant and materials and goods

“**INDEX**” means a **work group index** published in a **Stats SA** Statistical Release or any **index** calculated from a selected set of sub-indices

“**PAYMENT CERTIFICATE**” means a document issued by the **principal agent** certifying the amount due and payable by the employer to the **contractor** or *vice versa*

“**PRACTICAL COMPLETION DATE**” means the initial or actual date of practical completion of the works in terms of the **agreement**

“**PRINCIPAL AGENT**” means the person or entity appointed by the employer in terms of the **agreement**

“**STATS SA**” means Statistics South Africa as the provider of the **indices** used for **CPAP**

“**VALUATION PERIOD**” means the contractual period between two **payment certificates** or the period from acceptance of tender up to the first **payment certificate** issued

“**WORK COMPLETED**” means the **work value** executed up to the **practical completion date**

“**WORK COMPLETED LATE**” means the work value executed after the **practical completion date**

“**WORK GROUP**” means a group for which an **index** is available or determined

“**WORK VALUE**” means the value of work executed that qualifies for adjustment in terms of these provisions

- 1.2 Numbers, generally preceded by “in terms of”, indicate references to clause numbers of this document
- 1.3 The headings of clauses are for reference purposes only and shall not be taken as construing the context thereof

2.0 HOW THE CPAP PROVISIONS WORK

- 2.1 The **CPAP** provides for reimbursement for price fluctuations on an average basis with the proportions and **indices** applied being indicative of average price movements. Such fluctuations in costs shall be for the **contractor's** account subject to the **contract value** being adjusted by the sum of the amounts calculated in respect of each **payment certificate** according to the conditions described below
- 2.2 The **CPAP** provides for the adjustment of contracts in respect of:
- 2.2.1 General and industrialised building work
 - 2.2.2 Subcontract work carried out by nominated, selected and the **contractor's** domestic subcontractors
 - 2.2.3 Direct contractor's work comprising specialist and engineering installations related to building projects

- 2.3 Standard composite **indices** are compiled in consultation with **Stats SA** to include the weighted labour, material and plant components applicable to defined **work groups**. These **indices** are published each month
- 2.4 The **CPAP** operates as follows:
- 2.4.1 A number of **work groups** are defined into which the work contained in a building contract can be subdivided
- 2.4.2 Each **work group** consists of a number of sub-indices reflecting price movements of labour, material and plant
- 2.4.3 The **principal agent** values the work executed for **payment certificate** purposes and in addition allocates the value of the work to the respective **work groups**
- 2.4.4 Each month the **work value** certified in each **work group** is adjusted in relation to the movement in the **index** value for the month compared to the **index** applicable to the **base month**. Thus the work executed in a particular period is adjusted in relation to the **index** value for approximately the same period
- 2.5 The **work groups** are restricted in number to simplify the work required at the time of payment certification
- 2.6 The approach adopted is that certain materials lend themselves to grouping for costing purposes and consequently reference is made to **work group** rather than "trade" as is customary in the building industry. Typically, steel windows, steel door frames and suspended steel ceilings are assembled to limit the number of groups, as the materials originate from the same basic source and the percentage fluctuation in labour costs are likely to be similar
- 2.7 The provisions are ideally suited to contracts based on bills of quantities from which the measured items can readily be extracted and allocated to **work groups** for adjustment purposes
- 2.8 In engineering subcontracts within a building contract, specialisation often lends itself to grouping. Typically, a high mast lighting contract could be divided into the following **work groups**:
- Structural steel (the tower)
 - Concrete and other sundry builder's work
 - Electrical installation
 - Equipment
- 2.9 Provision is made for unusual weightings for exceptional specialist work
- 2.10 Lump sum contracts (specification or without quantities contracts) are dealt with as a whole, generally using one **index**, since the subdivision of value into **work groups** for payment certification causes practical administrative problems. The **contractor** is required to accept an average reimbursement and settles subcontractors' accounts on either proven cost or **work group** adjustment methods as mutually agreed. Provision can also be made for the **work group** system to apply by the tender enquiry documents providing specifically for the separate pricing of work in **work group** subdivisions

3.0 ADJUSTMENT ALLOCATION TO WORK GROUPS

- 3.1 The **work value** executed during each **valuation period** shall be allocated in terms of 5.0 to the appropriate **work groups** at the time of valuation
- 3.2 The value of unfixed materials included in any **payment certificate** shall be allocated to their respective **work groups** and adjusted in terms of 5.0
- 3.3 The **work value** shall include:
- 3.3.1 Variations priced at or based on contract prices
- 3.3.2 Variations not based on contract prices but adjusted back to the **base month** by means of the formula
- 3.3.3 Variations not based on contract prices which, by agreement, are subject to adjustment with a **base month** applicable to each such variation
- 3.3.4 Work carried out by nominated or selected subcontractors that, unless tendered for or priced at fixed prices or based on any other adjustment procedure, shall be subject to adjustment with a **base month** applicable to each subcontract

3.4 The **work value** shall exclude:

- 3.4.1 Day work calculated at current costs
- 3.4.2 Credit allowed by the **contractor** for old material that is derived from demolitions and other works
- 3.4.3 Materials supplied against prime cost amounts which shall be adjusted in terms of the **agreement**
- 3.4.4 Equipment in specialist work and imported materials listed in the tender enquiry documents stating the specific method of adjustment in respect of each item and the procedure for obtaining the information necessary for the application thereof. Unless otherwise stated in the tender enquiry documents, items not listed may be listed by the tenderer with their values and methods of adjustment at the time of tender; provided that the **principal agent** is assisted in negotiating forward cover or any other options which shall be treated as variations to any existing terms
- 3.4.5 Non-imported equipment in specialist work listed in the tender enquiry documents stating the specific method of adjustment in respect of each item and the procedure for obtaining the information necessary for the application thereof
- 3.4.6 Work executed by local authorities or other public bodies, which shall be adjusted where necessary based on net cost to the **contractor**, substantiated by satisfactory documentary evidence
- 3.4.7 Variations priced at current prices or based on current costs
- 3.4.8 **Contractor's** profit on provisional sums and the like where the profit is priced separately and is prorated to the final value of such sums

4.0 INDUSTRIALISED BUILDING WORK

- 4.1 In the tender enquiry documents, where the work is shown as industrialised building work, the tenderer shall:
 - 4.1.1 Include the allocation of the **work value** to the applicable **work groups**
 - 4.1.2 Separately list provisional sums, contingencies and work designated to be excluded from adjustment in terms of 3.4
- 4.2 The total **work value** in terms of 4.1.1 and 4.1.2 shall equal the tender amount failing which the **principal agent** shall require adjustment of any amount to eliminate such errors or discrepancies
- 4.3 In allocating work to **work groups** in terms of 3.0 the **principal agent** shall use the agreed amounts subject to the provisions of 3.3 and 3.4

5.0 CALCULATION OF ADJUSTMENT

- 5.1 The **principal agent** shall calculate an **adjustment amount** for each **valuation period** in respect of each **work group** by the application of the formula:

$$A = 0.85 \times V \times (X_e / X_o - 1)$$

- Where:
- A = the **adjustment amount**
 - 0.85 = a constant which provides for a 15% non-adjustable element
 - V = the **work value** in such **work group** and the **valuation period**
 - X_e = the value of the **index** applicable to such **work group** and the **valuation period** which shall be the value for:
 - The month before that during which the **payment certificate** is dated in respect of certificates issued up to and including the 15th of the month
 - The month during which the **payment certificate** is dated in respect of certificates issued after the 15th of the month
 - X_o = the value of the **index** applicable to such **work group** for the **base month**

- 5.2 The **adjustment amount** shall be:

- 5.2.1 Shown separately in a statement supporting a **payment certificate** issued according to the **agreement**

- 5.2.2 The net amount to be added to or deducted from the **contract value**
- 5.2.3 As for 5.2.2 in respect of work carried out by nominated, selected or any other subcontractors. This shall be irrespective of whether or not the **agreement** provides for a cash discount to the **contractor** in respect of any amounts due. Payment to such subcontractors shall not be subject to any such discount
- 5.2.4 Subject to the same conditions in respect of retention, any other form of security or any other monies due to or from the **contractor** in terms of the **agreement**

6.0 UNFIXED MATERIALS

- 6.1 The value of unfixed materials included in a **payment certificate** shall be:
 - 6.1.1 Allocated to **work groups**
 - 6.1.2 Added to the **work value** in the same **work group**
 - 6.1.3 Adjusted in terms of 5.1
- 6.2 Any unfixed materials valued at current rates shall not be subject to adjustment

7.0 AVERAGING OF INDICES

- 7.1 Should any interval between consecutive **payment certificates** include more than one **index** value following the last one used for the earlier **payment certificate**, the **adjustment amount** shall be calculated using the average of all such **index** values for each **work group**

8.0 LATE PAYMENT CERTIFICATES

- 8.1 Adjustments in respect of **payment certificates** issued after the **practical completion date** shall, despite the provisions of 3.0, 5.0 and 6.0 hereof, be dealt with as set out hereunder:
 - 8.1.1 The **work value** shall include the revaluation, correction and updating of such values with such values adjusted if necessary to the **base month** of the principal **agreement**
 - 8.1.2 The **work value** included in each **payment certificate** issued after the **practical completion date** less the **work value** included in previous **payment certificates**, shall be allocated based on a reasonable estimate to categories of **work completed** and **work completed late**
 - 8.1.3 The **work value** and **amounts of adjustment** in respect of the **contractor** and each nominated and selected subcontractor shall be calculated separately using the **base month** appropriate to each. In respect of the **contractor** the values and amounts of nominated and selected subcontracts shall be excluded from the calculations
- 8.2 The **adjustment amount** in respect of the value of **work completed** shall be calculated as a single sum for each **payment certificate** by the application of the formula:

$$A = V \times Af / Vf$$

- Where:
- A = the **adjustment amount** to be paid to or recovered from the **contractor**
 - V = the net **work value** in terms of 8.1
 - Vf = the total **work value** in the principal **agreement**, each nominated or selected subcontract estimated at the **practical completion date**
 - Af = the theoretical **adjustment amount** relating to Vf calculated in terms of 5.0 and 6.0 using **index** values Xe applicable to the **practical completion date**

- 8.3 The **adjustment amount** in respect of **work completed late** shall be calculated as a single sum for each **payment certificate** by the application of the following formula:

$$A = V \times Af / Vf \times 0.55$$

Where the various symbols have the same meaning as those ascribed in terms of 8.2

9.0 PROVISIONAL ADJUSTMENTS

9.1 Provisional adjustments shall be calculated and corrected as follows:

9.1.1 Provided all the **indices** required for the adjustment of the first **payment certificate** have been published, provisional adjustments shall be calculated in respect of each succeeding interim **payment certificate** at the time the certificate is prepared in terms of 3.0 and 5.0, but using the latest published **index** value applicable to X_e

9.1.2 Alternatively, and subject to the proviso above, provisional adjustments shall be calculated in respect of each succeeding interim **payment certificate**, at the time the certificate is prepared, by means of the following formula:

$$A = V \times A_n / V_n$$

Where:

A	=	the provisional adjustment amount to be paid to or recovered from the contractor
V	=	the net work value
A_n	=	the adjustment amount calculated in respect of the last payment certificate for which all the indices for adjustment have been published
V_n	=	the work value on which A_n was calculated

9.2 The alternative provisional adjustment procedure in terms of 9.1.2 shall apply only where specifically stated in the tender enquiry documents and shall not apply to work carried out by a nominated or selected subcontractor that shall be adjusted in terms of 9.1

9.3 The provisional adjustments for each interim **payment certificate** shall be corrected in the next **payment certificate** following the publication of the **indices** required for adjustment of such interim **payment certificate** in terms of 5.0

10.0 CORRECTIONS

10.1 The **principal agent** shall make corrections to the **adjustment amount** effected in an interim **payment certificate** resulting from any of the following:

- Arithmetical errors in the calculation of the **adjustment amount**
- Incorrect allocation of **work value** to **work groups**
- Revision of an **index** value by the publishing authority prior to the settlement of the final account
- Use of an incorrect **index** value

11.0 UNDUE DELAY

11.1 Prior to the issue of the final **payment certificate** should adjustment not be possible because of undue delay in, or cessation of, the publication of the **indices** to enable the **adjustment amount** to be readily calculated upon resumption of publication of the **indices** the **principal agent** shall calculate the **adjustment amount** for inclusion in **payment certificates** on a fair and reasonable basis and should the publication of the **indices** resumed before the issue of the final certificate, the correct **indices** shall be substituted for those used and the **amounts of adjustment** recalculated

12.0 GENERAL

12.1 Limitation on Application of the CPAP

CPAP can be applied to any building contract. However it is deemed inappropriate where the anticipated **contract value** is low and the contract period is less than a year

12.2 Bills of Quantities Contracts

The allocation of work to a **work group** is to be in terms of 2.0

12.3 Lump Sum Contracts

12.3.1 To provide for price adjustment the appropriate lump sum indices are to be quoted in the tender document. Equipment to be excluded from adjustment must be identified and provision made for pricing

such equipment separately. The method of adjustment, whether on a basis of net costs to the **contractor** or by specified recognised formula are to be stated in each case

12.3.2 In the event of more than one **work group** being applicable the tender documents must state the proportions of the total work to be allocated to such **work groups** or contain provisions for pricing the work in summary form, and subdividing work into **work groups**, equipment, other amounts and provisions suitable for adjustment purposes

12.3.3 Industrialised building contracts are to be adjusted in terms of 12.9

12.4 Allocation of Work to Work Groups

12.4.1 For building work the trade groupings set out in the Standard System of Measuring Builder's Work are generally to be followed. As a guide in cases where these rules are insufficient in determining allocation:

- The **work groups** are intended to be more material-orientated than trade-orientated, except in cases such as alterations, formwork, plumbing and drainage
- Composite items should be allocated to the most appropriate **work group** in relation to the material content
- Due to the wide range of options in planking, strutting, shoring and fencing it is considered inappropriate to compile an average **index**. Such work should be subdivided and each subdivision allocated to the appropriate **work group** as determined by its content

12.4.2 A detailed allocation of work to **work groups** must be provided in support of a **payment certificate**

12.5 Exceptional Work Groups

12.5.1 Formula adjustment in respect of exceptional cases where work does not clearly fall within a defined **work group** is to be made in terms of 6.0. Examples that may be applicable are:

- Engineering projects containing constructional steelwork which vary considerably in respect of labour, material and plant components
- Major electrical reticulation work. Minor reticulation work in a building project should not be excluded from the listed **work group**
- Where work clearly does not fall within a defined **work group**, a composite **work group** may be defined in the tender enquiry documents stating the component **work groups** and their ratios for the calculation of an **index** applicable to such work

12.5.3 It is strongly recommended that before resorting to the calculation of an additional **work group index** that a solution to an apparently unusual contract is first sought by using the defined **work groups** or combinations thereof

12.5.4 Should there be no alternative to the creation of an additional **work group**, the tender enquiry documents should contain a reference to clause 6.0 and a schedule of the weights and component sub-indices to be used

12.6 CPAP Adjustments

Monies arising out of the application of **CPAP** are considered to be part of the **contract value** and shall be subject to the same conditions as any other monies due to or from the **contractor**

12.7 Work Excluded from Adjustment

Various exclusions from the **work group** adjustment procedure are set out in terms of 3.4

12.8 Subcontractors/Suppliers

Attention is drawn to the underlying principle of this document that **work group indices** relate to the **work value** as executed under a building contract. It would therefore be incorrect to link supply-only contracts or material prices to the **work group indices**. However, there could be an agreement to act on this basis or on the basis of a **work group index** compiled by the **principal agent** specifically for such purpose

12.9 Industrialised Building Contracts

Since industrialised building contracts are generally based on "design and construct" documentation methods, where the materials to be used could vary considerably, it would be impracticable to prescribe one or a fixed combination of **work groups** for adjustment purposes. In such cases the provisions in terms of 4.0 will apply